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Ecological Impact Assessment Report

PRESENTED TO

Malclose Limited

Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4

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Environmental Consultancy Services

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1 INTRODUCTION

Enviroguide Consulting was commissioned by Malclose Limited to undertake an Ecological Impact Assessment (EcIA) in relation to a Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4, hereafter referred to as 'Proposed Development' or 'Site' when referring to the site area of the Proposed Development.

This EcIA assesses the potential effects of the Proposed Development on habitats and species; particularly those protected by national and international legislation or considered to be of particular nature conservation importance on or adjacent to the Site. This report will describe the ecology of the Site, with emphasis on habitats, flora and fauna, and will assesses the potential effects of the Construction and Operational Phases of the Proposed Development on these ecological receptors. The report follows Guidelines for Ecological Impact Assessment in the UK and Ireland, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018) and supplemented by the National Roads Authority (2009) guidelines for Assessment of Ecological Impacts of National Road Schemes. The purpose of this EcIA is to:

- Set out the methodologies used to inform the assessment.
- Identify Key Ecological Receptors (KERs) within the Zone of Influence (ZOI).
- 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.
- Set out agreed measures to offset significant residual effects.
- Set out opportunities for ecological enhancement.

1.1 Quality Assurance and Competence

Enviroguide Consulting is a multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants 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.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide 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. SOB and BT, Ecologists with Enviroguide, carried out the bat activity survey for this report. SOB and BMcC, Ecologists with Enviroguide, along with AA, an external consultant, undertook the bat emergence survey. SOB undertook the remaining ecological surveys and desktop research for this report.

SOB has a B.A. in Zoology from Trinity College Dublin and a M.Sc. Hons. in Wildlife Conservation and Management from University College Dublin, and has experience in desktop research, report writing, and literature scoping-review, as well as practical field and laboratory experience (Pollinator surveying, sampling and identification, habitat surveying, invasive species surveying, etc.). SOB has prepared Stage I and Stage II Appropriate Assessment (AA) Reports, Invasive Species Surveys, Ecology Statements, and Ecological Impact Assessments (EcIA).

BT has a B.Sc. in Environmental Biology (Hons) and a PhD in Marine Ecology from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing, as well as practical field experience (Habitat surveys, intertidal surveys, winter bird surveys, bat surveys, vantage point surveys and fresh water macro-invertebrates etc.). BT has experience in compiling Biodiversity Chapters of EIARs, Appropriate Assessment (AA) screening and Natura Impact Statement (NIS) reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments.

BMcC, graduate Ecologist and experienced Ornithologist, has 11 years surveying experience and is a longstanding and active member of Bird Watch Ireland. BMcC has provided a range of Ornithology survey work for ecological consultancies, e.g., Vantage point surveys of Gulls, Terns, Raptors, Waders and Wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds. BMcC is highly experienced with all survey methodologies and with surveying all species groups of Irish birds and migrants.

AA holds a BSc in Environmental management, is a qualifying member of CIEEM, a member of the British trust for Ornithology and the botanical society of Britain and Ireland. AA has over 20 years experience of carrying out bird surveys for various organisations including ecological consultancies. These surveys include general breeding/wintering bird, hinterland, Vantage point, breeding waders/raptors and specialised surveys for hen harrier, merlin, barn owl and woodcock. All these surveys are completed using the most up to date survey methodologies with which AA is highly experienced.

AA is also experienced in habitat mapping using the Fossitt methodology and has experience completing AA Screenings and NISs for afforestation projects including mitigation measures following Department of agriculture, forestry and marine. He also carries out pollinator surveys and monitors rare plant populations for the national biodiversity data centre. AA also has experience supporting with dusk bat activity transect surveys.

1.2 Relevant Legislation and Policy Context

An EcIA is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species and ecosystems (CIEEM, 2018). The Proposed Development is a sub-threshold for an Environmental Impact Assessment (EIA) under the Planning and Development Regulations 2001-2021, as amended.

When an EcIA is undertaken as part of an EIA process it is subject to the EIA Regulations (under the EU Planning and Development Regulations 2001-2021). An EcIA is not a statutory requirement, however it is a best practice evaluation process. This EcIA is provided to assist the Competent Authority with its decision making in respect of the Proposed Development.

There is a number of 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 2015.
- The Planning and Development Act 2000.
- National Biodiversity Plan 2017-2021.

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. 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.

Local plans and policies relevant to the Proposed Development are listed below:

- Dublin City Development Plan 2022 – 2028
- Dublin City Biodiversity Action Plan 2021 – 2025

Further details on legislation and policy relevant to the Proposed Development are detailed in Appendix I.

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Proposed Development Site is 0.962 Ha and is located along the Naas Road (R810), which abuts the north of the Site. The east and west of the Site are bound by commercial premises, with an apartment block to the southeast of the Site, and an active construction Site to the south. The surrounding landscape is predominantly urban in nature.

2.2 Proposed Development Description

Malclose Limited intend to apply to Dublin City Council for permission for a large-scale residential development (LRD) principally comprising student accommodation at this 0.962 Ha Site at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4.

The Proposed Development will principally consist of: the demolition of the existing two-storey office/warehouse building and outbuilding (5,172 sq m); and the construction of a development in two blocks (Block 1 (eastern block) is part 2 No. storeys to part 15 No. storeys over lower ground floor and basement levels with roof plant over and Block 2 (western block) is part 9 No. storeys to part 11 No. storeys over basement with roof plant over) principally comprising 941 No. Student Accommodation bedspaces (871 No. standards rooms, 47 No. accessible studio rooms and 23 No. studios) with associated facilities, which will be utilised for short-term lets during student holiday periods. The 871 No. standard rooms are provided in 123 No. clusters ranging in size from 3 No. bedspaces to 8 No. bedspaces, and all clusters are served by a communal living/kitchen/dining room.

The Proposed Development also provides: ancillary internal and external communal student amenity spaces and support facilities; cultural and community floor space (1,422 sq m internal and 131 sq m external) principally comprising a digital hub and co-working space with ancillary cafe; a retail unit (250 sq m); public open space; the daylighting of the culverted River Camac through the site; an elevated walkway above the River Camac at ground floor level; a pedestrian bridge link at first floor level between Blocks 1 and 2; vehicular access at the south-western corner; the provision of 7 No. car-parking spaces, 2 No. motorcycle parking spaces and 2 No. set down areas; bicycle stores at ground and lower ground floor levels; visitor cycle parking spaces; bin stores; substations; hard and soft landscaping; green and blue roofs; new telecommunications infrastructure at roof level of Block 1 including antennas and microwave link dishes, 18 No. antennas and 6 No. transmission dishes, together with all associated equipment; boundary treatments; plant; lift overruns; and all associated works above and below ground.

The gross floor area of the development is c. 33,140 sq m comprising c. 30,386 sq m above lower ground and basement level.

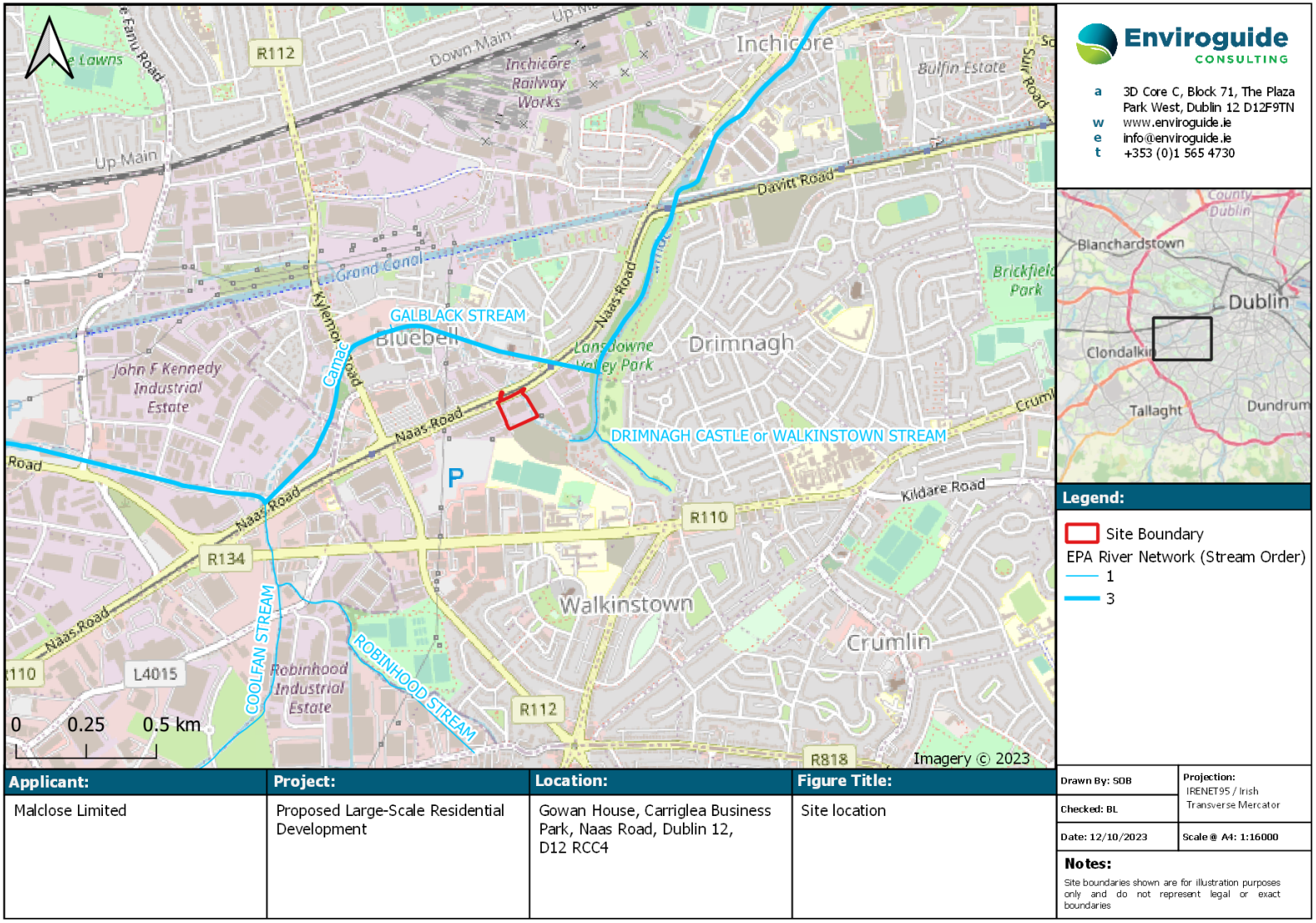

FIGURE 1. SITE LOCATION.

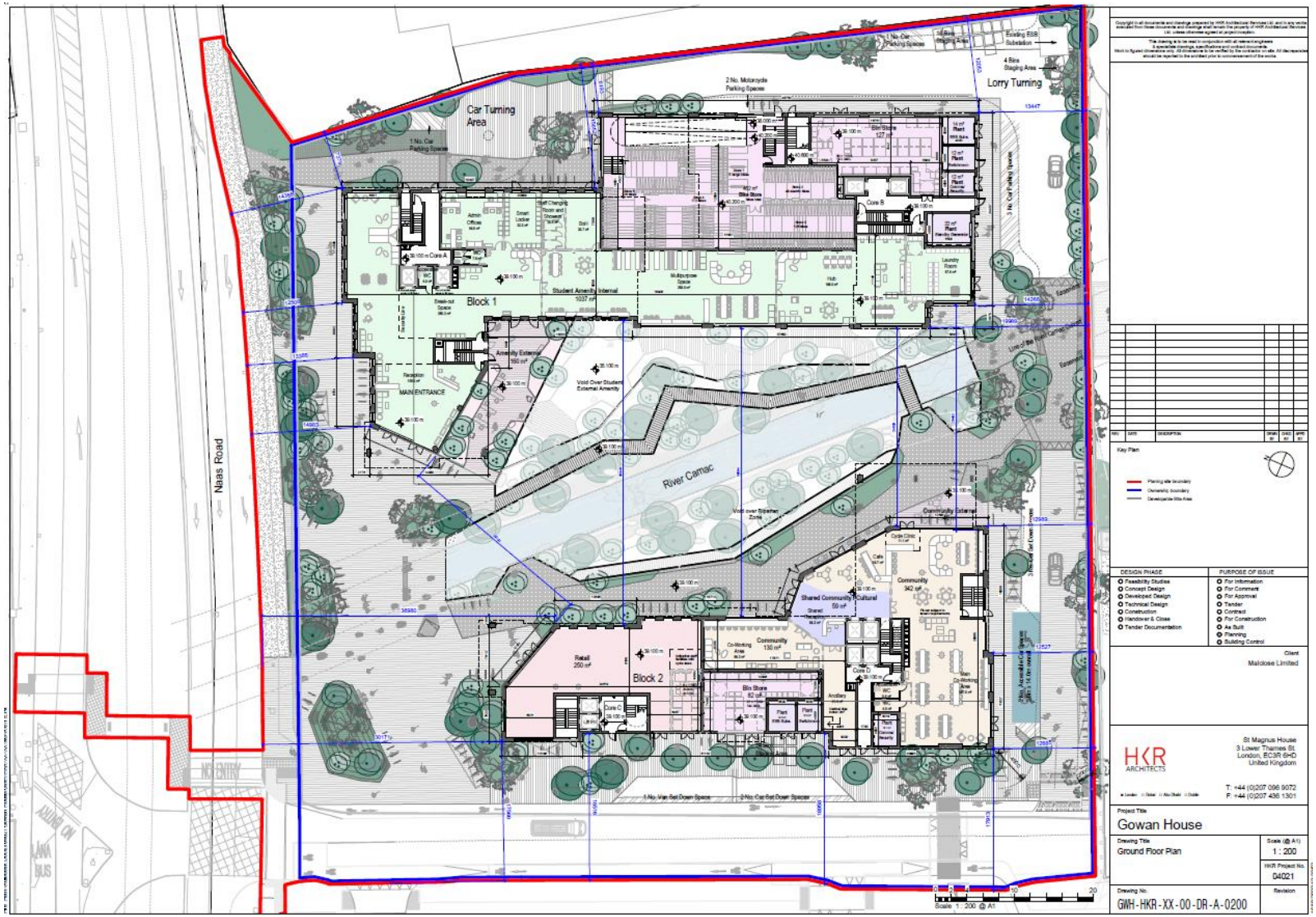

FIGURE 2. PROPOSED SITE LAYOUT DRAWING NO. GWH-HKR-XX-00-DR-A0200 (HKR ARCHITECTS, 2023).

2.2.1 Drainage and Water Supply

2.2.1.1 Surface water

As outlined in the Civil Engineering Infrastructure & Surface Water Management Report (BMCE, 2023) accompanying this application, the Site is currently served by an existing surface water sewer network, which drains to the River Camac culverted beneath the Site, flowing from the northeast to the southwest. As part of the Proposed Development, it is proposed a new surface water gravity drainage system will collect run-off from the roof and paved areas, and will connect to a newly constructed chamber adjacent to the Camac culvert. The River Camac flows into the River Liffey 3.5km northeast of the Site, before ultimately discharging to Dublin Bay.

Sustainable Urban Drainage Systems (SUDS) measures have been incorporated as part of the Proposed Development. It is also proposed to include green and blue roof coverage, which will allow for the infiltration and attenuation of rainwater. Permeable paving is proposed for the pedestrian and non-trafficked hard surfaces on Site and will infiltrate to the ground via a soakaway, which will control the rate of infiltration. Swale features will also be included to collect surface water discharge from areas of impermeable paving.

2.2.1.2 Foul Drainage

As outlined in the Civil Engineering Infrastructure & Surface Water Management Report (BMCE, 2023) accompanying this application, an existing public foul water network runs along Carriglea Industrial Estate road to the west of the Site. It is proposed a newly constructed foul water system from the Site will discharge to this network via a new connection during the Operational Phase of the Proposed Development. This foul water will be treated at Ringsend Wastewater Treatment Plant (WwTP) before discharging into Dublin Bay.

2.2.2 Landscape Design Plan

The proposed Landscape Design Plan (Figure 3) for the Proposed Development (Stephen Diamond Associates, 2023) includes semi-mature native and pollinator-friendly tree, shrub, aquatic, and ground flora planting along the daylighted section of the River Camac, many of which are listed on the Pollinator Friendly Planting Code (NBDC, 2022) under the All-Ireland Pollinator Plan 2021 – 2025 (NBDC, 2021). These species include willow (*Salix spp*.), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), and sloe (*Prunus spinosa*). The lower areas of the riparian bank will not be accessible to the public.

Wildlife ponds will also be included along the lower areas of the daylighted section of this river and will include aquatic native plant species, such as yellow iris (*Iris pseudacorus*), to provide still water specifically as amphibian and invertebrate habitat as part of the Proposed Development. Iris and ferns will also be planted along the riverbanks to provide ground flora along the watercourse. Granite boulders will be placed within the River Camac on top of the gabion mattress which will run the length of the riverbed within the Site of the Proposed Development.

FIGURE 3. LOWER GROUND FLOOR MASTERPLAN. DRAWING NUMBER: 22-579-SDA-PD-DR-GF-001 (STEPHEN DIAMOND ASSOCIATES, 2023).

2.3 Description of the Construction Phase

As outlined in the Construction Environmental Management Plan (CEMP) (AWN Consulting, 2023) accompanying this application, the proposed construction and demolition works include:

- Site set up, welfare facilities and compound establishment, decommissioning and movement of Site compound and facilities as needed.
- Set up of hoarding around compound and the Site boundary.
- Erection of safety signage to all areas and implementation of traffic/pedestrian management plan.

Working hours will between the hours of 07:00 to 19:00 Mondays to Fridays inclusive and between 08:00 and 14:00 hours on Saturdays, with no works on Sundays or bank holidays. If work is required outside of these hours, written approval will be sought by the contractor from Dublin City Council.

2.3.1 Daylighting the River Camac

As outlined in the CEMP (AWN Consulting, 2023), a new central river channel will be created within the centre of the Site. Sandbags will be placed on both sides of the culvert with protective sheeting installed over the top of the channel. To facilitate the demolition phase, a temporary working platform with handrails will be put in place.

The procedure of works for the daylighting of the River Camac include:

- Excavation to uncover the current River Camac culvert.
- Construction of retaining walls along both sides of the culvert.
- Demolition of the existing culvert lid.
- Excavation and creation of sloped ground at the land boundaries to reach the necessary formation levels.
- Installation of contiguous piled wall along a portion of the southeastern boundaries.

2.4 Description of the Operational Phase

The Operational Phase of the Proposed Development will include student accommodation, , cultural and community space, a retail unit, with an amenity area within the centre of the Site.

3 METHODOLOGY

This EcIA has been undertaken to support and assess the Proposed Development planning application and assesses the potential impacts that the Proposed Development may have on the ecology of the Site and its environs. Where potential for a risk to the environment is identified, mitigation measures are proposed on the basis that by deploying these mitigation measures the risk is eliminated or reduced to an insignificant level.

This section details the steps and methodology employed to undertake an ecological impact assessment of the Proposed Development.

3.1 Scope of Assessment

The specific objectives of the study were to:

- Undertake baseline ecological surveys and evaluate the nature conservation importance of the Site;
- Identify and assess the direct, indirect and cumulative ecological implications or impacts of the Proposed Development during its lifetime; and
- Where possible, propose mitigation measures to remove or reduce those impacts at the appropriate stage of the development.

3.2 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources pertaining to the Site's natural environment. The desk study, completed in August 2023, relied on the following sources:

- Information on species records [1] and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *maps.biodiversityireland.ie*;
- Information on Floral Protection Order (FPO) Bryophytes database at *dahg.maps.arcgis.com*;
- 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;
- Information on the existence of permitted development, or developments awaiting decision, in the vicinity of the Proposed Development from the National Planning Application Database available at:

[1] The Site of the Proposed Development lies within the 10km grid square O03, the 2km grid square O03J and the 1km grid square O0338. Records from the last 20 years from available datasets are given in the relevant sections of this report.

https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de; 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 10, References.

3.3 Zone of Influence

The 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.

Furthermore, ZOI in relation to European sites is described as follows in the 'OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management' (OPR, 2021):

> "*The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km).*"

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 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 EcIA reports such as this to identify all relevant designated sites potentially linked to the Proposed Development.

As noted above, 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.

Thus, 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.

3.5 Field Surveys

3.5.1 Habitat Surveys

Habitat surveys of the Site were conducted by Enviroguide on the 12th of August 2022, with a ground truthing survey carried out on the 21st of August 2023. 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. Any incidental observations of evidence for rare and/or protected flora were recorded.

In addition, the Site was searched for invasive flora with a particular focus on those listed on the Third Schedule of SI No. 477/2011, and their location and extent recorded.

3.5.2 Bat Surveys

3.5.2.1 Preliminary Bat Roost Assessment

A preliminary bat roost assessment of Potential Roost Features (PRFs) within trees and built structures on or close to the Site was completed on 15th of September 2022, and again on the 21st of August 2023, in adherence to best practice guidelines (Collins, 2016 and Marnell et al., 2022). This was undertaken to determine the suitability of the Site for roosting bats and the

potential requirement for further surveys to be undertaken. PRFs can be defined in four broad terms of suitability as detailed below:

- Negligible – No suitable features observed;
- Low – A structure with one or more roost features as used by individual bats or a tree of sufficient size to contain roost features but none observed from the ground;
- Moderate – A structure or tree with one or more roost features and able to support one or more bats but unlikely to support a roost of high conservation status.
- High - A structure or tree 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.

3.5.2.2 Preliminary Bat Habitat Suitability Assessment

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on the 15th of September 2022, and again in conjunction with the ground truthing survey on the 21st of August 2023. 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.

3.5.2.3 Bat Landscape Suitability

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 1 km 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:

- 0.0000000 - 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

3.5.2.4 Bat Activity Survey

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The survey was undertaken to best practice guidance (Collins, 2016 and Marnell et al., 2022) during times of suitable weather conditions, as detailed below.

The weather conditions during the survey on the 15th of September 2022 were overcast and with temperatures ranging from 14-16ºC over the course of the survey with continuously calm wind conditions. Bat activity and emergence surveys are best carried out mid-March to end of September, in suitable weather conditions[2] as these surveys were.

The activity survey began at 19:17pm approximately 30 mins before sunset (19:47pm) and finished approximately 2 hours later at 21:17pm.

The surveyor was equipped with a Elekon Batlogger M2 detector and powerful L.E.D. torch and head torches.

3.5.2.5 Bat Emergence Survey

A bat emergence survey was conducted on the 21st of August 2023 by experienced surveyors who were situated in locations that gave good views of the PRFs identified within the Site during the preliminary bat roost assessment. The methodology of the emergence survey followed best practice guidelines (Collins, 2016 and Marnell et al., 2022) with the dusk survey commencing 15 minutes before sunset and lasting until approximately 1.5 hours after sunset.

The weather conditions during the survey were overcast with a temperature 18ºC during the survey with breezy wind conditions. Bat activity and emergence surveys are best carried out mid-March to end of September, in suitable weather conditions[3] as these surveys were.

The activity survey began at 20:30pm approximately 15 mins before sunset (20:46pm) and finished at 22:00pm.

3.5.3 Bird Surveys

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 habitat within and adjacent to the Proposed Development and scanning and listening for birds. The locations of birds seen and heard were mapped using standard BTO codes and activity symbols.

3.5.3.1 Scoping Bird Survey

A bird scoping survey was carried out on the 12th of August 2022 and on the 21st of August 2023. The surveys were carried out in suitable weather conditions and within daylight hours. All species encountered during the surveys and location of any visible nest sites were recorded in field notes

3.5.4 Other Fauna

General fauna surveys of the Site were carried out in conjunction with the other field surveys on the 12th of August 2022and on the 21st of August 2023. The habitat types recorded

[2] Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

[3] Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. Furthermore, the Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and the National Road Authority (NRA, 2005). This survey considers protected or notable fauna that may occur within the Site or in the adjacent lands, but for which no historical records from the relevant grid square(s) exist or no targeted surveys were carried out.

3.6 Ecological Assessment

This EcIA has been undertaken following the methodology set out in Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018); and with reference to the National Roads Authority 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009) and the Environmental Protection Agency (EPA) 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (EPA, 2022) and BS 42020:2013 Biodiversity: Code of practice for planning and development (BSI, 2013).

The evaluation of significant effects should be based on available scientific evidence. Based on the precautionary principle, if the available information is not sufficient, then a significant effect may be assumed likely to occur.

3.6.1 Evaluation of Ecological Features

The value of the ecological features, i.e., the habitats and species present or potentially present, was determined using the ecological evaluation at different geographical scales (NRA, 2009), presented in Appendix II. This evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. Based on best practice (CIEEM, 2018), any features considered to be less than of local value are not assessed within this EcIA.

3.6.2 Impact Assessment

As per the NRA guidelines, impact assessment is only undertaken of Key Ecological Receptors (KERs). The assessment of the potential impact of the Proposed Development on the identified KERs was carried out with regard to the criteria outlined in the EPA Guideline (EPA, 2022), presented in Appendix III. These guidelines set out a number of parameters that should be considered when determining which elements of the Proposed Development could constitute impact or sources of impacts. These include;

- Positive, neutral or negative effect;
- Significance;
- Extent;
- Probability;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process, or feature, e.g., the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to an adverse effect of a sensitive habitat.

3.6.3 Assessment of Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a Proposed Development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Relevant plans and policies (see section 1.2) were reviewed to identify any potential for negative cumulative impacts with the Proposed Development. Additionally, existing planning permissions from the past five years (from 2018 onwards) within the ZOI of the Proposed Development were reviewed, with particular focus on potential cumulative impacts on the identified KERs. Long-term developments were also considered where applicable.

3.6.4 Avoidance, Mitigation, Compensation and Enhancement Measures

Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement. When seeking mitigation or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

It is important for the EcIA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g., through changes in scheme design. In practice, avoidance measures are typically implemented during the design stage via discussions and re-design (e.g., avoiding a sensitive habitat by relocating a building). Avoidance measures are therefore rarely reported within an EcIA, which focuses on assessing the final design.
- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ.
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible.

- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

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.
- The bat survey effort carried out at the Site consisted of one activity survey in August 2022, and one bat emergence survey in August 2023. Although the survey scope is considered to be relatively low, a precautionary approach was implemented in mitigating potential impacts, and a such this limitation is not considered to be significant.
- Due to the limited natural habitats and urban nature of the Site, full breeding bird surveys were not carried out on Site, and therefore, some cryptic species may have been missed during the scoping surveys. However, the measures outlined in section 6, which are based on a precautionary approach, will mitigate potential impacts to breeding birds on Site, and as such this limitation is not considered to be significant.

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 of the Proposed Development is within the *Liffey and Dublin Bay* catchment (Catchment ID 09) and *Mayne_SC_010* sub-catchment (Sub-Catchment ID 09_17). The River Camac is culverted beneath the Site, and connects to the Walkinstown Stream (EU Code: IE_EA_09C020500) 147m southeast of the Site. The River Camac then flows for 4.1km northeast to discharge to the River Liffey (EU Code: IE_EA_090_0400) and ultimately enters Dublin Bay (EU Code: IE_EA_090_0300).

The River Camac is currently *At Risk* of not meeting its Water Framework Directive (WFD) objectives and was designated a *Poor* ecological status during the most recent 2016-2021 survey period (EPA, 2023). The status of the River Camac was designated as *Poor* (Q-Value 3) by the EPA in 2022 (station code: RS09C020500, located 1.7km northeast of the Site). The ecological status of the Liffey Estuary Upper transitional waterbody is classified as *Good* during this most recent survey period (EPA, 2023).

The Site is situated on the *Dublin* groundwater body (EU Code: IE_EA_G_008), which is currently under review as to whether it will meet its WFD objectives. The aquifer type within

the Site boundary is a *Locally Important Aquifer* (Ll) on bedrock which is *Moderately Productive only in Local Zones*. The groundwater rock units underlying the aquifer are classified as *Dinantian Upper Impure Limestones* (GSI, 2023). The level of vulnerability of the Site to groundwater contamination via human activities is *Moderate*. The soil is classified as *Urban* and the subsoil is man-made (*Made*) (EPA, 2023).

The Waterbody Status for river, groundwater, transitional and coastal water bodies relevant to the Site as recorded by the EPA (2023) in accordance with European Communities (Water Policy) Regulations 2003 (SI no. 722/2003) are provided in Table 1.

TABLE 1. 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 3rd cycle Risk Status	Hydraulic Connection to the Site
Surface Water Bodies						
River Camac Walkinstown Stream	IE_EA_09C02 0500	N/A	N/A	Poor	At risk	Potential hydrological connection via surface water discharge
Transitional Water Bodies						
Liffey Estuary Upper	IE_EA_090_0 400	North-east	3.5km	Good	Review	Downstream of the Site
Coastal Water Bodies						
Dublin Bay (Liffey Estuary Lower)	IE_EA_090_0 300	North-east	10.1km	Moderate	At Risk	Downstream of the Site
Groundwater Bodies						
Dublin Groundwater Body	IE_EA_G_008	N/A	N/A	Good	Review	Underlying groundwater-body

4.2 Designated Sites

All European sites potentially linked to the Proposed Development have been identified and fully assessed in the AA Screening Report (Stage 1 AA) accompanying this submission under separate cover. A summary of the AA conclusions is given below in section 4.2.2.

Other nationally or internationally designated sites potentially linked to the Proposed Development are identified in section 4.2.2.

4.2.1 European sites – Appropriate Assessment

The following conclusion is extracted from the AA accompanying this application under separate cover:

> *"The Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4 has been assessed taking into account:*
>
> - *The nature, size and location of the proposed works and possible impacts arising from the construction works.*
> - *The qualifying interests and conservation objectives of the European sites.*
> - *The potential for in-combination effects arising from other plans and projects.*
>
> *In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility may be excluded that the Proposed Development will have a significant effect on any of the European sites listed below:*
>
> - *South Dublin Bay SAC (000210).*
> - *North Dublin Bay SAC (000206).*
> - *South Dublin Bay and River Tolka Estuary SPA (004024).*
> - *North Bull Island SPA (004006).*
>
> *In carrying out this AA screening, mitigation measures have not been taken into account. Standard best practice construction measures which could have the effect of mitigating any effects on any European Sites have similarly not been taken into account.*
>
> *On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available and objective information, that the possibility of any significant effects on the above listed European sites, whether arising from the project itself or in combination with other plans and projects, can be excluded in light of the above listed European sites' conversation objectives. Thus, there is no requirement to proceed to Stage 2 of the AA process and the preparation of a NIS is not required*."

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

4.2.2 Other Designated sites

4.2.2.1 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.

4.2.2.1.1 Direct Pathways

4.2.2.1.1.1 Hydrological pathways

The Site is currently underlain by the existing surface water sewer that discharges to the River Camac. There is potential for the surface water run-off from the Site to enter this drainage network and the River Camac and ultimately discharge to Dublin Bay. The River Camac currently flows beneath the Site via a culvert. As outlined in the Civil Engineering Infrastructure & Surface Water Management Report (Barrett Mahony, 2023), approximately 76m of the River Camac will be daylighted, with surrounding excavation works and installation of reinforced concrete slabs and walls taking place prior to the removal of the existing culvert roof, creating an open channel.

As such, there is a potential, indirect hydrological pathway via surface water run-off to the River Camac to North Dublin Bay pNHA (000206), South Dublin Bay pNHA (000210), and Dolphins, Dublin Docks pNHA (000201). In addition, Dublin Bay contains two Ramsar sites, Sandymount Strand / Tolka Estuary Ramsar Site (832) and North Bull Island Ramsar Site (406), and is also designated as a UNESCO Biosphere.

The hydrological pathway to these downstream designated sites is 11.5km along the River Camac and River Liffey, over which any potential pollutants that may enter Dublin Bay via drainage from the Site would become diluted to indiscernible levels. Therefore, this hydrological pathway to these downstream designated sites is considered insignificant.

The Site will also be connected to the existing foul water sewer network, which will be discharged to Dublin Bay from Ringsend WwTP. As such, there is a weak hydrological link between the Site and the aforementioned designated sites within Dublin Bay via discharges from Ringsend WwTP during the Operational Phase. However, the potential for foul waters generated at the Site of the Proposed Development to reach these designated sites within Dublin Bay and cause significant effects, during the Construction and Operational Phases, is negligible due to the following reasons:

- The ongoing upgrade works to Ringsend WwTP which will increase the capacity of the facility from 1.6 million Population Equivalent (PE) to 2.4 million PE (see section 5.5.3 below for more details).
- It is considered that effects on marine biodiversity and the European sites within Dublin Bay from the current operation of Ringsend WwTP are unlikely (see section 5.5.3 for more details).
- The main area of dispersal of the treated effluent from Ringsend WwTP is in the Tolka Basin and around North Bull Island. South Dublin Bay is unaffected by the effluent from the plant (Irish Water, 2018).
- The increase of the PE load at the facility as a result of the Proposed Development, assuming each PE unit was not previously supported by the WwTP, is considered

to be an insignificant increase in terms of the overall scale of the facility. The increased load does not have the capacity to alter the effluent released from the WwTP to such an extent as to result in likely significant effects on designated sites in Dublin Bay.

No other designated sites are hydrologically connected to the Proposed Development.

4.2.2.1.1.2 Hydrogeological pathways

Potential discharges to ground could potentially migrate vertically downward to the underlying bedrock aquifer and laterally within the aquifer to the downgradient receiving surface waterbodies, i.e., the River Camac, contributing to the hydrological pathway to Dublin Bay downstream of the Site. However, no direct hydrogeological pathways to any designated sites exist due to the considerable distance and intervening watercourses in between the Proposed Development and the nearest designated sites within Dublin Bay.

4.2.2.1.1.3 Air and land pathways

No air or land pathways from the Proposed Development to any European sites were identified, as the distance between the Site and the nearest designated sites (Grand Canal pNHA (002104) 540m north) is deemed sufficient to exclude any potential for impacts from increases in noise, lighting and/or dust or other airborne pollutants.

4.2.2.1.2 Indirect Pathways

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

4.2.2.2 Relevant Designated Sites

A designated site will only be at risk from likely significant effects where an S-P-R link of note exists between the Proposed Development and the designated site. All designated sites considered as part of the S-P-R method (excl. European sites) are listed in Table 2 and Figure 4. Location of pNHA sites considered with the Source-Pathway-Receptor (S-P-R) method in relation to the Proposed Development. and Figure 4. Those sites with notable S-P-R links to the Proposed Development are assessed further in this report as KERs of 'National Importance' (pNHAs and NHAs) or 'International Importance' (SACs/SPAs, UNESCO sites, Ramsar sites, etc.).

TABLE 2. 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 AMENDMENTS, 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 Development	Designation Rationale / Site Description	Potential Pathway to receptors
Internationally Designated Sites			
Dublin Bay UNESCO Biosphere	11.5 river km	In 1981, UNESCO recognised the importance of Dublin Bay by designating North Bull Island as a Biosphere because of its rare and internationally important habitats and species of wildlife. To support sustainable development, UNESCO's concept of a Biosphere has evolved to include not just areas of ecological value but also the areas around them and the communities that live and work within these areas. There have since been additional international and national designations, covering much of Dublin Bay, to ensure the protection of its water quality and biodiversity. To fulfil these broader management aims for the ecosystem, the Biosphere was expanded in 2015. The Biosphere now covers Dublin Bay, reflecting its significant environmental, economic, cultural and tourism importance, and extends to over 300km². Over 300,000 people live within the newly enlarged Biosphere.	None – Hydrological pathway assessed by proxy in AA Screening and deemed insignificant due to distance (see AA Screening for details)
Sandymount Strand / Tolka Estuary Ramsar Site (832)		An intertidal system supporting a large bed of eelgrass (*Zostera noltii*) with extensive areas of sandflats. The site is important for various species of waterbirds, supporting internationally important numbers of Brent Geese and large numbers of roosting gulls and terns. Various species of annalids, bivalves and small gastropods occur. Bait-digging is a regular activity on the sandy flats.	
North Bull Island Ramsar Site (406)		A small island built up over 200 years against a harbour wall and the adjoining foreshore of sandy beaches, saltmarshes and mudflats. The site is unique in Ireland because it supports well-developed saltmarsh and dune systems displaying all stages of development from the earliest phase of colonization to full maturity. The site supports five protected or threatened plant species and nationally important populations of three insect species. The area is important for nesting *Sterna albifrons* (80	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		pairs, or about 30% of the Irish population) and for numerous species of wintering waterbirds. Human activities include bait digging.	
Proposed Natural Heritage Areas			
Grand Canal pNHA (002104)	540m	The Grand Canal proposed pNHA comprises the canal channel and the banks on either side of it. A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland. The aquatic flora of the Corbally Extension of the Naas Branch of the canal is also very diverse, with a similar range of species to the eastern Main Line. Otter spraints are found along the towpath, particularly where the canal passes over a river or stream. The Smooth Newt (*Lissotriton vulgaris*) breeds in the ponds on the bank at Gollierstown in Co. Dublin. The rare and legally protected Opposite-leaved Pondweed (*Groenlandia densa*) (Flora Protection Order 1987) is present at a number of sites in the eastern section of the Main Line, between Lowtown and Ringsend Basin in Dublin. 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.	None. No hydrological, hydrogeological, air or land pathways have been identified between this site and the Proposed Development.
North Dublin Bay pNHA (000206)	11.5 river km	The Conservation Objectives for this pNHA are not specified, and as such the QIs for North Dublin Bay SAC (000206) and North Bull Island SPA (004006) are referred to: **Conservation Objectives Version 1 (NPWS 2013a):** **Habitats** 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes	None – Hydrological pathway assessed by proxy in AA Screening and deemed insignificant due to distance (see AA Screening for details)

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks **Species** 1395 *Petalophyllum ralfsii* (Petalwort) **Conservation Objectives Version 1 (NPWS 2015a):** **SCI Birds** A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A048 Shelduck (*Tadorna tadorna*) A052 Teal (*Anas crecca*) A054 Pintail (*Anas acuta*) A056 Shoveler (*Anas clypeata*) A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (Calidris *canutus*) A144 Sanderling (*Calidris alba*) A149 Dunlin (*Calidris alpina*) A156 Black-tailed Godwit (*Limosa limosa*) A157 Bar-tailed Godwit (*Limosa lapponica*) A160 Curlew (*Numenius arquata*) A162 Redshank (*Tringa totanus*) A169 Turnstone (*Arenaria interpres*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A999 Wetland and Waterbirds	
South Dublin Bay pNHA (000210)	11.5 river km	The Conservation Objectives for this pNHA are not specified, and as such the QIs for South Dublin Bay SAC (000210) and South Dublin Bay and River Tolka Estuary SPA (004024) are referred to: **Conservation Objectives Version 1 (NPWS 2013b):** **Habitats** 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		1310 Salicornia and other annuals colonising mud and sand 2110 Embryonic shifting dunes **Conservation Objectives Version 1 (NPWS 2015b):** **SCI Birds** A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A130 Oystercatcher (*Haematopus ostralegus*) A137 Ringed Plover (*Charadrius hiaticula*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (Calidris *canutus*) A144 Sanderling (*Calidris alba*) A149 Dunlin (*Calidris alpina*) A157 Bar-tailed Godwit (*Limosa lapponica*) A162 Redshank (*Tringa totanus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A192 Roseate Tern (*Sterna dougallii*) A193 Common Tern (*Sterna hirundo*) A194 Arctic Tern (*Sterna paradisaea*) A999 Wetland and Waterbirds	
Dolphins, Dublin Docks pNHA (000201)	11.5 river km	The Conservation Objectives for this pNHA are not specified, and as such the QIs for South Dublin Bay and River Tolka Estuary SPA (004024) are referred to: **Conservation Objectives Version 1 (NPWS 2015b):** **SCI Birds** A046 Light-bellied Brent Goose (*Branta bernicla hrota*) A130 Oystercatcher (*Haematopus ostralegus*) A137 Ringed Plover (*Charadrius hiaticula*) A141 Grey Plover (*Pluvialis squatarola*) A143 Knot (Calidris *canutus*) A144 Sanderling (*Calidris alba*) A149 Dunlin (*Calidris alpina*) A157 Bar-tailed Godwit (*Limosa lapponica*) A162 Redshank (*Tringa totanus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A192 Roseate Tern (*Sterna dougallii*)	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		A193 Common Tern (*Sterna hirundo*) A194 Arctic Tern (*Sterna paradisaea*) A999 Wetland and Waterbirds	

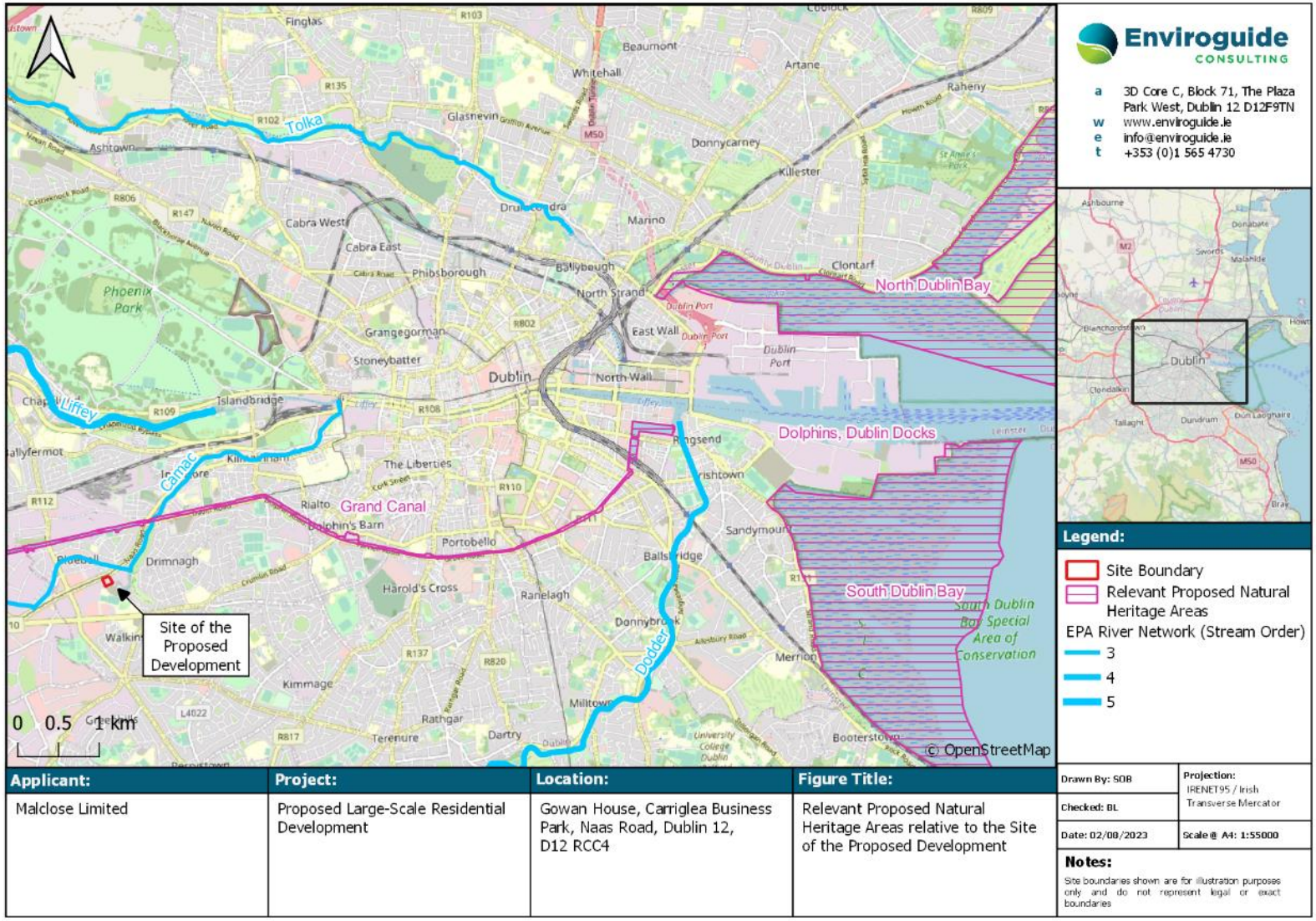

FIGURE 4. LOCATION OF PNHA SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT.

4.3 Habitats

During the Site walkover on the 12th of August 2022, habitats were identified to Level 3 (codes follow Fossitt, 2000), see Figure 5. A ground truthing survey on the 21st of August 2023 determined these habitats have remained in place at the Site, which is currently in used for parking by staff for adjacent construction works. Photographs of the habitats can be seen in Appendix IV – Site Photographs.

The predominant habitat observed on Site is *Buildings and Artificial Surfaces BL3* in the form of a building and car park. The boundaries of this hardstanding area are comprised of *Amenity Grassland (improved) GA2*, with daisy (*Bellis perennis*), dandelion (*Taraxacum officinale agg*.), creeping cinquefoil (*Potentilla reptans*), and yarrow (*Achillea sp*.) recorded throughout. A number of semi-mature trees, including lime (*Tilia sp*.), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), and cherry (*Prunus sp*.) have been planted along the west, south, and east borders of the Site to create *Scattered Trees and Parkland (WD5)* habitat.

An area of *Ornamental/non-native Shrub WS3* is currently planted at the entrance along the south of the building, with floral species such as lavender (*Lavandula sp*.), tutsan (*Hypericum androsaemum*), Japanese maple (*Acer palmatum*), buddleia (*Buddleja davidii*), and flax (*Linum sp*.) observed throughout.

No rare or protected flora were observed at the Site during this survey.

No invasive alien species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011), were recorded at the Site. However, two Medium Impact (Kelly et al., 2013) invasive floral species were recorded on Site, namely buddleia and sycamore. Three medium-sized stands of buddleia were noted on Site, within the northeast corner, northwest corner, and ornamental planting area on Site. Semi-mature sycamore was planting intermittently along the boundaries of the Site, with one small sapling recorded with the ornamental planting and the entrance of the existing building.

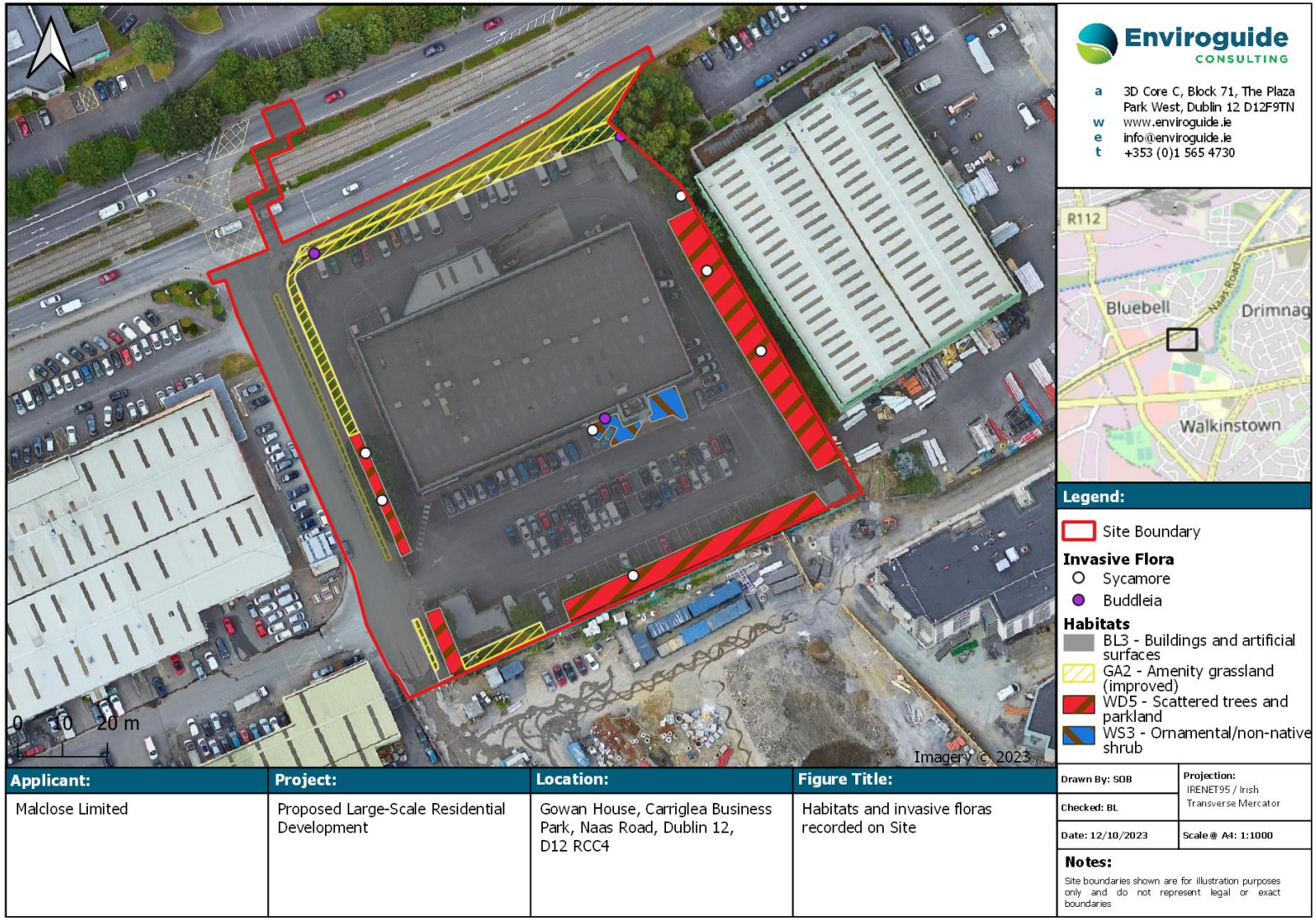

FIGURE 5. MAP OF HABITATS PRESENT AT THE PROPOSED DEVELOPMENT SITE.

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 (O13B) and 1km Grid Square (O1032). Species records from the NBDC online database of these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contained no records of protected flora within the last 20 years, however, one regionally extinct, two vulnerable, and six endangered species occurred within the 10km Grid Square (O13) (Table 3). 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 vicinity of the Proposed Development.

TABLE 3. RECORDS OF THREATNED FLORA FOR THE SURROUNDING 10KM (O13) GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Name	Grid Square	Date of last record	Database	Designation
Great Burnet (*Sanguisorba officinalis*)	O13	30/09/2016	Ireland's BioBlitz	IUCN Red List 2016: Endangered
Hairy St John's-wort (*Hypericum hirsutum*)	O13	23/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	IUCN Red List 2016: Endangered
Hairy Violet (*Viola hirta*)	O13	18/05/2012	Ireland's BioBlitz	IUCN Red List 2016: Endangered
Meadow Barley (*Hordeum secalinum*)	O13	31/12/2007	Irish Crop Wild Relative Database	IUCN Red List 2016: Endangered
Meadow Crane's-bill (*Geranium pratense*)	O13	20/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	IUCN Red List 2016: Vulnerable
Nettle-leaved Bellflower (*Campanula trachelium*)	O13	04/07/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	IUCN Red List 2016: Endangered
Purple Spurge (*Euphorbia peplis*)	O13	30/09/2016	Ireland's BioBlitz	IUCN Red List 2016: Regionally Extinct
Round-leaved Crane's-bill (*Geranium rotundifolium*)	O13	14/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	IUCN Red List 2016: Endangered
Blunt-fruited Pottia (*Tortula modica*)	O13	29/01/2011	Bryophytes of Ireland	IUCN Red List 2016: Vulnerable

4.4.1.2 Invasive Species

There are records for 33 species of flora considered to be invasive within the 10km grid square, with six of these species recorded in the 2km grid square, and 3 of these species within the 1km grid square which encompass the Site of the Proposed Development. Details of these records are listed in Table 4.

TABLE 4. RECORDS OF INVASIVE SPECIES OF FLOWERING PLANT FOR THE SURROUNDING GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC

Species	Grid square	Date of last record	Source	Designations
American Skunk-cabbage (*Lysichiton americanus*)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species EU Regulation No. 1143/2014 Regulation S.I. 477/2011 (Ireland)
Brazilian Giant-rhubarb (*Gunnera manicata*)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Butterfly-bush (*Buddleja davidii*)	O13 O13B	30/01/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Canadian Fleabane (*Conyza canadensis*)	O13	26/10/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Canadian Waterweed (*Elodea canadensis*)	O13 O13B O1032	25/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Cherry Laurel (*Prunus laurocerasus*)	O13	26/01/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species
Common Broomrape (*Orobanche minor*)	O13	26/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Evergreen Oak (*Quercus ilex*)	O13	30/06/2021	Community Foundation for Ireland Records	Medium Impact Invasive Species
Fallopia japonica x sachalinensis = F. x bohemica	O13	17/06/2015	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)

False-acacia (*Robinia pseudoacacia*)	O13	20/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Giant Hogweed (*Heracleum mantegazzianum*)	O13	20/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Giant Knotweed (*Fallopia sachalinensis*)	O13	03/08/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Giant-rhubarb (*Gunnera tinctoria*)	O13	28/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Himalayan Honeysuckle (*Leycesteria formosa*)	O13	18/11/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Indian Balsam (*Impatiens glandulifera*)	O13 O13B	26/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Japanese Knotweed (*Reynoutria japonica*)	O13 O13B O1032	24/06/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Japanese Rose (*Rosa rugosa*)	O13	19/05/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Narrow-leaved Ragwort (*Senecio inaequidens*)	O13	18/07/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
New Zealand Pigmyweed (*Crassula helmsii*)	O13	31/07/2009	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Nuttall's Waterweed (*Elodea nuttallii*)	O13 O13B O1032	31/07/2021	Community Foundation for Ireland Records	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Pampas-grass (*Cortaderia selloana*)	O13	15/01/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

Parrot's-feather (*Myriophyllum aquaticum*)	O13	31/07/2009	National Invasive Species Database	High Impact Invasive Species EU Regulation No. 1143/2014 Regulation S.I. 477/2011 (Ireland)
Ragweed (*Ambrosia artemisiifolia*)	O13	06/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Rhododendron ponticum	O13	17/06/2004	Species Data from the National Vegetation Database	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Sea-buckthorn (*Hippophae rhamnoides*)	O13	31/08/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Spanish Bluebell (*Hyacinthoides hispanica*)	O13	30/03/2021	National Invasive Species Database	Regulation S.I. 477/2011 (Ireland)
Sycamore (*Acer pseudoplatanus*)	O13 O13B	31/08/2021	Community Foundation for Ireland Records	Medium Impact Invasive Species
Three-cornered Garlic (*Allium triquetrum*)	O13	24/03/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Traveller's-joy (*Clematis vitalba*)	O13	11/11/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Tree-of-heaven (*Ailanthus altissima*)	O13	25/10/2009	Heritage Trees of Ireland	Medium Impact Invasive Species
Turkey Oak (*Quercus cerris*)	O13	09/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Wall Cotoneaster (*Cotoneaster horizontalis*)	O13	30/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Wild Parsnip (*Pastinaca sativa*)	O13	09/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

4.4.2 Bats

4.4.2.1 Desk Study Results

A total of eight bat species, along with one record only identified to genus level, have been recorded within the 10km (O13) grid square which encompasses the Site (Table 5).

TABLE 5. 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 (*Plecotus auritus*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Common Pipistrelle (*Pipistrellus pipistrellus*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Daubenton's Bat (*Myotis daubentonii*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Lesser Noctule (*Nyctalus leisleri*)	08/06/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Myotis Bat species (*Myotis sp.*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Nathusius's Pipistrelle (*Pipistrellus nathusii*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Natterer's Bat (*Myotis nattereri*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	25/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Whiskered Bat (*Myotis mystacinus*)	13/08/2007	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)

The Proposed Development Site (indicated in the black box in Figure 6) is located in an area with an overall Medium-High (35.44) suitability for bats in general. The suitability index for specific bat species is presented in Table 6. The landscape suitability index is high for two

species of bats; common pipistrelle (*Pipistrellus pipistrellus*) and lesser noctule (*Nyctalus leisleri*).

TABLE 6. LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES WITHIN THE 5KM GRID SQUARE (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 (5km Grid Square)
Soprano pipistrelle *(Pipistrellus pygmaeus)*	35 (Medium-High)
Brown longed-eared bat *(Plecotus auritus)*	28 (Medium)
Common pipistrelle *(Pipistrellus pipistrellus)*	39 (High)
Lesser horseshoe bat *(Rhinolophus hipposideros)*	0 (Low)
Lesser noctule *(Nyctalus leisleri)*	42 (High)
Whiskered bat *(Myotis mystacinus)*	20 (Low-Medium)
Daubenton's bat *(Myotis daubentonii)*	18 (Low-Medium)
Nathusius' pipistrelle (*Pipistrellus nathusii*)	15 (Low-Medium)
Natterer's bat *(Myotis nattereri)*	16 (Low-Medium)

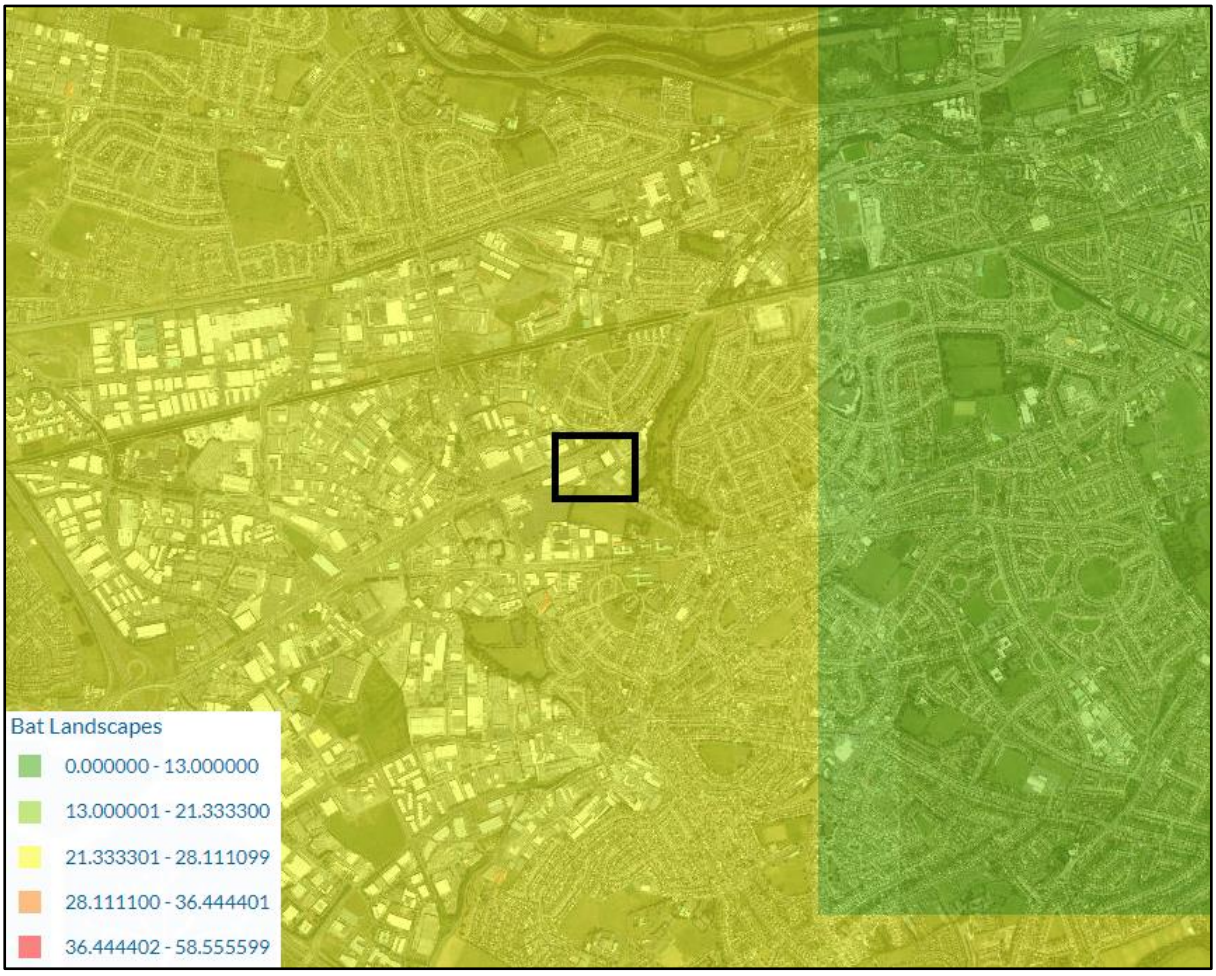

FIGURE 6. BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

4.4.2.2 Field Survey Results

4.4.2.2.1 Bat Roost Assessment and Habitat Suitability

The linear habitat features such as the treelines within the Site were assessed for bat roosting potential and foraging/commuting suitability. The treelines on-Site were composed of a variety of species including lime, ash and sycamore. All of trees on-Site were considered to be of *Negligible* bat roost potential given the lack of PRFs as outlined in Table 4.1 in the BCT's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Overall, the buildings on site were considered to be of *Low* bat roost potential. However, there was some damage to the building envelope at loading bay on the northern face of the main building which could act as an ingress/egress point for opportunistic bats (Figure 7).

The treelines within the Site were considered to offer *Low* foraging and commuting suitability to bats, given the urbanised nature of the Site and its surroundings and the low degree of connectivity of the Site with the surrounding landscape (Collins, 2016). More suitable foraging and commuting habitat for bats is available within the nearby Lansdowne Pitch and Putt course, which provides a corridor towards the Grand Canal and its riparian habitats.

FIGURE 7. DAMAGE TO THE EXTERIOR OF THE MAIN BUILDING WHICH MAY PROVIDE ROOSTING OPPORTUNITIES FOR BATS.

4.4.2.2.2 Bat Activity Survey

Bat activity was very low at the Site during the 2-hour activity survey on the 15th of September 2022. In total, only 2 no. bat species were recorded at the Site, namely, common pipistrelle and soprano pipistrelle (*Pipistrellus pygmaeus*) (Table 7). The activity of two bats could be confirmed by surveyors at the Site. One common pipistrelle was seen by surveyors commuting along the southern treeline to the southeast of the Site at 20:07 (Figure 8). In addition, a soprano pipistrelle was recorded commuting along the treeline at eastern boundary at 20:16, shortly after the common pipistrelle was recorded. No further bats were observed for the duration of the survey.

TABLE 7: SUMMARY OF BAT ACTIVITY RECORDED ON BAT DETECTOR (NON BAT "NOISE" RECORDS REMOVED) DURING TRANSECT SURVEY ON THE 15TH OF SEPTEMBER 2022.

Species	Common name	Number of Recordings	Number of Calls
Pipistrellus pygmaeus	Soprano Pipistrelle	1	20
Pipistrellus pipistrellus	Common Pipistrelle	1	14

4.4.2.2.3 Bat Emergence Survey

During the dedicated bat emergence survey on the 21st of August 2023, a single common pipistrelle was recorded emerging from above the right loading bay on the north side of the building at 21:05, which then commuted west and was recorded by the surveyor within the northwest of the Site. An area of damage above the door, as seen in Figure 7, provides an access/egress point for opportunistic local bats. No other PRFs were recorded within the Site of the Proposed Development and no further bat activity was recorded during this survey following the observation of the emergence of one individual common pipistrelle (see Table 8 and Figure 9). As such, based on the limited activity recorded at the Site during the two surveys, and the *Low* habitat suitability for foraging and commuting, the building is assessed as a day roost for local bats (i.e., "*a place where individual bats, or small groups or males, rest or shelter during the day but are rarely found by night in the summer*" (Collins, 2016)).

TABLE 8: SUMMARY OF BAT ACTIVITY RECORDED ON BAT DETECTOR (NON BAT "NOISE" RECORDS REMOVED) DURING EMERGENCE SURVEY ON THE 21ST OF AUGUST 2023.

Species	Common name	Number of Recordings	Number of Calls
Pipistrellus pipistrellus	Common Pipistrelle	2	23

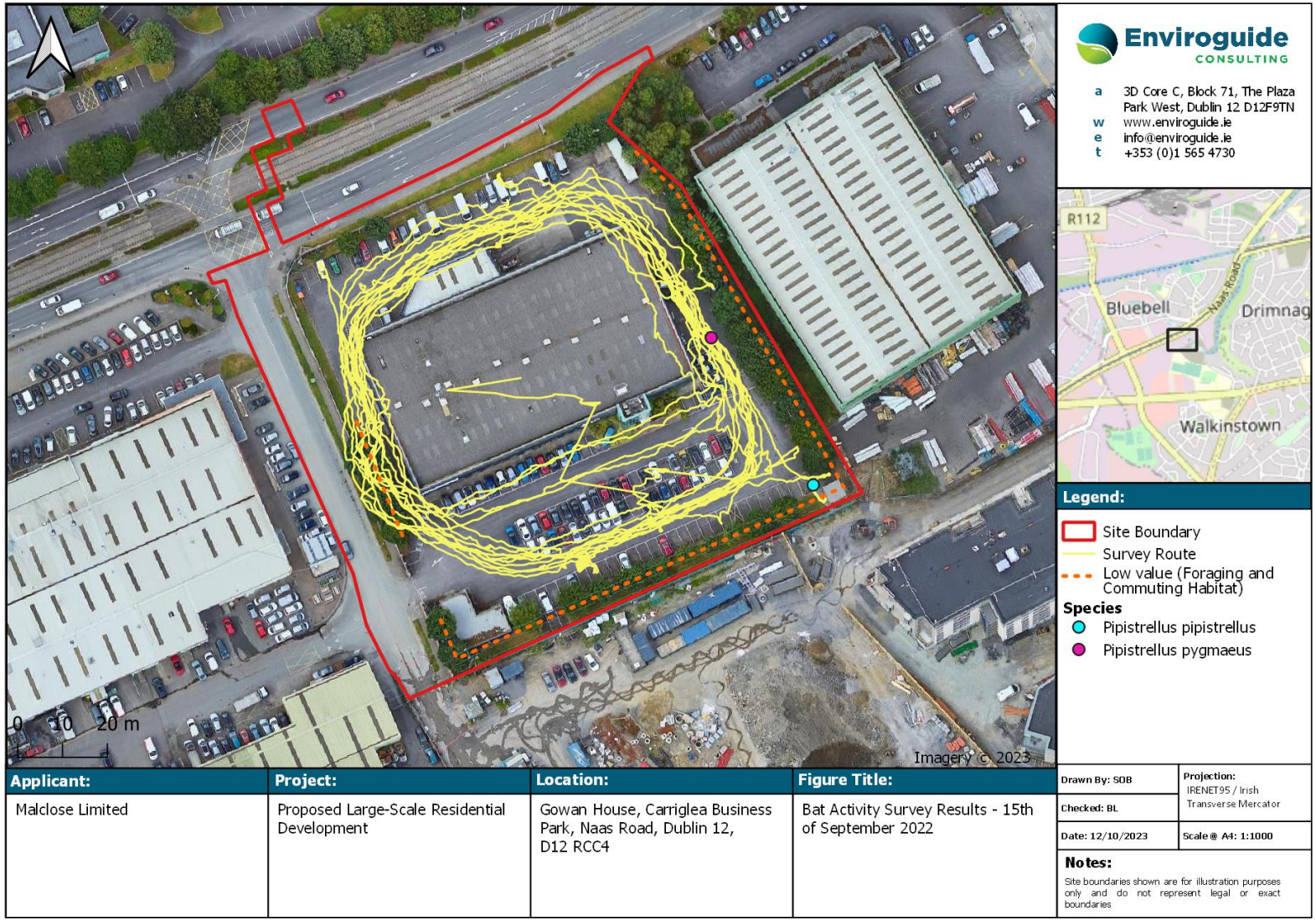

FIGURE 8. BAT ACTIVITY SURVEY RESULTS - 15TH OF SEPTEMBER 2022

FIGURE 9. BAT EMERGENCE SURVEY RESULTS - 21ST OF AUGUST 2023

4.4.2.3 Evaluation

The Site was deemed to have negligible foraging, commuting, and roosting habitat for local bats due to the nature of the habitats on and within the immediate vicinity of the Site, the lack of connectivity to any suitable habitat within the surrounding landscape, and there was only 1 PRF recorded within the Site of the Proposed Development. However, bat mergence was observed from the building, indicating at least opportunistic roosting by local bats within Site structures.

4.4.3 Birds

4.4.3.1 Desk study Results

A total of 149 bird species have been recorded within the O13 10 km grid square. Of these, 24 are red listed birds and 47 are amber listed birds as identified on the Birds of Conservational Concern in Ireland (BoCCI) (Gilbert et al. 2021). Details of amber and red listed species are detailed in Table 9. Eight species recorded were rare visitors to Ireland and one is a High Impact Invasive Species and were therefore not designated a BoCCl status. The remaining 80 species are all green listed.

TABLE 9. DETAILS OF AMBER AND RED LISTED BIRD SPECIES WITHIN THE 10KM GRID SQUARE (N81).

Species	Date of record	BoCCI Status
Barn Owl (*Tyto alba*)	06/03/2021	**Red**
Bar-tailed Godwit (*Limosa lapponica*)	31/12/2011	**Red**
Black-legged Kittiwake (*Rissa tridactyla*)	01/03/2018	**Red**
Black-tailed Godwit (*Limosa limosa*)	10/03/2012	**Red**
Common Goldeneye (*Bucephala clangula*)	31/12/2011	**Red**
Common Kestrel (*Falco tinnunculus*)	27/11/2022	**Red**
Common Pochard (*Aythya ferina*)	05/02/2023	**Red**
Common Redshank (*Tringa totanus*)	17/09/2017	**Red**
Common Snipe (*Gallinago gallinago*)	28/01/2017	**Red**
Common Swift (*Apus apus*)	29/07/2022	**Red**
Dunlin (*Calidris alpina*)	31/12/2011	**Red**
Eurasian Curlew (*Numenius arquata*)	06/02/2023	**Red**
Eurasian Oystercatcher (*Haematopus ostralegus*)	23/01/2023	**Red**
Eurasian Woodcock (*Scolopax rusticola*)	31/12/2011	**Red**
European Golden Plover (*Pluvialis apricaria*)	31/12/2011	**Red**

European Turtle Dove (*Streptopelia turtur*)	03/10/2003	**Red**
Grey Plover (*Pluvialis squatarola*)	31/12/2011	**Red**
Grey Wagtail (*Motacilla cinerea*)	23/01/2023	**Red**
Meadow Pipit (*Anthus pratensis*)	15/02/2023	**Red**
Northern Lapwing (*Vanellus vanellus*)	31/12/2011	**Red**
Northern Shoveler (*Anas clypeata*)	31/12/2011	**Red**
Red Knot (*Calidris canutus*)	31/12/2011	**Red**
Redwing (*Turdus iliacus*)	19/01/2023	**Red**
Yellowhammer (*Emberiza citrinella*)	31/12/2011	**Red**
Arctic Tern (*Sterna paradisaea*)	31/12/2011	**Amber**
Barn Swallow (*Hirundo rustica*)	20/06/2022	**Amber**
Barnacle Goose (*Branta leucopsis*)	15/02/2015	**Amber**
Black Guillemot (*Cepphus grylle*)	10/02/2023	**Amber**
Black-headed Gull (*Larus ridibundus*)	06/02/2023	**Amber**
Brambling (*Fringilla montifringilla*)	31/12/2011	**Amber**
Light-Bellied Brent Goose (*Branta bernicla subsp. hrota*)	31/12/2011	**Amber**
Brent Goose (*Branta bernicla*)	07/03/2023	**Amber**
Common Coot (*Fulica atra*)	26/01/2023	**Amber**
Common Guillemot (*Uria aalge*)	09/03/2009	**Amber**
Common Kingfisher (*Alcedo atthis*)	25/02/2023	**Amber**
Common Linnet (*Carduelis cannabina*)	06/02/2023	**Amber**
Common Shelduck (*Tadorna tadorna*)	31/12/2011	**Amber**
Common Starling (*Sturnus vulgaris*)	04/02/2023	**Amber**
Common Tern (*Sterna hirundo*)	18/06/2017	**Amber**
Eurasian Teal (*Anas crecca*)	11/01/2023	**Amber**
Eurasian Tree Sparrow (*Passer montanus*)	03/03/2018	**Amber**
Eurasian Wigeon (*Anas penelope*)	31/12/2011	**Amber**
European Greenfinch (*Carduelis chloris*)	02/01/2023	**Amber**
Gadwall (*Anas strepera*)	31/12/2011	**Amber**

Goldcrest (*Regulus regulus*)	24/02/2023	Amber
Great Cormorant (*Phalacrocorax carbo*)	14/02/2023	Amber
Great Crested Grebe (*Podiceps cristatus*)	31/12/2011	Amber
Great Northern Diver (*Gavia immer*)	31/12/2011	Amber
Greater Scaup (*Aythya marila*)	27/10/2017	Amber
Greylag Goose (*Anser anser*)	15/01/2020	Amber
Hen Harrier (*Circus cyaneus*)	31/12/2011	Amber
Herring Gull (*Larus argentatus*)	24/02/2023	Amber
House Martin (*Delichon urbicum*)	01/05/2021	Amber
House Sparrow (*Passer domesticus*)	07/02/2023	Amber
Lesser Black-backed Gull (*Larus fuscus*)	09/01/2023	Amber
Lesser Whitethroat (*Sylvia curruca*)	29/02/2004	Amber
Mallard (*Anas platyrhynchos*)	18/02/2023	Amber
Mediterranean Gull (*Larus melanocephalus*)	31/12/2011	Amber
Mew Gull (*Larus canus*)	03/12/2022	Amber
Mute Swan (*Cygnus olor*)	29/01/2023	Amber
Northern Wheatear (*Oenanthe oenanthe*)	06/05/2019	Amber
Red-breasted Merganser (*Mergus serrator*)	31/12/2011	Amber
Red-throated Diver (*Gavia stellata*)	31/12/2011	Amber
Ringed Plover (*Charadrius hiaticula*)	31/12/2011	Amber
Sand Martin (*Riparia riparia*)	29/01/2023	Amber
Sky Lark (*Alauda arvensis*)	21/05/2020	Amber
Smew (*Mergellus albellus*)	08/05/2016	Amber
Spotted Flycatcher (*Muscicapa striata*)	23/08/2021	Amber
Tufted Duck (*Aythya fuligula*)	26/01/2023	Amber
Whooper Swan (*Cygnus cygnus*)	04/03/2020	Amber
Willow Warbler (*Phylloscopus trochilus*)	30/06/2021	Amber
Hooded Merganser (*Lophodytes cucullatus*)	05/07/2016	n/a
Great Egret (*Ardea alba*)	24/06/2013	n/a

Hawfinch (*Coccothraustes coccothraustes*)	11/03/2006	n/a
Kumlien's Iceland Gull (*Larus glaucoides subsp. kumlieni*)	09/02/2014	n/a
Laughing Gull (*Larus atricilla*)	25/12/2005	n/a
Temminck's Stint (*Calidris temminckii*)	05/07/2014	n/a
White-rumped Sandpiper (*Calidris fuscicollis*)	15/09/2009	n/a
White-winged Tern (*Chlidonias leucopterus*)	21/09/2003	n/a
Rose-ringed Parakeet (*Psittacula krameri*)	28/09/2021	n/a (High Impact Invasive Species)

4.4.3.2 Field Survey Results

4.4.3.2.1 Bird Scoping Survey

A bird scoping survey was carried out on 12th of August 2022. The survey was carried out in suitable weather conditions and within daylight hours. During this walkover, a total of four species of birds were recorded within the Site (Table 10), all of which are green listed (Gilbert et al. 2021). Herring gulls (*Larus argentatus*) were recorded on the roof of the building immediately east of the Site, and flying over the Site. Very little bird activity was encountered on Site, however pieces of egg shells were noted at the base of a tree along the northeast boundary, indicating potential breeding activity on Site. The ground truthing survey undertaken on the 21st of August 2023 determined there is limited suitable habitat for nesting birds on Site.

TABLE 10. BIRD SPECIES RECORDED ON THE 12TH OF AUGUST 2022.

Species	BoCCI Status
Woodpigeon (*Columba palumbus*)	Green
Robin (*Erithacus rubecula*)	Green
Wren (*Troglodytes troglodytes*)	Green
Blackbird (*Turdus merula*)	Green

4.4.3.3 Evaluation

While there is limited suitable habitat for local bird species on Site, considering the variety of bird species recorded in the historical records and potential nesting evidence observed during the August 2022 survey, it is considered that the Site has the potential to offer foraging, nesting and commuting habitat for resident and regularly occurring, locally important populations of bird species protected under the Wildlife Act.

4.4.4 Mammals (excl. bats)

4.4.4.1 Desk Study Results

Records for terrestrial mammals were obtained from the NBDC online database. Table 11 lists these species, their date of last record and summarises their protected status/designation. In

total, 18 mammal species (ten native and eight non-native or invasive) were recorded within the grid squares which encompass the Proposed Development Site.

TABLE 11. 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			
Eurasian Badger (*Meles meles*)	01/09/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Wildlife Act 1976 (as amended)
Eurasian Pygmy Shrew (*Sorex minutus*)	06/01/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Eurasian Red Squirrel (*Sciurus vulgaris*)	28/06/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
European Otter (*Lutra lutra*)	16/07/2018	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex II & IV
Irish Hare (*Lepus timidus subsp. hibernicus*)	04/12/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex V
Irish Stoat (*Mustela erminea subsp. hibernica*)	26/02/2016	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Pine Marten (*Martes martes*)	13/12/2021	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex V
Red Fox (*Vulpes vulpes*)	26/01/2023	Mammals of Ireland 2016-2025	Not legally protected
West European Hedgehog (*Erinaceus europaeus*)	13/09/2022	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Wood Mouse (*Apodemus sylvaticus*)	31/08/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Not legally protected
NON-NATIVE AND INVASIVE SPECIES			
American Mink (*Mustela vison*)	16/08/2020	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
Brown Rat (*Rattus norvegicus*)	26/05/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland) – Offshore Islands Only
Eastern Grey Squirrel (*Sciurus carolinensis*)	27/03/2023	Mammals of Ireland 2016-2025	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)

European Rabbit (*Oryctolagus cuniculus*)	15/06/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Medium Impact Invasive Species
Fallow Deer (*Dama dama*)	04/12/2022	Mammals of Ireland 2016-2025	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland) - Specified provisions of Regulations 49 and 50
Feral Ferret (*Mustela furo*)	12/08/2018	Mammals of Ireland 2016-2025	High Impact Invasive Species
Greater White-toothed Shrew (*Crocidura russula*)	19/06/2017	Mammals of Ireland 2016-2025	Medium Impact Invasive Species
House Mouse (*Mus musculus*)	25/07/2018	Mammals of Ireland 2016-2025	High Impact Invasive Species

4.4.4.2 Field Survey Results

No evidence of mammals were recorded within the Site of the Proposed Development. The habitats available at the Site are not optimal for the majority of the native mammals recorded within the relevant grid square due to the hardstanding on Site, however, may support small numbers of commuting and foraging pygmy shrew (*Sorex minutus*) and hedgehog (*Erinaceus europaeus*).

4.4.4.3 Evaluation

None of the historically recorded mammals are likely to occur within the Site or in its immediate vicinity. However, the Site could potentially offer suitable foraging and commuting habitat for resident and regularly occurring and locally important populations of some of the smaller native mammals that may frequent urban areas, such as hedgehog and pygmy shrew.

4.4.5 Amphibians

Both common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*) have been recorded in the 10km (O13) grid square encompassing the Site of the Proposed Development.

No amphibians were recorded within the Site during the surveys in August 2022 and August 2023. No suitable amphibian habitat, including pooling or wet drainage ditches, were present on Site.

4.4.6 Other Fauna

4.4.6.1 Fish

There are no waterbodies within the Site of the Proposed Development that could support notable fish species such as salmonids, however brown trout (*Salmo trutta*) and European eel (*Anguilla anguilla*) have been recorded within the relevant 10km grid square associated with the Site from the NBDC database.

4.4.7 Protected and/or Notable Species Unlikely to Occur at the Site

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**
  - Lizard (*Zootoca vivipara*) – Not recorded within the 10km grid square in which the Site is located. Site is not considered suitable for this species due to low quality.
  - White-clawed Crayfish (*Austropotamobius pallipes*) – Not present in the River Liffey downstream of the Site, suitable habitat not present on Site.
  - Freshwater Pearl Mussel (*Margaritifera margaritifera*) – No records within the River Liffey or within 10 grid square in which the Site is locate. The River 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.

4.5 Evaluation of Ecological Features

Habitats have been evaluated for their conservation importance, based on the NRA evaluation scheme (NRA, 2009b). Those selected as KERs are those which are evaluated to be of at least local importance (higher value).

Fauna that has the potential to utilise the Site and immediate area of the Proposed Development, or for which records exist in the wider area, have been evaluated for their conservation importance. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b).

The impacts of the Proposed Development on the identified KERs are assessed in section 5. Table 12 below summarises the evaluation rating assigned to each ecological feature and the rationale behind these evaluations is also provided.

TABLE 12. EVALUATION OF DESIGNATED SITES, HABITATS, FLORA AND FAUNA RECORDED WITHIN THE SITE AND THE SURROUNDING AREA. THOSE IDENTIFIED AS KEY ECOLOGICAL RECEPTORS (KERS) ARE HIGHLIGHTED IN GREEN.

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
HABITATS			
Amenity Grassland (improved) GA2	Local Importance (Lower Value)	Small area of low diversity habitat of low biodiversity value.	No
Scattered Trees and Parkland WD5	Local Importance (Lower Value)	Semi-natural habitat that is of some local importance for wildlife, however is not connected to the wider landscape.	No

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
Ornamental/Non-native Scrub WS3	Local Importance (Lower Value)	Small area of non-native shrub of low diversity habitat	No
Buildings and Artificial Surfaces BL3	Local Importance (Lower Value)	Man-made habitat of negligible biodiversity value.	No
FLORA			
Rare & Protected Flora	Local Importance (Lower Value)	No rare or protected flora were recorded during the field surveys. Unlikely to be present in notable numbers/densities.	No
Invasive Species	Negligible value	Two medium impact invasive species recorded on Site	No
NATIVE FAUNA			
Bat Assemblage	Local Importance (Higher Value)	Low foraging, commuting, and roosting habitat recorded on the Site of the Proposed Development. However, one bat was recorded roosting within the building on Site.	**Yes**
Potential Breeding Bird Assemblage	Local Importance (Higher Value)	Due to lack of breeding bird surveys, assemblage evaluated as potentially locally important.	**Yes**
Badger	Local Importance (Lower Value)	No suitable habitat at the Site for these mammals. Unlikely to be regularly present.	No
Pine Marten			
Fox		Not legally protected in Ireland. No evidence of Fox at the Site.	
Hedgehog	Local Importance (Higher Value)	Suitable habitats present for these small native mammals at the Site. Therefore, Site has potential to support locally important populations of any of these species.	**Yes**
Pygmy Shrew			
Amphibians	Local Importance (Lower Value)	No suitable habitats for amphibians recorded on Site.	No
Fish assemblage	Local Importance (Higher Value)	No suitable habitat present within the Site, however may be present in the River Liffey, which is hydrologically linked to the Site, and may support locally important populations of aquatic species.	**Yes**

5 ECOLOGICAL IMPACT ASSESSMENT

5.1 Avoidance and Mitigation Embedded in Project Design

The Proposed Development includes several embedded design features that may act to avoid or mitigate negative impacts that would likely occur in the absence of these features. However, as opposed to typical mitigation measures, the implementation of these features is integral to the design and completion of the Proposed Development, and as such the impact assessments are performed with consideration of these features as integrated parts of the Proposed Development. All considered embedded design features that may act to mitigate negative impacts on local ecology and environment are listed in Table 13.

TABLE 13. EMBEDDED DESING FEATURES AND THEIR POTENTIAL TO ACT TO AVOID OR MITIGATE NEGATIVE IMPACTS ON THE LOCAL ECOLOGY AND ENVIRONMENT.

Embedded Design Feature	Avoidance / Mitigation Potential
SUDS: • Permeable parking. • Green/blue roofs. • Silt traps. • Attenuation tank. • Swales.	The SUDS features included in the Project Design will ensure the surface water discharge from the Proposed Development is reduced to greenfield runoff rates. These features will be implemented as part of the surface water drainage design.
Landscape Design: • Pollinator-friendly tree, shrub and ground planting. • Riparian habitat. • Wildlife ponds.	This will increase the biodiversity that currently exists on Site, and will introduce riparian habitats, ponding, and ground flora, along with an increase in trees and shrub habitat.
Lighting Design • Bat-friendly lighting.	Wildlife-friendly lighting will be included as part of the Proposed Development.

5.2 Construction Phase

5.2.1 Impacts on Habitats

5.2.1.1 Spread of Invasive Flora

As two invasive species were recorded at the Site, there is potential for the spread of these species within the Site and offsite during the Construction Phase. As the species recorded are assigned to the *Medium* impact category (Kelly et al., 2013), and given the relatively low value of habitats at the Site and limited likelihood of spread, the potential impact from their spread within the Site and offsite is considered to be *negative, long-term, moderate.*

5.2.2 Impacts on Native Fauna

5.2.2.1 Bats

The CEMP (AWN Consulting, 2023a) accompanying this application states construction works will typically be confined to daylight hours and night-time lighting will therefore not be required during the Construction Phase of the Proposed Development. However, where portable lighting is required, there is potential for a *negative*, *short-term*, *slight* impacts to local bats due

to potential increased lighting associated with the Construction Phase of the Proposed Development, particularly if inadvertently directed to the identified ingress/egress point for roosting, or the eastern boundary. Therefore, increased levels of lighting during the Construction Phase may deter bats from roosting and foraging within the vicinity of the Site.

The demolition of the existing building on Site has the potential to put bats which may be roosting/resting within this building at risk of injury or death. Unless a precautionary approach is applied to avoid causing harm or injury to bats potentially present in the building, this risk represents a potential *negative*, *short-term*, *slight* impact on locally occurring bat populations.

5.2.2.2 Birds

There will be some loss of foraging and nesting habitat for birds at the Site of the Proposed Development through the removal of trees and grassland habitat. This could have a *negative, permanent, moderate impact* on birds in the locality due to the loss of this limited foraging and nesting habitat.

The increased noise and dust levels associated with the Construction Phase of the Proposed Development may have the potential to disturb birds within the vicinity of the Site and cause *negative, short-term, slight impacts* to local bird populations.

5.2.2.3 Small Mammals

The Proposed Development could have a potential *negative*, *permanent*, *slight* impact at a local level on small mammals utilising the Site, such as hedgehog, in the absence of mitigation measures, through the habitat loss of the trees and grassland habitat within the Site of the Proposed Development.

Disturbance of species due to lighting, noise and dust generated during the Construction Phase, although unlikely, is possible and, as such, a precautionary approach is adopted with these disturbances representing potential *negative*, *short-term*, *slight* impacts at a *local scale.*

Small mammal species, particularly hedgehog, have the potential to become trapped in trenches and entangled in construction materials such as netting and plastic sheeting, as well as other waste materials, causing entrapment and injury or death. This constitutes a *negative*, *short-term*, *moderate* impact at a *local* level.

5.2.2.4 Fish

The CEMP (AWN Consulting, 2023) accompanying this application has been prepared to ensure all works associated with the Construction Phase of the Proposed Development comply with relevant legislation and best practice guidelines, including:

- Control of Water Pollution from construction Sites, Guidance for consultants and contractors (C532).
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016).
- Environmental Good Practice on Site (3rd edition) (C692).

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the

contractor will cooperate fully with the Environment Section of Dublin City Council in this regard.

The standard best practice measures outlined in this CEMP (including temporary drainage systems, no direct discharge to local watercourses or drains, etc.) will protect the surface water networks surrounding the Site, and subsequently the River Camac and River Liffey. As such, the potential impact to fish species within these watercourses as a result of surface water discharge during the Operational Phase of the Proposed Development is considered to be *imperceptible.*

5.3 Operational Phase

5.3.1 Impacts on Habitats and Flora

Riparian habitat will be created on Site through the daylighting of the River Camac, along with native riparian planting. Still wildlife ponds will also be put in place along this watercourse, with native aquatic plant species. Pollinator-friendly native tree, shrub, and ground flora planting is proposed within planted areas within the Site of the Proposed Development. Additionally, the WFD Screening Assessment prepared by AWN (AWN 2023b & 2023c) states that the hydromorphological condition of the section of the daylighted river at the Site will be improved from 'Poor' to 'Good' status. This, together with the propose landscaping along the riparian margins has the potential to result in a *positive*, *permanent*, *significant* impact after a period of establishment due to the increase of biodiversity and aquatic habitats, along with tree and shrub species on Site.

Additionally, landscaping with imported soils and flora has the potential to introduce invasive species to the Site and the newly created habitats, from whence these invasive species could spread to the surrounding landscapes. Given the heavily urbanised location of the Proposed Development and the sensitivity of the newly created riparian habitats, the risk of invasive species introductions and spread constitutes a potential *negative, long-term, moderate* impact at a local scale.

5.3.2 Impacts on Native Fauna

5.3.2.1 Bats

The proposed riparian habitats and planting included as part of the landscaping to take place on Site will offer potential commuting and foraging habitat for any locally occurring bats. As such, the likely impact is considered *positive*, *permanent*, *moderate* at a *local* level due to the increase of available resources and habitats on Site.

5.3.2.2 Birds

The proposed riparian habitats and planting included as part of the landscaping to take place on Site will offer potential commuting, foraging, and nesting habitat for local birds. As such, the likely impact is considered *positive*, *permanent*, *moderate* at a *local* level due to the increase of available resources and habitats on Site.

5.3.2.3 Small Mammals

The proposed riparian habitats and planting included as part of the landscaping to take place on Site will offer potential commuting, foraging, and nesting habitat for small mammals within the vicinity of the Site. As such, the likely impact is considered *positive*, *permanent*, *moderate* at a *local* level due to the increase of available resources and habitats on Site.

Noise, increase in light, and potential physical disturbance due to increased human presence associated with the Operational Phase has the potential to cause a *negative, permanent, moderate* impact to small mammals in the absence of suitable mitigation.

5.3.2.4 Fish

No significant effects on fish within the River Camac or River Liffey are anticipated during the Operational Phase. SUDS measures, including green/blue roofs, permeable paving, an attenuation tank, swales, and flow control devices, have been incorporated into the design to treat and minimise surface water runoff from the Site. Therefore, the potential impact on downstream fish species within these watercourses during the Operational Phase of the Development via water quality deterioration is considered to be *imperceptible.*

5.4 Do Nothing Impact

If the Proposed Development was not to go ahead, the Site would continue to be utilised as a warehouse/office space with ancillary hardstanding carparking. The trees, amenity grassland, and ornamental planting would continue to be managed and the hard standing would be maintained as such.

5.5 Potential for In-Combination Effects

5.5.1 Relevant Plans and Policies

The following plans and policies were reviewed and considered for possible in-combination effects with the Proposed Development.

- Dublin City Development Plan 2022 – 2028.
- Dublin City Biodiversity Action Plan 2021 – 2025.

No specific projects or plans within the Dublin City Development Plan (CDP) 2022 – 2028 were identified that could act in-combination with the Proposed Development and cause adverse effects on the KERs identified in this report. Additionally, the CDP has directly addressed the protection, enhancement and incorporation of biodiversity through specific Policies and Objectives, as well as through its Development Management Standards (see Appendix I for details). The Dublin City Biodiversity Action Plan 2021 – 2025 is set out to protect and improve biodiversity in the Dublin area, and as such will not result in negative in-combination effects with the Proposed Development.

Therefore, on examination of the above it is considered that there are no means for the Proposed Development to act in-combination with any plans or projects that would cause any likely significant effects to nearby ecological sensitivities.

5.5.2 Existing Planning Permissions

There are several existing planning permissions on record in the area ranging from small-scale extensions and alterations to existing residential properties to some larger-scale developments. The larger developments identified within 500m of the Proposed Development which may also discharge to the River Liffey is as follows:

TABLE 14. ASSESSMENT OF POTENTIAL IN-COMBINATION EFFECTS OF THE PROPOSED DEVELOPMENT AND OTHER DEVELOPMENTS PENDING OR GRANTED PERMISSION IN THE LAST 5 YEARS (2018-2023). DEVELOPMENTS ALONG THE SAME IMPACT PATHWAYS AS PROPOSED DEVELOPMENT WERE CONSIDERED WITHIN A 500M RADIUS.

Planning Reference	Planning Authority	Status	Location
2720/21	**Dublin City Council**	**Grant Permission**	**95m NE Unit B & C, Muirfield Industrial Estate, Muirfield Drive, Dublin 12, D12 FF20**
Development Description Permission is sought for the partial demolition of existing commercial structure at Unit C & reconstruction as cold storage fridges, packaging and marshalling halls with associated truck loading dock & leveler extending the existing food processing factory, and new two storey extension to existing offices in Unit B with amendment to east, south & west elevations with associated site works.			
2812/21	**Dublin City Council**	**Grant Permission**	**Immediately SE Carriglea Industrial Estate, Muirfield Drive, Naas Road, Dublin 12**
Development Description The development will consist of 1) the installation of solar photovoltaic ('PV') modules and heat pump units on the roof of apartment building Block AC and solar photovoltaic ('PV') modules on the roof of apartment building Block B on the site; 2) the construction of a single storey substation building adjacent to the eastern boundary of the site to the east of apartment building Block F and the north of apartment building Block G and; 3) the construction of a louvered generator enclosure adjacent to the all-weather multi games area in the eastern part of the site to the south east of apartment buildings Block AC and Block B.			
3228/20	**Dublin City Council**	**Grant Permission**	**80m SW Site to the east of Walkinstown Avenue at the junction of Walkinstown Avenue and Naas Road**
Development Description O'Flynn Construction Co. Unlimited Company intend to apply for a 10-year permission for a mixed use including part Build to Rent development in 13 no. blocks (Blocks A-L) ranging in height from 4-15 storeys over 3 no. basements with a cumulative gross floor area of 168,184.13 sq.m at this 6.921 hectare site to the east of Walkinstown Avenue at the junction of Walkinstown Avenue and Naas Road. The application area includes part of the 'Nissan Site' (6.429 hectares) and 0.492 hectares to accommodate works to facilitate connections to municipal services and works proposed to public roads. The development will consist of; i. the demolition of all existing vehicle trade buildings (8,015.66 sq.m) and removal of 4 no. existing 38kV ESB timber poles and 2 no. existing 38kV lattice masts on the site; ii. construction of 3 no. basements with cumulative gross floor area (GFA) of 37,240.54 sq.m incorporating car parking, motorcycle parking, plant rooms and waste management facilities, comprising;			

a. 'West Basement' located under Blocks A, B, C, D and E (18,815.93 sq.m GFA), with 2 no. entrance/exit ramps including 1 no. situated between Blocks C and E and 1 no. on south side of Block B and containing 411 no. car parking spaces including 17 no. disabled parking spaces and 15 no. car-club spaces, together with 15 no. motorcycle spaces;

b. 'North Basement' located under Blocks F, G K, and H1 (5,998.24 sq.m GFA), with entrance/exit ramp on western side of Block K and containing 97 no. car parking spaces including 8 no. disabled parking spaces and 3 no. car-club spaces, together with 4 no. motorcycle spaces; and

c. 'South Basement' located under Blocks H2, J, I and L (12,426.37 sq.m GFA), with entrance/exit ramp situated between Blocks L and J and containing 296 no. car parking spaces including 19 no. disabled parking spaces and 7 no. car-club spaces, together with 15 no. motorcycle spaces;

iii. Block A - a hotel (148 no. rooms) with an upper height of 15-storeys (53.475m maximum above ground level) and a GFA of 7,415.0 sq.m in at the junction of Naas Road and Walkinstown Avenue;

iv. a total of 1,137 no. residential units and associated tenant amenities (combined 2,948.90 sq.m GFA) across 12 no. blocks (B-L) that range in height from 4-10 storeys, with a cumulative GFA of 113,147.79 sq.m, of which Blocks C and L are dedicated Build to Rent (BtR). The residential units will be distributed as follows;

- Block B with an upper height of 10 no. storeys (36.439m maximum above ground level) comprising 20 no. studio apartments, 48 no. 1-bedroom (2 person) units, 135 no. 2-bedroom (4 person) units and 16 no. 3-bedroom (5 person) units;
- Block C with an upper height of 8 no. storeys (30.139m maximum above ground level) comprising 42 no. studio apartments, 67 no. 1-bedroom (2 person) units and 54 no. 2-bedroom (4 person) units and tenant facilities and amenities (combined 1,457.80 sq.m) incorporating refuse store, bicycle store, delivery room, manager's office, concierge office, gym and flex spaces, business centre, conference/meeting rooms, café, resident lounges, library, games room, cinema room, community room and chef's kitchen;
- Block D with an upper height of 9 no. storeys (32.172m maximum above ground level) comprising 6 no. studio apartments, 59 no. 1-bedroom (2 person) units, 34 no. 2-bedroom (4 person) units and 7 no. 3-bedroom (5 person) units;
- Block E with an upper height of 9 no. storeys (32.239m maximum above ground level) comprising 7 no. studio apartments, 18 no. 1-bedroom (2 person) units, 36 no. 2-bedroom (4 person) units and 11 no. 3-bedroom (5 person) units;
- Block F with an upper height of 7 no. storeys (23.625m maximum above ground level) comprising 7 no. 1-bedroom (2 person) units, 25 no. 2-bedroom (4 person) units and 7 no. 3-bedroom (5 person) units;
- Block G with an upper height of 8 no. storeys (31.300m maximum above ground level) comprising 8 no. studio apartments, 32 no. 1-bedroom (2 person) units and 14 no. 2-bedroom (4 person) units;
- Block H1 with an upper height of 6 no. storeys (19.989m maximum above ground level) comprising 6 no. 1-bedroom (2 person) units and 12 no. 2-bedroom (4 person) units;
- Block H2 with an upper height of 8 no. storeys (26.814m maximum above ground level) comprising 8 no. studio apartments, 32 no. 1-bedroom (2 person) units, 24 no. 2-bedroom (4 person) units and 7 no. 3-bedroom (5 person) units;
- Block I with an upper height of 9 no. storeys (31.728m maximum above ground level) comprising 17 no. studio apartments, 31 no. 1-bedroom (2 person) units and 73 no. 2-bedroom (4 person) units;

	• Block J with an upper height of 7 no. storeys (24.275m maximum above ground level) comprising 61 no. 2-bedroom (4 person) units and 14 no. 3-bedroom (5 person) units • Block K with an upper height of 8 storeys (28.647m maximum above ground level) comprising 13 no. studio apartments, 21 no. 1-bedroom (2 person) units, 16 no. 2-bedroom (4 person) units and 13 no. 3-bedroom (5 person) units; and, • Block L with an upper height of 7 no. storeys (24.189m maximum above ground level) comprising 25 no. studio apartments, 49 no. 1-bedroom (2 person) units, 56 no. 2-bedroom (4 person) units and 6 no. 3-bedroom (5 person) units and tenant facilities and amenities (combined 900.70 sq.m) incorporating refuse store, manager's office, delivery room, gym and flex spaces, business centre, conference/meeting rooms, café, resident lounges, library, games room, cinema room, community room and chef's kitchen. v. Public open spaces comprising; a public square, 'Barnewall Square' (2,488 sq.m) to the north west of the site; a public 'biodiversity park' (5,411 sq.m) with a north south alignment in the centre of the scheme; a public pocket park (2,785 sqm) including older children's play area; a public play area for younger children (85 sq.m); vi. Communal amenity space distributed across Blocks B-L with a combined area of 12,445 sq.m in the form of ground and podium gardens and roof terraces. vii. 10 no. Retail units (combined 2,621.85 sq.m GFA) at ground floor level in Blocks B, C, D and E; viii. Office Accommodation with a combined GFA of 5,001.80 sq.m in Blocks B, C and E at ground and podium level; ix. a Primary Healthcare Centre at ground floor level in Block C with a GFA of 994.30 sq.m; x. a Childcare Facility in Block D at ground floor level with a GFA of 968.95 sq.m and an associated play area of 273 sq.m; xi. a Cultural Hub at ground floor level in Block B with a GFA of 486.60 sq.m; xii. a Gymnasium at ground floor level in Block B with a GFA of 210.9 sq.m; xiii. 853 no. total car parking spaces: 804 no. distributed across the 3 no. basements including 44 no. disabled spaces and 34 no. motorcycle spaces; and, 49 no. surface level car parking spaces including includes 6 no. disabled spaces. xiv. a total of 2,514 no. bicycle parking spaces shall be provided within the development, comprising 1,839 no. long-term bicycle storage spaces for residents, 569 no. short-term bicycle parking spaces for apartment visitors and 106 no. short-term bicycle parking spaces to serve the non-residential elements of the development; xv. the primary vehicular access (left in/left out) will be via Walkinstown Avenue with a secondary vehicular access (left in/left out) on the Naas Road; xvi. provision of 4 no. pedestrian access points to the development, including 2 no. off the Naas Rd. and 2 no. from Walkinstown Avenue; xvii. road upgrade works to Walkinstown Avenue to facilitate improved vehicular, cycle and pedestrian access and including a loading bay (3.2m wide by 30m long) to facilitate deliveries; xviii. the construction of 11 no. single storey ESB sub-station and LV rooms (totalling 358.75 sq.m GFA), erection of a new 12m high T63A 38kV cable to line pylon and undergrounding of a section of the existing Inchicore Ballymount 38kV overhead line which traverses the site; xix. roof mounted solar photovoltaic panels across Blocks B-L totalling 3,751 sq.m; xx. all ancillary site development works, drainage, plant, waste storage, boundary treatment and lighting.			
ABP-307804-20	**An Bord Pleanála**	**Grant Permission**	**225m W**	

			Royal Liver Assurance Retail Park, Old Naas Road, Dublin 12

Development Description

Permission (for a period of 10 years) for development on this site of c.3.79 hectares at the Royal Liver Assurance Retail Park, Old Naas Road, Dublin 12. The site is bounded by Kylemore Road (R112) to the west; Old Naas Road to the north; Naas Road (R810) to the south; and "Brooks" (Building Providers) to the east. The development will comprise the demolition of 2 No. single storey warehouse buildings (c.12,800m2 Gross Floor Area (GFA)), sub-divided to comprise 8 No. retail / retail warehouse units, and full site clearance; and the redevelopment of the Royal Liver Assurance Retail Park to provide a mixed-use development (comprising residential, office, crèche, community, retail, café /bar / restaurant, medical centre, pharmacy uses) and all ancillary works; comprising 9 No. buildings ranging in height from 7 to 18 storeys over basement level, with a total GFA of c.129,210m2, plus c. 38,399m2 relating to ancillary car parking, bicycle parking, plant, waste storage facilities, storage, services, including at ground (sub-podium) and basement levels. The residential component comprises 1,102 No. units consisting of Build-to-Rent Residential Development comprising 992 No. apartment units within Blocks B1, B2, C1, C2, E2, D1, F1, F2 (comprising 4 No. Studio units, c.38m2 GFA; 484 No. 1 Bedroom units (ranging in size from c.49.2m2 to c.60.7m2 GFA); 490 No. 2 Bedroom units (ranging in size from c.75.3m2 to c.85.3m2 GFA); 14 No. 3 Bedroom units (ranging in size from c.100.0m2 GFA to c.101.5 m2 GFA); with resident support facilities, services and amenities at ground and upper floor levels (with a total GFA of c.4,477m2); 110 No. apartments within Blocks D2, E2 and F2; and Build-to-Rent Shared Accommodation comprising 203 No. Single Occupancy Bedrooms within Block E1, as described per block below:

- Block A (Total GFA: c.17,292m2): 18 storey building over basement level (overall height +c.120.1m OD) fronting to Kylemore Road to the west, comprising; office use (c.17,002m2 GFA) at ground to 16th floor levels, with ancillary plant rooms, toilets, changing rooms, storage, bicycle parking at basement level; 1 No. café /bar / restaurant unit (c.290m2 GFA) at ground floor level; and plant at 17th floor level;
- Block B1 (Total GFA: c.9,278m2): 12 storey building (overall height +c.84.4m OD), comprising 90 No. Build-to-Rent units (54 No. 1 bed units and 36 No. 2 bed units) at 2nd to 10th floor levels, with resident support facilities, services and amenities (c.2,160m2 GFA) including lounge, kitchen room, games room, post area, admin suite, reception, office, etc., at ground floor level; lounge, private dining room, quiet room, etc., at 1st floor level; resident's lounge, private dining room and external amenity area at 11th floor level; PV panels at roof level; and with balconies on the north-western, eastern and southern elevations;
- Block B2 (Total GFA: c.8,963m2): 11 storey building (overall height +c. 81.65m OD), comprising 90 No. Build to Rent units (4 No. studio units, 32 No. 1 bed units and 54 No. 2 bed units) at 1st to 9th floor levels, with resident support facilities, services and amenities (c.949m2 GFA) at ground floor level including, resident's foyer, quiet room, after school club, office, etc.; multi-purpose hall and rooms (c.268.5m2 GFA); with external amenity area and PV panels at roof level; and with balconies on the western, eastern and southern elevations;
- Block C1 (Total GFA: c.17,400m2): 11 storey building over basement level (overall height +c. 81.65m OD) comprising: 171 No. Build-to-Rent units (100 No. 1 bed units and 71 No. 2 bed units) at 1st to 9th floor levels, with resident support facilities, services and amenities (c.978m2 GFA) including cinema room, fitness suite (gym), shower and changing rooms etc., (extending across Blocks C1 and C2) at ground floor level; with resident's lounge, external amenity area and PV panels at 10th floor (roof) level; 1 No. café / bar / restaurant (c.176.9m2 GFA) with access from proposed public plaza / pedestrian route to west of Block C1; 1 No. retail unit (c. 2,360m2 GFA), at ground floor level of Block C1 and C2, with access from public plaza / pedestrian route to west of Block C1, and from ground floor (sub-podium) level car park, accessed from proposed entrance on Old Naas Road; and with balconies on the northern, western, eastern and southern elevations;

• Block C2 (Total GFA: c. 7,728m2): 11 storey building over basement level (overall height +c. 81.65m OD) comprising 89 No. Build to Rent units (34 No. 1 bed units and 55 No. 2 bed units) at 1st to 9th floor levels, with external amenity area, green roof and PV panels at 10th floor level; and with balconies on the western, eastern and southern elevations;

Blocks B1, B2, C1 and C2 are located on the southern side of the site, adjacent to Naas Road.

• Blocks D1 and D2 are located in north-east of the site forming a single block, and comprising:

o Block D1 (Total GFA: c.7,498m2): 10 storey building over basement level (overall height +c. 77.0m OD), located to west of site, to the south of Block D2, comprising 87 No. Build-to Rent-units (38 No. 1 bed units and 49 No. 2 bed units) at 1st to 8th floor levels; with resident support facilities, services and amenities (c.31m2 GFA) (resident's lounge) and external amenity area at 9th floor level; and with balconies on the western, eastern and southern elevations;

o Block D2 (Total GFA: c.11,080m2): 8 storey building over basement level (overall height +c. 73.45m OD) fronting to Old Naas Road to the north, comprising 106 No. apartments (21 No. 1 bed units, c.49.2m2 GFA; 64 No. 2 bed units (ranging in size from c.75.3m2 to 83.1m2 GFA), and 21 No. 3 bed units (ranging in size from 100.0m2 GFA to 101.5m2 GFA), at ground to 7th floor level; 1 No. crèche (c.462m2 GFA) with outdoor play area, with access from public pedestrian access route on the western side of Block D2; with green roof, PV panels, plant equipment at roof level; and with balconies on the northern, western, eastern and southern elevations;

• Blocks E1 and E2 form a single block located to the west of the pedestrian route through the scheme; Block E2 located to the south of Old Naas Road, comprising:

o Block E1 (Total GFA: c.8,742m2): 8-10 storey building over basement level (overall height +c. 76.85m OD),comprising 203 No. Build-to-Rent Shared Accommodation Single Occupancy Bedrooms (ranging in size from c.18.3m2 GFA to c.30.7m2 GFA), with communal kitchen / dining / living facilities to serve the residents at basement to 9th floor levels, comprising 1 No. fitness suite (gym) (c.196.7m2 GFA), 1 No. cinema room (c.64.1m2 GFA), residents dining area, lounge / reception areas at ground floor level; communal kitchen / dining / living facilities (c.134.8m2 GFA) and 1 No. reading room (c.33.2m2 GFA) at 1st, 4th, 7th floor levels; communal kitchen / dining / living facilities (c.115.2m2 GFA) and 1 No. games room (c.33.2m2 GFA) at 2nd, 3rd, 5th, 6th floor levels; communal kitchen / dining / living facilities (c. 55.7m2 GFA) at 8thand 9th floor level; provision of communal amenity space at 8th floor level; 1 No. café / bar / restaurant (c.253.2m2 GFA) (also publicly accessible from public square / pedestrian route to south of Block E1) at ground floor level; and with balconies on the southern elevation;

o Block E2 (Total GFA: c.6,808m2): 7 - 8 storey building over basement level (overall height +c. 70.55m OD), comprising 2 No. 2 bed apartments (c.77.8m2 GFA) at ground floor level; and 78 No. Build-to-Rent units (47 No. 1 bed units and 31 No. 2 bed units) at 1st to 7th floor levels; with resident support facilities, services and amenities (c.69m2 GFA) (residential foyers) at ground floor level; with external amenity area at 7th floor level; PV panels and plant equipment at roof level; and with balconies on the northern, western, eastern and southern elevations;

• Block F1: (Total GFA: c.17,964m2): 9 storey building over basement level (overall height +c. 73.85m OD) located in the north-west of the site adjacent to junction of Old Naas Road / Kylemore Road comprising 2 No. 2 bed apartments (c.80.3m2 GFA) at ground floor level; 205 No. Build-to-Rent units at ground to 7th floor levels, comprising (106 No. 1 bed units; 85 No. 2 bed units and 14 No. 3 bed units) with resident support facilities, services and amenities (c.177m2 GFA) including residents foyers at ground and 8th floor levels, resident's lounge at 8th floor level; green roof, external amenity area at 8th floor level; and with balconies on the northern, western, eastern and southern elevations;

• Block F2: (Total GFA: c. 16,456m2): 10 storey building over basement level (overall height +c. 80.15m OD) adjacent to Kylemore Road to the west, pedestrian route / public plaza to the south, comprising 182 No. Build-to-Rent units at ground to 9th floor levels, comprising (73 No. 1 bed units and 109 No. 2 bed units) with resident support facilities, services and amenities (c.113m2 GFA) including residential foyers etc., at ground floor level, with external amenity area and plant equipment

at roof level; 1 No. pharmacy unit (c.74.6m2 GFA), 1 No. medical centre (c.237.2m2 GFA) and 1 No. café / bar / restaurant (c.126.5m2 GFA) at ground floor level, with access from proposed public square / pedestrian route to south of Block F2;and with balconies on the northern, western, eastern and southern elevations;

• The provision of 874 No. car parking spaces (including 12 No. car sharing spaces, 87 No. car parking spaces suitable for electrical charging (EV spaces)), 37 No. motor cycle parking spaces and 1,896 No. bicycle parking spaces, at grade level and at ground (sub-podium) and basement levels, served by 2 No. access points from Old Naas Road as follows:

o 1 No. vehicular access, located to the east of Block F1 and west of Block E2, serving facilities at ground (sub-podium) level comprising 202 No. car parking spaces (including 1 No. public car park (112 No. spaces), including 5 No. car sharing spaces, 20 No. EV spaces; 258 No. bicycle parking spaces; and at basement level comprising c.307 No. car parking spaces (including 31 No. EV spaces, 4 No. car sharing spaces), 574 No. bicycle parking spaces, storage and plant areas;

o 1 No. vehicular access, located to the east of Blocks D1 and D2 providing access to ground (sub-podium) level, comprising c. 75 No. car parking spaces (including 8 No. EV spaces) serving proposed retail unit at ground floor of Blocks C1 and C2, including loading yard; services access to waste storage area; and providing access to basement level comprising c.278 No. car parking spaces (including 28 No. EV spaces), 558 No. bicycle parking spaces. The basement car park areas are inter-connected at basement level;

o 12 No. car parking spaces on Old Naas Road (including 3. No. car sharing spaces);

o 170 No. bicycle parking spaces at basement level of Block A;

• Provision of 1 No. set-down/drop off area on Kylemore Road (to west of Block A);1 No. set-down / drop-off area on Old Naas Road. The development will also include areas of public, communal and private amenity open space at grade, podium and roof levels; provision of a landscaped public open space / pedestrian route through the site, with pedestrian access from Kylemore Road from the west of the site; Naas Road/ Kylemore Road to the south-west of the site, and Old Naas Road to the north; and all associated hard and soft landscaping (including play facilities, seating, boundary treatments and associated works), associated lighting, signage, site services (foul and surface water drainage and water supply), the provision of SuDS measures including 2 No. attenuation tanks below basement level; 13 No. substations at ground and basement levels; and all other associated site excavation, infrastructural and site development works above and below ground. An Environmental Impact Assessment Report (EIAR) will be submitted to the Planning Authority with the application. The EIAR may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of the Planning Authority during its public opening hours. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of Dublin City Council, Planning Department, Block 4, Ground Floor, Civic Offices, Wood Quay, Dublin 8 during its public opening hours (9.00a.m.- 4.30p.m.). A submission or observation in relation to the application may be made in writing to the planning authority on payment of the prescribed fee (€20.00) within the period of 5 weeks beginning on the date of receipt by the authority of the application, and such submissions or observations will be considered by the planning authority in making a decision on the application. The planning authority may grant permission subject to or without conditions, or may refuse to grant permission.

2158/17	**Dublin City Council**	**Grant Permission**	**455m NW 8, 9, 10, 11, 12, 13 & 14, Old Naas Road Cottages, Old Naas Road, Bluebell, Dublin 12**

Development Description

The proposed development on an overall site of c. 0.523 hectares shall provide for the demolition of existing structures Nos. 8, 9, 10, 11, 12, 13 and 14 Old Naas Road Cottages (c. 689 sq.m) on site to provide for development (total GFA c. 9,249.16 sq.m) comprising 85 no. residential units, in a

development proposal of three blocks (Block A, B and C) ranging in height from 4-6 storeys with associated basement level located under Blocks A, B and C. Overall, the development shall provide for 18 no. 1 bed units (c. 52 -60.76 sq.m); 55 no. 2 bed units (c. 87.2 - 107.6 sq.m); and 12 no. 3 bed units (130.75 - 147 sq.m); all with associated balcony/ terrace private open space areas.
Block A (6 storeys) comprises 48 units in the form of 12 no. 1 bed and 36 no. 2 bed units.
Block B (6 storeys) comprises 6 no. 1 bed units, 11 no. 2 bed units and 12 no. 3 bed units.
Block C (4 storeys) comprises of 8 no. 2 bed units.
The overall development shall also provide for 86 no. car parking spaces; 4 no. designated car spaces; 85 no. bicycle spaces and 5 no. motorcycle spaces; plant room areas; water stores; bin stores (all located at basement level); c. 308 sq.m of children's play area; c. 878.75 sq.m of balcony/ terrace space; c. 1,142 sq.m of communal open space; vehicular access and egress to the site will be via Old Naas Road. 12 no. existing car parking spaces will be removed from the front of the Sheldon Park Hotel car park and relocated to the rear of the Sheldon Park Hotel to accommodate the development.
Permission is also sought for all associated site development, services and landscape works.

4637/18	**Dublin City Council**	**Grant Permission**	**455m NW 8, 9, 10, 11, 12, 13 & 14, Old Naas Road Cottages, Old Naas Road, Bluebell, Dublin 12**

Development Description
Permission for modifications to development previously permitted under Reg. Ref. 2158/17 on site (c. 0.493 ha.) of the former Nos. 8, 9, 10, 11, 12, 13 and 14 Old Naas Road Cottages, Old Naas Road, Bluebell, Dublin 12. The proposed development will comprise of the addition of 2 no. floors of residential development to Block A and Block B to provide an additional 16 units in Block A (12 no. 2 bed units and 4 no. 1 bed units) and an additional 10 units in Block B (4 no. 3 bed units, 4 no. 2 bed units, 2 no. 1 bed units) resulting in an overall scheme extending to 8 storeys over permitted basement level and comprising 103 residential units, each with associated balcony/terraced areas. Modifications at basement level include a reduction in car parking spaces from 90 to 83 and an increase in cycle parking spaces from 85 to 90. All other aspects of development remain as permitted under Reg. Ref. 2158/17.

3404/20	**Dublin City Council**	**Grant Permission**	**455m NW Corner Site at the Junction between Old Naas Road and Kylemore Road, Bluebell, Dublin 12**

Development Description
PERMISSION & RETENTION: Retention permission and planning permission is sought for alterations and completion of previously approved development (Reg. Ref. 2158/17). Retention permission is sought for the following: 2 no. additional as built floors of residential development Block A and Block B to provide an additional 16 no. units with associated balconies/terrace area in Block A (12 no. 2-bed units, 3 no. 1-bed units and 1 no. studio) and an additional 10 no. units with associated balconies/terrace area in Block B (3 no. 3-bed units, 6 no. 2-bed units, 1 no. 1-bed units). Planning permission is sought for completion of the development and all ancillary works necessary to facilitate the development. The proposed development will result in the overall scheme extending to 8 storeys over basement level comprising 103 no. residential units, each with associated balconies/terrace area; 88 no. vehicle parking spaces, (comprising 79 no. car parking spaces, 4 no. accessible parking spaces and 5 no. motorcycle parking spaces); 127 no. bicycle spaces (103 no. spaces at basement level and 24 no. spaces at surface level). The development proposed for retention is identical to that approved under Planning Reg. Ref. 4637/18.

The above listed planning applications were all accompanied by the relevant environmental assessments that detail the potential impacts and the mitigation measures required to ensure the developments do not have a significant effect on local biodiversity, alone or in-combination with other developments. In addition, the Dublin City County Council granted permission for the above planning applications following evaluations of the potential ecological and environmental impacts of each application.

It is considered that there is no potential for the Proposed Development to act in-combination with other permitted developments in the vicinity that could cause likely significant effects on any nearby or linked KERs.

5.5.3 Operation of Ringsend WwTP

This section addresses in more detail the general issue of potential in-combination effects with Ringsend WwTP arising from the Operational Phase of the Proposed Development and other Developments, including future developments.

In summary, the impact of the Proposed Development and any future development has already been appropriately considered and assessed as part of the application process for the existing planning permissions pertaining to Ringsend WwTP.

The 2012 Ringsend Wastewater Treatment Plant application for planning permission (Ref. PL.29N.YA0010) was for a PE of 2.4 million and was predicated on the findings of the 2005 GDSDS. The GDSDS set out the drainage requirements for the Greater Dublin Area (GDA) up to 2031. The GDSDS relied on the Regional Planning Guidelines (RPGs) and the National Spatial Strategy (NSS) in order to estimate the future projected population increases for the GDA. The studies indicated a predicted growth in population from 1.2 million in 2002 to just over 2 million in 2031 for the GDA region.

In June 2018 Irish Water applied for and subsequently received planning permission in 2019 for upgrade works to the Ringsend WwTP facility. The first phase of upgrade works to Ringsend WwTP was completed in December 2021, which increased the capacity of the plant by 400,000 P.E. These works, together with the future works permitted will ultimately increase the capacity of the facility from 1.6 million P.E. to 2.4 million P.E. by 2025 (Irish Water website: *https://www.water.ie/projects/local-projects/ringsend/*).

Therefore, both the initially permitted 2012 upgrade and the permitted 2019 revised upgrade (Ref. ABP-301798-18) for Ringsend WwTP take account of population growth up to 2.4 million PE. Both applications were subject to EIA and therefore accompanied by an EIAR and accompanied by an AA screening report and NIS.

Notwithstanding the above, on an individual basis the Operational Phase of the Proposed Development will have an imperceptible effect on the habitats/species/qualifying interests listed within the relevant European sites specifically South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006), and North Dublin Bay SAC (000206), in terms of flows, relative to the total amount of waste water currently being received at Ringsend WwTP (the total predicted peak foul water run-off rate from the Proposed Development is estimated at 2.220 l/s).

Under the heading of *"Potential impact – Discharge of treated effluent, impacts on water quality, effects on qualifying interests"*, the NIS (Irish Water, 2018b) for the Ringsend Wastewater Treatment Plant 2019 revised upgrade provides as follows:

> *"In the operational phase, the proposed upgrade of the Ringsend WWTP Component will result in an increase in the plant capacity and also an improvement in the final effluent quality. This will result in a reduction in the licensed parameters discharged into the receiving water, with significantly reduced quantities in respect of ammonia and phosphorous."*[4]

This NIS goes on to state as follows:

> *"Overall no significant adverse effects on are foreseen and indeed, a slight positive effect is possible. Effects of discharge during the operational phase of the project from the upgrade project will therefore have imperceptible impact on habitats listed within these European sites."*[5]

In respect of this issue, the NIS concludes as follows:

> *"Thus, there is no potential for in-combination impacts of any other plan and project with the Ringsend WWTP Component of the proposed Upgrade Project."*[6]

The EIAR for the ongoing upgrade at Ringsend WwTP (Irish Water, 2018a) also details the lack of any significant impacts to European sites observed as a result of the current stormwater overflow discharge levels at the WwTP. During storm events, once the capacities of the holding tanks are surpassed, the WwTP releases overflow via an outfall at Pigeon House Rd into the lower Liffey estuary.

The EIAR carried out in relation to said upgrade concluded that in the 'do nothing' scenario, i.e., wherein the upgrade is not carried out; the current existing levels of nutrient input to Dublin Bay as a result of stormwater overflow from the WwTP, are not deemed to pose significant threats to the integrity of European sites located within or adjacent to Dublin Bay, or any of their Conservation Objectives regardless of said upgrade.

The EIAR report acknowledges that under the do-nothing scenario "*the areas in the Tolka Estuary and North Bull Island channel will continue to be affected by the cumulative nutrient loads from the river Liffey and Tolka and the effluent from the Ringsend WWTP*", which could result in a decline in biodiversity and the deterioration of the biological status of Dublin Bay (Irish Water, 2018a). Nevertheless, these negative impacts of nutrient over-enrichment are considered "*unlikely*". This is because historical data suggests that pollution in Dublin Bay has had little or no effect on the composition and richness of the benthic macroinvertebrate fauna. The EIAR notes that "*although a localised decline could occur, it is not envisaged to be to a scale that could pose a threat to the shellfish, fish, bird or marine mammal populations that occur in the area*." Furthermore, the EIAR notes that significant impacts on waterbird populations foraging on invertebrates in Dublin Bay due to nutrient over-enrichment are "*unlikely*" to occur. What is important to note is that the do-nothing scenario predicts that nutrient and suspended solid loads from the WwTP will "*continue at the same levels and the impact of these loadings should maintain the same level of effects on marine biodiversity*" and

[4] Section 4.5.1 at page 32

[5] Section 4.5.1 at page 33

[6] Section 4.5.1 at page 34

that "*if the status quo is maintained there will be little or no change in the majority of the intertidal faunal assemblages found in Dublin Bay which would likely continue to be relatively diverse and rich across the bay*."

Therefore, it can be concluded that likely significant effects on marine biodiversity or the designated sites within Dublin Bay from the *current* operation of Ringsend WwTP are unlikely. Importantly, this conclusion is not dependent upon any future works to be undertaken at Ringsend. Thus, in the absence of any upgrading works, significant in-combination effects to marine biodiversity or any designated sites withn Dublin Bay in this regard **are not deemed likely to arise,** and therefore likely significant effects involving foul waters produced by the Proposed Development also do not have the potential to occur.

It is therefore concluded that there is **no possibility for any significant in-combination effects** to biodiversity or nearby KERs involving the Proposed Development.

6 Avoidance, Mitigation, Compensation and Enhancement Measures

6.1 Avoidance By Design

The Proposed Development design does not implement any specific avoidance measures.

6.2 Construction Phase

Table 15 gives a summary of the best practice development standards and mitigation measures to be implemented during the Construction Phase of the Proposed Development. The measures listed are outlined in more detail in the CEMP (AWN Consulting, 2023) accompanying this application under separate cover.

Table 15. Summary of Best Practice Standards and Mitigation outlined in the CEMP (AWN Consulting, 2023). Where specific details relating to protection of Key Ecological Receptors is required under these measures, reference is made to the appropriate section in this report.

Theme	Best Practice Standards and Mitigation	Ecology Specific Mitigation
Soils and Geology	Appropriate measures to store and handle stripped topsoil and subsoil; consideration of weather conditions to minimise silt/sediment entering surface water network and dust control; and appropriate fill material import, storage and handling away from surface water features. Surface water discharge points for rain and groundwater pumped from excavations and directed to settlement ponds during Construction to be agreed with DCC prior to works. Appropriate storage of fuels, oils and other chemicals, designated refueling and maintenance area, and preparation of emergency response procedure.	No.

Water - Hydrogeology	Measures for erosion and sediment control, prevention and control of accidental spills and leaks, concrete handling.	No.
Water - Water Supply, Drainage & Utilities	Appropriate use of temporary drainage systems, foul water to be tankered off site for treatment until connection to foul network made, and all connections (waste water, water supply, electrical, gas and telecommunications) to be made by authorized and qualified people.	No.
Site Compound Facilities and Parking	Location to be agreed with DCC prior to works. Appropriate measures to handle foul water generated, protect potable water supply, health and safety, separate areas for (i) machinery and plant; (ii) concrete batching; and (iii) staff parking.	No.
Construction Waste Management	Managed according to the Department of the Environment, Heritage and Local Government's 2006 Publication – '*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects'*.	Yes – See section 6.2.2.4
Landscape and Visual Impact	Appointment of an Arborist to oversee works relating to trees, and post-construction tree assessment.	No.
Noise and Vibration	To comply with the requirements of BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014 (Code of Practice for Noise and Vibration Control on Construction and Open Sites) as well as Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.	No.
Air Quality	Dust Management Plan to include suppression via watering of areas identified as potential dust source; road sweeping to remove aggregate materials; appropriate cover of transported materials; wheel washing; maintenance of public roads in relation to dust; and appropriate monitoring.	No.

In addition, to ensure the CEMP (AWN Consulting, 2023) remains 'fit for purpose' for the duration of the project it should be reviewed and updated by the Project Manager in consultation with the Contractor's Ecologist during the life of the project to ensure that it remains suitable to facilitate efficient and effective delivery of the project's environmental commitments. The Contractor shall also designate a Site Engineer/Manager/Assistant Manager as the Construction Waste Manager and who will have overall responsibility for the

implementation of the Project Waste Management Plan (WMP). This Plan will be prepared upon appointment of the Main Contractor.

Additional mitigation measures required for sufficient protection of the KERs identified in this report, and/or details for the specific implementation of the mitigation measures as per the above table are given in the below sections.

6.2.1 Protection of Habitats

6.2.1.1 Mitigation 1: Removal of Invasive Species

It is recommended that non-native/invasive flora species recorded at the Site are controlled/removed as per the appropriate best-practice guidelines. Removal and disposal should be carried out in accordance with appropriate guidelines such as TII (formerly NRA) The Management of Invasive Alien Plant Species on National Roads (2020), with consideration given to the prevention of spread of these plants.

6.2.1.1.1 Buddleia

The following is extracted from TII (2020) for the control of buddleia:

"***Chemical control***

Foliar application of herbicide is capable of providing control with young plants and small infestations, but should be followed up at six-monthly intervals as regrowth is common.

Physical control

Removal of the flower heads before seed set (June or even July) is an important control method as it reduces the volume of seeds that are available to spread. Hand-picking of young plants will provide control but it is very tedious and should be undertaken with care to avoid soil disturbance, which can give rise to a flush of new seedling growth. Digging out plants is only practical with relatively minor infestations, at the initial stage of invasion, or where a site is to be excavated for development or road construction purposes. Mowing of young plants does not provide effective control as they re-sprout with vigour. The physical removal of mature stands is not recommended for the same reason. After uprooting, it is essential to plant the ground in order to prevent a flush of new seedling growth. When Buddleia plants are cut, regrowth from the stump can be very vigorous.

Combined chemical and physical control

Effective control can be achieved by cutting Buddleia plants to a basal stump during active growth (late spring to early summer) and immediately treating the total cut surface with herbicide concentrate. Monitoring will be required and retreatment, as necessary. Do not leave cut stems and branches on the ground as they will re-root and produce new plants."

Recommended Management: Physical removal and off-site disposal of buddleia is recommended where it occurs within the survey area, due to its limited presence on Site.

6.2.1.1.2 Sycamore

The following description is extracted from the NBDC database:

"Tree, up to 35m tall, simple leaves with 5 acute coarsely serrate lobes wider at the base, distinctive fruit with wings diverging at 90° (Stace, 1997).

The principal concern would be sycamore dominated woodlands, though sycamore seedlings are out competed by ash under sycamore canopy and vice versa (Walters & Savill, 1991), would suggest that there is a pattern of succession in mixed woodlands. Undisturbed woodlands have relatively few sycamore compared to disturbed sites, even when sycamore are present at nearby sites (Morecroft et al., 2008) and sycamores poor growth in dry conditions (Morecroft et al., 2008), would suggest careful management of forests can mitigate any effects of sycamore invasion."

Recommended Management: Physical removal and off-site disposal is recommended. Treatment should be followed by a period of monitoring.

6.2.1.2 Mitigation 2: Biosecurity

The following best practice site hygiene and biosecurity measures will be in place to avoid the potential introduction of invasive floral species at the Site and offsite via movement of materials/staff:

- All soils/materials being introduced to the Site will be sourced from a certified invasive flora-free source site, to ensure no introduction of invasive plant materials to the Site occurs.
- Personnel working on or between sites will ensure their clothing and footwear are cleaned, ensuring they are visually free from soil and organic debris, in order to prevent inadvertent spread of invasive plant material.
- All vehicles entering or leaving the Site will have been suitably checked and pressure-washed to ensure no introduction of invasive flora to and from the Site. Measures such as a drive through hygiene bath or footbaths will be considered where appropriate.
- Designated wash-down area to be located away from sensitive receptors such as watercourses, ditches, drains etc.
- Material/water left after vehicles have been pressure-washed must be contained, collected and disposed of appropriately (these waters must not under any circumstances be discharged to drains or nearby ditches).

6.2.2 Protection of Fauna

6.2.2.1 Mitigation 3: Construction Phase Lighting

As a precautionary measure, no overnight lighting will be directed to the natural habitats to the east of the Site. Where overnight lighting cannot be avoided in these areas due to health and safety concerns, the lighting within the Proposed Development will be designed and installed to minimise the impact on local wildlife and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (BCT 2018):

- There will be no light spill to the boundary habitats.
- All luminaires used will lack UV/IR elements to reduce impact.

- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

6.2.2.2 Mitigation 4: Protection of Bats

Although the Site was deemed to contain low suitability habitats for bats, a bat emergence from the building was recorded. As such, a derogation licence from the NPWS will be required prior to demolition of the building on Site. An application for a derogation license regarding the demolition of the building on Site was sought on the 23rd of October 2023, however this was refused by the NPWS on the 22nd of November 2023. This refusal was due to timing of works, as the proposed demolition is scheduled for March 2025. The NPWS recommended an application for a derogation license be submitted closer to the start date of the Proposed Development works.

As such, to inform the derogation licence application, two (2 no.) additional surveys are required to determine the type and significance of the roost at the Site. These surveys shall follow the same methodology as the first emergence survey carried out in August 2023 (see section 3.5.2.5), and will aim to answer the following questions for a more accurate assessment of roost type and its significance:

- How many bats use the roost site?
- What species of bats use the roost site?
- When do they use the roost site?
- What type of roosting surfaces are available within the identified roost?

The results of these surveys will inform the licence application for derogation from the NPWS, which must be obtained prior to commencement of works on the building.

The specific mitigation measures implemented to ensure bats are not harmed during the demolition are detailed in the Bat Report (Enviroguide 2023) accompanying this application, and include the following:

- A bat specialist will inspect the structure for the presence of bats availing a number of methods and specialist equipment. If weather conditions allow (i.e., temperatures ≥ 10°C at sunset, dry and wind below 5m/s) a bat emergence survey the night prior to planned demolition may be carried out to determine bat presence. A thermal imaging device will be used to identify bat emergence and return.
- Where there is any doubt whether bats may be present, a follow-up inspection of the structure must be undertaken. This may require access from a hoist or other mobile elevated work platform (MEWP). This should avail of high intensity lights, a thermal imager and a fiberscope.
- If necessary, exclusion of bats from the roosting features within the building using one-way valve devices may be installed or similar appropriate measures by a bat specialist.
- The demolition of the building should be carried out during the Autumn (September-November) or Spring (March-May) months, when it is less likely that hibernating or breeding bats will be present in the structure and ensure that any bats if present within the structure are capable of escape and flight, if deemed necessary.
- Galvanized sheeting along the damaged areas identified as potential ingress/egress point on the building will be removed manually using handheld tools. This will enable bats, if present, to escape unharmed. The building will not be demolished using mechanical excavator.
- If bats are encountered, they should be safely retained in an escape-proof container until nightfall and then released on Site.

It should be noted that where changes to the mitigation measures outlined in the Bat Report are required following the derogation licence application and consultation with the NPWS, **they will supersede the measures outlined here**.

6.2.2.3 Mitigation 5: Vegetation Clearance

As the Site has limited suitability for breeding birds and small mammals (hedgehog, pygmy shrew), vegetation clearance within the grassland and ornamental planting habitat will need to be cognisant of any potentially present fauna. Table 16 provides guidance for when vegetation clearance is permissible in relation to wintering, hibernating and breeding fauna. Information sources include British Hedgehog Preservation Society's *Hedgehogs and Development* and *The Wildlife (Amendment) Act, 2000*. The preferred period for vegetation clearance is within the months of September and October to avoid the main wintering bird season, breeding bird and bat maternity and roosting season as well as mammal hibernation.

Where this seasonal restriction cannot be observed, a check for active nests, will be carried out immediately prior to any Site clearance by an Ecological Clerk of Works (ECoW) and repeated as required to ensure compliance with legislative requirements. Where a breeding bird and an active nest is found, the nest will be protected, and no further works will take place in the vicinity of the nest until the young have fledged. Where continuance of works is critical, the NPWS will be consulted, and a derogation license obtained prior to continuing works.

TABLE 16. SEASONAL RESTRICTIONS ON VEGETATION REMOVAL. RED BOXES INDICATE PERIODS WHEN CLEARANCE/WORKS ARE NOT PERMISSIBLE.

<table>
<tr><th>Ecological Feature</th><th>January</th><th>February</th><th>March</th><th>April</th><th>May</th><th>June</th><th>July</th><th>August</th><th>September</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td>Breeding Birds</td><td colspan="2">Vegetation clearance permissible</td><td colspan="6"><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.</td><td colspan="4">Vegetation clearance permissible</td></tr>
<tr><td>Hibernating mammals (namely Hedgehog)</td><td colspan="3"><u>Mammal hibernation season</u>
No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.</td><td colspan="7">Vegetation clearance permissible</td><td colspan="2"><u>Mammal hibernation season</u>
No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.</td></tr>
</table>

Additionally, all vegetation clearance will be carried out in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog, pygmy shrew). A phased cutting approach under the supervision of a suitably qualified ECoW will be used to allow wildlife (small mammals) to move away from any suitable habitat that will be removed:

- Phase 1 – Cutting vegetation to 150-200 mm and removing the arisings;
- Phase 2 – After a minimum of one hour, hand-searching the cut areas (conducted by an ECoW) and removing any sheltering habitat (e.g. logs or debris) then cutting vegetation to ground level and removing the arisings; and
- Phase 3 – Soil scrape.

Should any suitable refugia or day nesting habitats need to be removed, this will be carried out <u>outside the most vulnerable breeding periods for hedgehogs wherever practicable</u> (main hedgehog birthing months June and July) and will be supervised by the ECoW.

6.2.2.4 Mitigation 6: Waste Management

As best-practice, all construction-related rubbish on-site e.g., plastic sheeting, netting etc. should be kept in a designated area on-site and kept off ground level so as to protect small fauna (such as small mammals, amphibians and reptiles) from entrapment and death.

6.3 Operational Phase

6.3.1 Protection of Habitats

6.3.1.1 Mitigation 7: Invasive Species Management

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.

As such, it is recommended that any newly landscaped areas, particularly where infill materials and soils have been imported for soft landscaping, are assessed during the Operational Phase within the next botanical season for the presence of any inadvertently introduced invasive species, with particular focus on those listed on Schedule III of SI 477 of 2011. If invasive species are detected, an Invasive Species Management Plan will be prepared, agreed with the Local Authority and implemented at the earliest possibility to limit the potential for further spread by ongoing operations at the Naas Enterprise Park.

No specific mitigation measures are required for the protection of fauna during the Operational Phase of the Proposed Development.

6.4 Biodiversity Enhancement Plan

6.4.1 Enhancement 1: Pollinator Habitat

Pollinator/insect habitat, as seen in Figure 10, will be created on Site by:

- Creating an earth bank.
- Scraping back some bare earth.
- Leaving some areas to grow wild, and/or
- By drilling holes 10cm deep in unvarnished wood for solitary bees.

FIGURE 10. EXAMPLES OF SOLITARY BEE HABITAT. EXTRACTED FROM HOW-TO-GUIDE: CREATING WILD POLLINATOR NESTING HABITAT (NBDC, 2016).

Large bee or insect hotels will not be installed. Guidance from the All -Ireland Pollinator Plan states "*Don't install a large bee or insect hotel. Large bee hotels are attractive to humans, but*

not great for pollinators. They can encourage the spread of disease and attract predators. Avoid anything bigger than an average-sized bird box. There are many other ways to provide nesting habitats for pollinators, such as providing wild areas of undisturbed long grass, and scraping back some bare earth. If you want to make a bee hotel, make sure it is small, and position it away from bird feeders so the insects aren't easy targets." A link to a "How-to-guide Creating wild pollinator nesting habitat" is provided for the development management company to put these habitats in place: *How-to-guide-Nesting-2018-WEB.pdf (pollinators.ie)*. An appointed ecologist will oversee the creation of these habitats.

6.4.2 Enhancement 2: Bat Boxes

Three summer bat boxes (e.g., Woodcrete 1FF design) will be erected on suitably sized trees within the riparian habitat of the Proposed Development Site, the placement of which will be determined by a bat ecologist. The boxes will be installed as part of the landscaping works, so as to not delay their deployment and potential positive impacts.

Bat boxes will be sited carefully, and this will be undertaken by a bat specialist. The bat ecologist will erect the bat boxes with assistance from the contractor. Some general points that will be followed include:

- Bat boxes will be erected on trees (or telegraph poles) with no crowding branches or other obstructions for at least 1 metre above and below the bat box.
- Diameter of tree should be wide and strong enough to hold the required number of boxes.
- Locate bat boxes in areas where bats are known to forage or adjacent to suitable foraging areas. Locations will be sheltered from prevailing winds.
- Bat boxes will be erected at a height of 4-5 metres to reduce the potential for vandalism and predation of roosting bats.
- The recommended Woodcrete 1FF design is open at the bottom, allowing the droppings to fall out, and so does not need cleaning.

Note that where this scheme is revised as part of the Bat Report (Enviroguide 2023), following the derogation licence application to the NPWS in relation to the demolition works, the updated scheme as per NPWS recommendations will supersede the scheme outlined here.

6.4.3 Enhancement 3: Garden Bird Boxes

Bird boxes will be installed as part of the landscape plan, and will be overseen by the appointed ecologist, within the central vegetated area on Site. The boxes will be durable. The bird box will be firm and secure to its support, and only paced on trees that are robust and large enough to support bird boxes.

There are various standard bird box options, and two of each of the following box types will be installed:

- 'Hole type' bird boxes (28 mm hole).
    - For example, the Eco Small Bird Box, which can be found at the following link: https://www.nhbs.com/eco-small-bird-box
- Open fronted bird boxes for blackbirds.

  - For example, the Blackbird FSC Nest Box, which can be found at the following link: https://www.nhbs.com/blackbird-fsc-nest-box
- Open fronted bird boxes for wrens and robins.
  - For example, the Eco Robin (Open-Fronted) Nest Box, which can be found at the following link: https://www.nhbs.com/eco-robin-open-fronted-nest-box

Hole type bird boxes should be positioned 2-4m off the ground, with good-visibility, a clear flight line, and away from the prevailing wind direction. The open-fronted boxes for robins, wrens and blackbirds should be installed lower than 2m but amongst dense vegetation, or newly planted vegetation that will grow to become dense upon establishment, and somewhere cats and other predators won't easily see or access them. Boxes will not be drilled or nailed to trees to avoid damage, but instead be attached via a wire strap wrapped around the tree. Unless the sites are very sheltered, bird boxes should be fixed facing between north and south-east to avoid the hot sun and the wettest winds. Guidance from Bird Watch Ireland regarding bird box construction and installation can be found at the following link: https://birdwatchireland.ie/app/uploads/2019/09/Nestboxes-factsheet.pdf.

Bird boxes will be cleaned out at the end of the bird breeding season by the development management company, from September onwards, to encourage birds to return to the nest boxes.

6.4.4 Enhancement 4: Swift Boxes

There is an opportunity to include habitat enhancement measures into the design of the Proposed Development in the form of Swift bird boxes/bricks. Swifts are an endangered species of bird that migrate to Ireland from South Africa each summer and traditionally nest in crevices or the eaves of buildings. The swift bricks in particular are discrete hollow bricks designed to building regulation standards that can be matched to the design of the façade. Swifts are a "clean" bird species which remove their own wastes from their nests periodically. As such, swift bricks do not require any cleaning by the management company.

Six swift bricks can be incorporated along the west-facing side of Block 1.

The incorporation of swift boxes or bricks will help recover the declining swift population, which are now Red Listed in Ireland (Gilbert et al., 2021). The following recommendations are extracted from "Saving Swifts" by Birdwatch Ireland (Birdwatch Ireland, 2019). This enhancement will be implemented under the guidance of an ecologist and in agreement with the local authority, in this case Dublin City Council.

Swift Bricks/boxes:

- will be constructed of long-lasting material and securely fixed in position.
- will be erected at least five metres above ground level
- will be erected in sheltered cool areas out of the sun, or under an overhang and /or under the eaves. Bricks can be placed at any aspect, however, as they tend not to overheat the way that externally fitted boxes can.
- will have a clear airspace in front for access
- will be grouped (side by side in rows) as swifts are colony nesters
- will avoid sites which can be accessed by predators- cats, squirrels, magpies, rats.
- will avoid sites near plate glass windows because they are a known collision hazard

for birds.

- will not be placed directly above ledges or other obstructions. Swifts drop before taking flight and can collide with obstacles below the nest entrance.
- will not be one above the other.
- will not be near spotlights or later fit spotlights near them.

It is advised to install a swift calling system to attract swifts and encourage them to take up residence at a new site. A swift calling system is a small speaker set-up that plays swift calls during the summer. It should be located close to the brick entrances and has been seen to greatly increase the chances of swifts using the swift boxes/bricks. Solar panel options are possible.

An Ecologist will be Instructed to set up the swift calling system once the construction of the Proposed Development is complete. This can be with the help of active local swift groups as required (e.g., Dublin Swift Conservation Group), who can help and advise as to the best set-up etc.

6.4.5 Enhancement 5: Amphibian and Lizard Hibernacula

It is recommended to enhance the proposed riparian habitat for amphibian and reptile use by providing suitable refuge and hibernacula adjacent to these wildlife ponds. It is recommended that 2-3 areas of hibernacula are provided at each pond at areas furthest removed from likely human activity.

Hibernacula for amphibians and reptiles is relatively easy to create from rubble, wood and soil, all of which can likely be sourced from the Site during works. Rubble and wood in various sizes should be piled either in a shallow depression or on the slope of the attenuation pond in a disorganised way to create nooks and crevices. Larger tree trunks or rocks should be placed so that they will protrude through the final mound to provide open entrances to the mound. This pile should then be covered in soil to allow the inner crevices to maintain a stable temperature through the winter and allow for hibernation.

7 MONITORING

Table 17 below provides a summary of the required monitoring and pre-works inspections during the Construction Phase, as well as any surveys that should be completed during the Operational Phase. The monitoring, inspections and surveys will ensure that the identified mitigation measures are implemented and maintained efficiently and have the desired effect of protecting the local ecology from adverse impacts.

The monitoring/surveys outlined below are included in a Biodiversity Enhancement Plan (BEP) for the Proposed Development, along with the detailed mitigation measures for the Construction and Operational Phases (sections 6.2 and 6.3) and Biodiversity Enhancement Measures (section 6.4).

In addition to the items listed below, the BEP should detail the landscape management operations for the Proposed Development, including cutting/trimming regimes and maintenance of bird and bat boxes (if applicable). This document will also be updated to reflect any follow-up survey results as they are carried out.

TABLE 17. MONITORING AND PRE-WORKS INSPECTIONS FOR THE IDENTIFIED MITIGATION MEASURES DURING CONSTRUCTION PHASE OF THE PROPOSED DEVELOPMENT. TO BE CARRIED OUT BY A SUITABLY QUALIFIED ECOLOGIST OR ECOLOGICAL CLERK OF WORKS (HIGHLIHGTED IN GREEN) OR BY THE DEVELOPMENT CONTRACTOR (NO HIGHLIGHT).

Measure	Monitoring
CONSTRUCTION PHASE	
Mitigation 1: Construction Phase Lighting	No monitoring required.
Mitigation 2: Invasive Species	Monitoring by contractor during removal.
Mitigation 3: Biosecurity	Ongoing monitoring by contractor.
Mitigation 4: Protection of Bats	Ongoing monitoring by contractor, Ecologist to be contacted should evidence of bats on Site be encountered.
Mitigation 5: Vegetation Clearance	Any Site vegetation clearance within the grassland habitats subject to supervision by an Ecologist and a phased approach.
Mitigation 6: Waste Management	Ongoing monitoring by contractor.
Enhancement 1: Pollinator Habitat	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 2: Bat Boxes	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 3: Garden Bird Boxes	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 4: Swift Boxes	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 5: Amphibian and Lizard Hibernacula	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
OPERATIONAL PHASE	
Mitigation 7: Invasive Species Management	An Invasive Species Survey will be carried out by a qualified Ecologist during the next botanical season after soft landscaping has been completed.

8 RESIDUAL IMPACTS

Residual impacts are impacts that remain once mitigation has been implemented or impacts that cannot be mitigated. Table 18 below provides a summary of the impact assessment for the identified KERs and details the nature of the impacts identified, the mitigation measures proposed, and the classification of any residual impacts.

Both standard Construction Phase control measures, and specific mitigation measures, have been outlined to ensure that the Proposed Development does not impact on any species, habitats or designated sites of conservation importance. It is essential that these measures

are complied with, in order to ensure that the Proposed Development complies with National conservation legislation.

Provided all recommended measures are implemented in full and remain effective throughout the lifetime of the Proposed Development, no significant negative residual impacts on the local ecology, or on any designated nature conservation sites, will occur as a result of the Proposed Development.

TABLE 18. SUMMARY OF POTENTIAL IMPACTS ON KER(S), MITIGATION PROPOSED AND RESIDUAL IMPACTS.

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
HABITATS									
All habitats	Local Importance (Higher Value)	**Construction Phase:** Spread of Invasive Flora **Operational Phase:** Creation of habitats Spread of Invasive Flora	*Negative* *Positive* *Negative*	*Local* *Local* *Local*	*Long-term* *Permanent* *Long-term*	*Moderate* *Moderate* *Moderate*	**Mitigation 1**: Removal of Invasive Species **Mitigation 2:** Biosecurity None required. **Mitigation 7:** Invasive Species Management	**Enhancement 1**: Pollinator Habitat **Enhancement 5**: Amphibian and Lizard Hibernacula	**Positive, Local, Permanent, Moderate**
FAUNA									
Bat Assemblage	Local Importance (Higher Value)	**Construction Phase:** Disturbance from lighting. Risk of injury/death from demolition on opportunistic roosting bats.. **Operational Phase:** Habitat creation.	*Negative* *Negative* *Positive*	*Local* *Local* *Local*	*Short-term* *Short-term* *Permanent*	*Slight* *Slight* *Moderate*	**Mitigation 3:** Construction Phase Lighting **Mitigation 4:** Protection of bats None required.	**Enhancement 2:** Bat Boxes	**Negative, Local, Temporary, Slight (**during construction and habitat establishment period**);** **Positive, Local, Permanent, Slight**

Potential Breeding Bird Assemblage	Local Importance (Higher Value)	**Construction Phase:** Habitat loss. Disturbance from noise & dust. **Operational Phase:** Habitat creation.	*Negative* *Negative* *Positive*	*Local* *Local* *Local*	*Permanent* *Short-term* *Permanent*	*Moderate* *Slight* *Significant*	**Mitigation 5:** Vegetation Clearance Best practice development standards as per CEMP. None required.	**Enhancement 3:** Garden Bird Boxes. **Enhancement 4:** Swift Boxes.	**Positive, Local, Permanent, Moderate**
Small Mammals (Hedgehog, Pygmy Shrew)	Local Importance (Higher value)	**Construction Phase:** Habitat loss. Risk of injury or death during vegetation clearance and / or entrapment in construction-related rubbish. Disturbance from noise, dust and/or lighting. **Operational Phase:** Habitat creation.	*Negative* *Negative* *Negative* *Positive*	*Local* *Local* *Local* *Local*	*Short-term* *Short-term* *Short-term* *Permanent*	*Slight* *Moderate* *Slight* *Moderate*	**Mitigation 5:** Vegetation Clearance **Mitigation 6:** Waste Management Best practice development standards as per CEMP. None required.	None.	**Imperceptible**
Fish assemblage	Local Importance (Higher Value)	**Construction Phase:** Risk of deterioration of water quality from construction-related pollutants. **Operational Phase:** Water quality deterioration.	*Negative* *Negative*	*Local* *Local*	*Short-term* *Permanent*	*Imperceptible* *Imperceptible*	Best practice development standards as per CEMP. SUDS measures.	None.	**Imperceptible**

9 CONCLUSION

It is considered that, provided the mitigation measures proposed within this report together with all best practice development standards as outlined in the Preliminary CMP are carried out in full, there will be no significant negative impact to any KER habitat, species group or biodiversity as a result of the Proposed Development. Additionally, the daylighting of a culverted section of the River Camac will create new habitats at the Site, including habitats suitable for amphibians and reptiles. The newly created habitats will also provide an enhancement in local resources for some of the identified KERs, such as birds and bats.

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APPENDIX I – 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 throughout 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 from 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 2017-2021

The National Biodiversity Plan (NBAP) 2017-2021, the third 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 to achieve Ireland's Vision for Biodiversity. The NBAP provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over a five-year timeframe from 2017 to 2021. To achieve the Vision, seven strategic objectives were identified in the second NBAP "Actions for Biodiversity 2011-2016". The continued implementation of the objectives from the second NBAP has been retained for the new NBAP of 2017-2021. 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 targets (Table A1).

TABLE A1: OBJECTIVES AND TARGETS OF THE NATIONAL BIODIVERSITY ACTION PLAN 2017-2021.

Objective	Target
1: Mainstream biodiversity into decision-making across all sectors	1.1: Shared responsibility for the conservation of biodiversity and the sustainable use of its components is fully recognised, and acted upon, by all sectors.
	1.2: Strengthened legislation in support of tackling biodiversity loss in Ireland.
2: Strengthen the knowledge base for conservation, management and sustainable use of biodiversity	2.1: Knowledge of biodiversity and ecosystem services has substantially advanced our ability to ensure conservation, effective management, and sustainable use by 2021.
3: Increase awareness and appreciation of biodiversity and ecosystems services	3.1: Enhanced appreciation of the value of biodiversity and ecosystem services amongst policy makers, businesses, stakeholders, local communities, and the general public.
4: Conserve and restore biodiversity and ecosystem services in the wider countryside	4.1: Optimised opportunities under agriculture and rural development, forestry and other relevant policies to benefit biodiversity.
	4.2: Principal pollutant pressures on terrestrial and freshwater biodiversity substantially reduced by 2020.
	4.3: Optimised benefits for biodiversity in Flood Risk Management Planning and drainage schemes.

	4.4: Harmful invasive alien species are controlled and there is reduced risk of introduction and/or spread of new species
	4.5: Improved enforcement of wildlife law
5: Conserve and restore biodiversity and ecosystem services in the marine environment	5.1: Progress made towards good ecological and environmental status of marine waters over the lifetime of this Plan.
	5.2. Fish stock levels maintained or restored to levels that can produce maximum sustainable yield, where possible, no later than 2020.
6: Expand and improve management of protected areas and species	6.1: Natura 2000 network designated and under effective conservation management by 2020.
	6.2: Sufficiency, coherence, connectivity, and resilience of the protected areas network substantially enhanced by 2020.
	6.3: No protected species in worsening status by 2020; majority of species in, or moving towards, favourable status by 2021.
7: Strengthen international governance for biodiversity and ecosystem services	7.1: Strengthened support for biodiversity and ecosystem services in external assistance.
	7.2: Enhanced contribution to international governance for biodiversity and ecosystem services.
	7.3: Enhanced cooperation with Northern Ireland on common issues.
	7.4. Reduction in the impact of Irish trade on global biodiversity and ecosystem services.

Dublin City Development Plan 2022-2028

Chapter 10 of the Dublin City Development Plan (DCDP) 2022-2028 outlines the policies and objectives for Green Infrastructure and Recreation, including a number of policies addressing the importance of protecting biodiversity and ecological corridors within Dublin City. The policies relevant to this Biodiversity Chapter 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 (see also Section 9.5.9 Public & External Lighting*)."

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 Draft 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

Dublin City Biodiversity Action Plan 2021 – 2025 is set out to protect and improve biodiversity through specific objectives:

- **Objective 1:** Ensure effective implementation of the Dublin City Biodiversity Action Plan.

- **Objective 2:** Protect designated sites for nature conservation in accordance with the Conservation Management objectives for Natura 2000 sites and proposed Natural Heritage Areas in Dublin City.
- **Objective 3:** Identify and protect sites that have conservation value for biodiversity using evidence-based research.
- **Objective 4:** Monitor and conserve legally-protected species within Dublin City, particularly those listed in the annexes of the EU Birds and Habitats Directive using evidence-based research.
- **Objective 5:** Prepare and plan for the impacts of climate change on biodiversity.
- **Objective 6:** Implement measures for species with that have a local biodiversity value or impact local biodiversity.
- **Objective 7:** Prepare and disseminate information on guidance for development and site management for biodiversity conservation.
- **Objective 8:** Devise and implement habitat restoration initiatives across Dublin City.
- **Objective 9:** To use nature-based solutions to restore biodiversity and ecosystem services.
- **Objective 10:** Strengthen measures to control Invasive Alien Species (IAS), improve biosecurity and ecological status of catchments.
- **Objective 11:** Ensure that measures for biodiversity and nature-based solutions are incorporated into new building projects, retrofit and maintenance works.
- **Objective 12:** Promote net biodiversity gain and ensure there is no net loss of biodiversity through strategies, planning, mitigation measures, appropriate offsetting and/or investment in Blue-Green infrastructure.
- **Objective 13:** Pilot initiatives for the creation of habitats using artificial habitat methods.
- **Objective 14:** Minimise and reduce soil degradation in the Dublin City Council administrative area.
- **Objective 15:** Ensure that measures for biodiversity and nature-based solutions are incorporated into new building projects, retrofit and maintenance works.
- **Objective 16:** Empower citizens to connect with, and take positive action for biodiversity at a local and city-wide level.
- **Objective 17:** Strengthen collaboration for the conservation of biodiversity at a regional, national, and global level.

APPENDIX II – VALUE OF ECOLOGICAL RESOURCES

The criteria outlined in the table below, taken from the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* published by the NRA, were used for assigning value to designated sites, habitats and species within the Site of the Proposed Development and surrounding area.

TABLE B1. DESCRIPTION OF VALUES FOR ECOLOGICAL RESOURCES BASED ON GEOGRAPHIC HIERARCHY OF IMPORTANCE (NRA, 2009B).

Importance	Criteria
International Importance	- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. - Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). - Features essential to maintaining the coherence of the Natura 2000 Network - Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive - Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). - World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). - Biosphere Reserve (UNESCO Man & The Biosphere Programme) - Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). - Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). - Biogenetic Reserve under the Council of Europe. - European Diploma Site under the Council of Europe. - Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).
National Importance	- Site designated or proposed as a Natural Heritage Area (NHA). - Statutory Nature Reserve. - Refuge for Fauna and Flora protected under the Wildlife Acts. - National Park. - Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: o Species protected under the Wildlife Acts; and/or o Species listed on the relevant Red Data list. o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive
County Importance	- Area of Special Amenity. - Area subject to a Tree Preservation Order. - Area of High Amenity, or equivalent, designated under the County Development Plan.

	- Resident or regularly occurring populations (assessed to be important at the County level) of the following:
	  o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
	  o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
	  o Species protected under the Wildlife Acts; and/or
	  o Species listed on the relevant Red Data list.
	  o Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
	- County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared.
	- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
	- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

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

Local Importance (lower value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

APPENDIX III – EPA IMPACT ASSESSMENT CRITERIA

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying the quality of effects:

Quality	Definition
Positive Effects	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities)
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).

Criteria used to define significance of effects.

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying significance of impacts:

Significance of Effects	Definition
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.

Criteria used to define duration of effects.

In line with the EPA Guidelines (EPA, 2022), the following terms are defined when quantifying duration and frequency of effects:

Quality of Effects	Definition
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years
Medium term	Effects lasting seven to fifteen years

Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

APPENDIX IV – SITE PHOTOGRAPHS

Buildings and Artificial Surfaces BL3 recorded on Site, with Scattered Trees and Parkland WD5 and Amenity Grassland (improved) GA2 along the boundaries of the Site.

Ornamental/Non-native Shrub WS3 habitat recorded at the entrance of the exiting building on Site

Common pipistrelle emerged from this PRF above the loading bay door on Site.

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