Proposed Large-Scale Residential Development at Belgard Square East, Belgard Road and Old Blessington Road, Tallaght, Dublin 24

Ecological Impact Assessment Report

Midsal Homes Limited

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1 INTRODUCTION

DNV was commissioned by Midsal Homes Limited to undertake an Ecological Impact Assessment (EcIA) in relation to a Proposed Large-Scale Residential Development at Belgard Square East, Belgard Road and Old Blessington Road, Tallaght, Dublin 24, 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

All surveying and reporting have been conducted by qualified and experienced ecologists and environmental consultants. KM and CRK conducted the bat survey on Site. SOB undertook the remaining ecological surveys and desk studies and also authored this report.

KM is an intern Ecologist with a wealth of experience in desktop research, report writing, and QGIS mapping, as well as practical field and laboratory experience. Field experience includes bat surveys, freshwater macroinvertebrate surveys, and trail camera set-up and analysis. KM has prepared several Municipal District Summaries and Stage I Appropriate Assessment (AA) Reports.

CRK is an intern Ecologist with a M.Sc. in Biodiversity and Conservation from Trinity College Dublin. CRK's experience as an ecologist is broad both variety of ecological reports and literature, and field surveys conducted. CRK has experience in surveying habitats, birds, plants, bats, mammals and invasive species, with some experience in assessing welfare conditions of animals using behavioural repertoires as indicators. CRK's experience in ecological report writing extends from Research associated literature reviews to AA screening reports and Municipal District Summary reports.

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 AA Reports, Invasive Species Surveys, Ecology Statements, Ecological Impacts Assessments (EcIAs), and Biodiversity Chapters of Environmental Impact Assessment Reports (EIARs).

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 sub-threshold for an Environmental Impact Assessment (EIA) under the Planning and Development Regulations 2001-2023, as amended.

When an EcIA is undertaken as part of an EIA process it is subject to the EIA Regulations (under the Planning and Development Regulations 2001-2024). 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 2022.
- The Planning and Development Act 2000 as amended.
- National Biodiversity Plan 2023-2030.

Additionally, Natural Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of Conservation (SAC) and/or Special Protection Area (SPA) sites. 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:

- South Dublin County Development Plan 2022-2028.
- Connecting with Nature – Draft Biodiversity Action Plan for South Dublin County (2020-2026).

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 Site of the Proposed Development, as seen in Figure 1 below, is approximately 1.19 hectares (ha), and is located within an established mixed-use area at Belgard Road, Tallaght, Co. Dublin. The main area of the Site is currently a vacant lot and is bounded on the east by the Belgard Road, on the north by Old Blessington Road, on the south by McDonalds and on the west by Belgard Square East. The surrounding environment is urban in nature.

2.2 Proposed Development Description

Midsal Homes Limited intends to apply for permission for a Large-Scale Residential Development (LRD) at a site of approximately 1.19 Ha at Belgard Square East, Belgard Road and Old Blessington Road, Tallaght, Dublin 24. The main development site (approximately 0.91 Ha) is generally bound: to the north by Old Blessington Road; to the east by Belgard Road (R113); to the south by McDonald's Restaurant property (D24 HW74); and to the west by Belgard Square East. The site also includes parts of the carriageways and verges of Belgard Square East, Belgard Road and Old Blessington Road (approximately 0.28 Ha) for the provision of landscaping, 2 No. pedestrian crossings, accesses/junctions, minor road and footpath works, cycle infrastructure and water services infrastructure.

The Proposed Development principally comprises: the demolition and removal of existing boundary walls and railings on the main development site's eastern, western and northern sides; and the construction of a mixed-use development in 2 No. blocks (Block A to the south and Block B to the north) with a gross floor area of 23,540 sq m (excluding basement of 275 sq m) and ranging in height from 1 No. to 7 No. storeys (with mezzanine level) over basement.

The development includes a total of 199 No. residential dwellings (6 No. studios, 47 No. 1-bed, 98 No. 2-bed and 48 No. 3-bed) in the 2 No. blocks, with Block A comprising 49 No. 'senior living' apartment units and Block B comprising 150 No. 'standard' apartment units. The development also includes 2,123 sq m of non-residential floor space, with the following uses proposed: 4 No. retail units (totalling 331 sq m); 4 No. class 1 / class 2 commercial units (totalling 387 sq m); a bicycle sales and repair shop (81 sq m); an off-licence (64 sq m); a bar (151 sq m); a café (87 sq m); a medical centre (210 sq m); a dental practice (72 sq m); a pharmacy (195 sq m); a beauty/health salon (195 sq m); and a crèche (350 sq m) with external play area.

The development also comprises: an undercroft car park accessed via a new entrance/exit at Belgard Square East which provides 58 No. car parking spaces; a gated service lane to the south of Block A, with entrances/exits off Belgard Square East and Belgard Road; 2 No. pedestrian/cycle crossings, at Belgard Square East and Belgard Road; continuation of the northbound cycle lane from Belgard Road onto Old Blessington Road; alteration to the median and northbound right turn at Belgard Road onto Abberley Square; cycle parking; internal communal amenity spaces for the senior living units; hard and soft landscaping, including public open space, communal amenity space and incidental spaces; private amenity spaces (as balconies and terraces facing all directions); boundary treatments; 2 No. sub-stations; plant/operational rooms; bin stores; public lighting; blue roofs; rooftop PV arrays; lift overruns and rooftop opening vents atop both blocks; 4 No. 0.3 m diameter microwave link dishes mounted on 2 No. steel support poles affixed to the Block B lift overrun, all enclosed in radio-friendly GRP shrouds; and all associated works above and below ground.

The proposed Site layout can be seen in Figure 2 below.

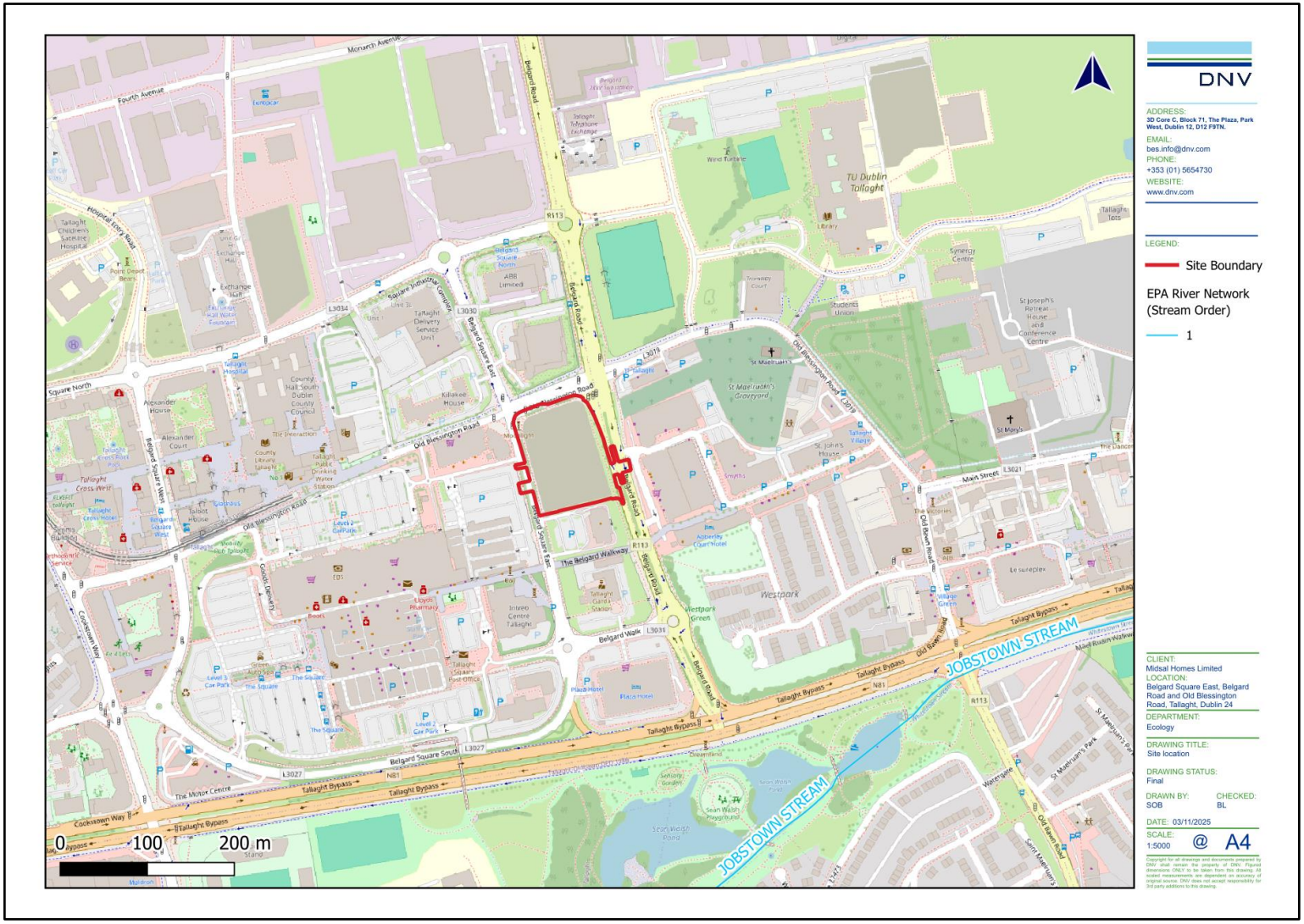

FIGURE 1. SITE LOCATION.

FIGURE 2. PROPOSED SITE LAYOUT. DWG NO. 2424_P03_01 (DONNELLY TURPIN ARCHITECTS, 2025).

2.2.1 Drainage and Water Supply

2.2.1.1 Surface water

As outlined in the Engineering Services Report (Torque Consulting Engineers, 2025) accompanying this application, surface water drainage from the Proposed Development will be separated from the foul water drainage. The Proposed Development has integrated blue roofs, permeable paving, tree pits and raised planters, and interception storage into the design to comply with the South Dublin County Development Plan requirement to incorporate more Sustainable Drainage Systems (SuDS) into new developments.

It is proposed that blue roofs will cover the majority of the total roof area of the buildings with roof areas greater than 6,000m^2. The blue roofs will function as attenuation storage and assist in slowing stormwater flows, increasing evaporation, and treating the stormwater on the Site of the Proposed Development. It is proposed the outfalls from the blue roofs will be connected to the newly constructed surface water drainage system serving the Site, which will discharge via gravity to the existing surface water sewer system along Belgard Square East immediately west of the Site of the Proposed Development. It is also proposed a silt trap will be constructed in the surface water network prior to the outfall to reduce any pollutants from being discharged into the existing sewer network.

More than 1,000m^2 of permeable paving is also proposed, with approximately 10% of the total surface area within the Proposed Development to consist of this SuDS measure. This permeable surface will allow the surface water to pass into the porous material below, with some of the water percolating back into the ground at the source. Any remaining surface water flow will be slowed and partially treated by the coarse bedding material.

It is also proposed to include tree pits and raised planted beds within the communal podium area and the ground floor communal area of the Proposed Development to help retain surface water run-off from impermeable surfaces, and will also contribute to public amenity and biodiversity.

The design intention of the Proposed Development is to utilise as many SuDS features as practicable and pragmatically feasible and to allow for partial infiltration within the design:

- Maximising roof area with blue roof systems.
- Permeable paving and grassed areas, where possible (linked to the surface water network).
- Where not possible, footpaths and grassed areas will drain via a stone media layer enroute to the surface water network to remove sediments and pollutants and provide interceptions volumes.
- Attenuation within the blue roofs to reduce flows to green field rates.
- A silt trap will be constructed at the outfall of the network to reduce pollutants and sediment entering the public sewer system.

During extreme rainfall storm events, surface water discharge from the Site will be limited to greenfield run-off rates.

2.2.1.2 Foul Drainage

As outlined in the Engineering Services Report (Torque Consulting Engineers, 2025) accompanying this application, there is an existing foul water sewer network along Belgard Square East adjacent to the Site. It is proposed to drain foul water from the upper floors of the Proposed Development apartment blocks separately via gravity to the lower ground floor level, where this foul water will discharge to the foul water drainage system. The foul sewer from these new buildings will connect via a newly constructed pipe network within the Site boundary to the existing public drainage system along Belgard Square East.

It is estimated the average flow rate will be 2.75 litres/second, with an estimated peak flow of 16.51 litres/second.

The foul water from the Site will be transported via this existing system to Ringsend Wastewater Treatment Plant (WwTP).

2.2.2 Landscape Plan

The proposed landscaping of the Site has been prepared by Studio Glasú, and as outlined in the Landscape Strategy (2025), in response to South Dublin County Council's LRD Opinion, the design focuses on two key urban landscape elements, namely a new public space that surrounds and traverses the Proposed Development and a communal podium space at the heart of the proposed apartment blocks. The key objectives of this strategy include:

- To enhance the urban realm by creating an inviting environment that benefits future residents, pedestrians, and the wider Tallaght community.
- To strengthen connectivity by introducing new links that integrate with and reinforce Tallaght's urban fabric.
- To deliver a multifunctional public open space that accommodates diverse activities while serving as a new local landmark.
- To promote biodiversity through a diverse planting strategy and the introduction of ecological features such as bird and bat boxes and insect hotels.
- To provide inclusive play and social spaces that support all age groups and encourage recreation, interaction, and wellbeing.

Across all planting typologies, including trees, hedges, and herbaceous layers, native species will be predominantly used and supplemented by select ornamental species to maximize biodiversity, seasonal variation, and adaptability to diverse Site conditions. Additionally, a strong emphasis will be placed on pollinator-friendly and bat-friendly species to support insect and bat life and will include species listed in the Pollinator Planting Code included as part of the All-Ireland Pollinator Plan (NBDC, 2022). The maintenance of the proposed planting on Site will also use chemical-free techniques.

The street planting along the boundaries of the Site will be retained as part of the Proposed Development, while the scrub habitat within the main area of the Site will be cleared to facilitate the Proposed Development.

The Landscape Masterplan can be seen in Figure 3 below.

2.3 Description of the Construction Phase

As outlined in the Construction Environmental Management Plan (CEMP) (AWN Consulting, Trinity Consultants Company, 2025) accompanying this application, construction works associated with the Proposed Development will be undertaken in a single phase, over an estimated 24-28 month period.

The Construction Phase on Site will involve the demolition of the existing boundary walls and railings on Site, followed by excavations for new foundations, Site levelling and excavations for roads and services. Prior to these works, the below will be put in place at the Site of the Proposed Development:

- 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.

Site development and building works will only be carried out between the hours of 07:00 to 19:00 Mondays to Fridays inclusive, and between 08:00 and 14:00 hours on Saturdays. There will be no construction works carried out on Sundays or public holidays. Deviation from these times will only take place when written approval is granted by South Dublin County Council in exceptional circumstances.

2.4 Description of the Operational Phase

The Operational Phase will comprise primarily residential use that is consistent with the existing urban land use in the area, along with some areas of non-residential commercial space.

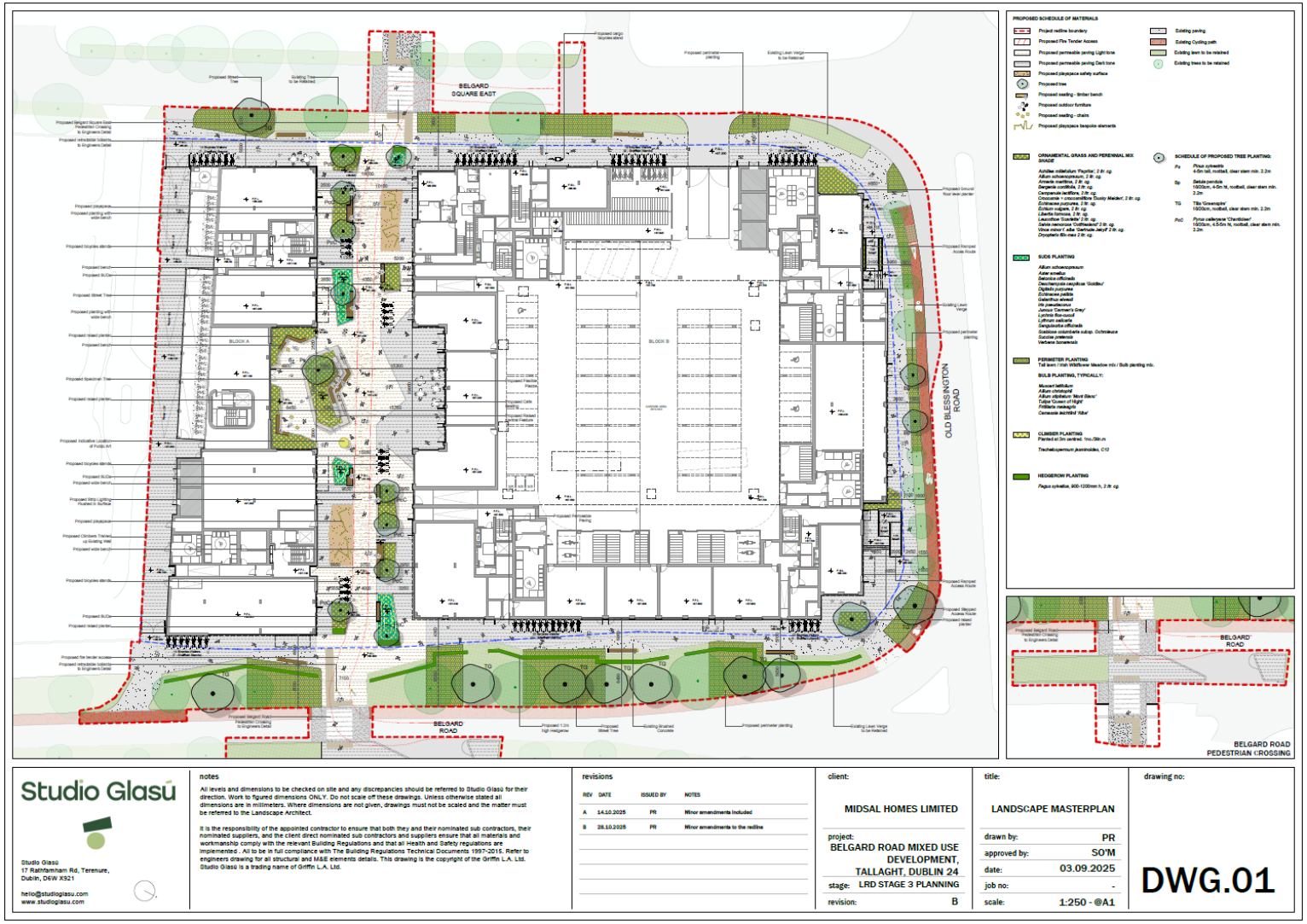

FIGURE 3. PROPOSED LANDSCAPE MASTERPLAN (STUDIO GLASÚ, 2025).

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 Proposed 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 November 2025, 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: *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

[1] The Site of the Proposed Development lies within the 10km grid square O02, the 2km grid square O02Y and the 1km grid square O0827. Records from the last 20 years from available datasets are given in the relevant sections of this report.

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 DNV on the 11th October 2021, with a ground truthing survey undertaken on the 16th September 2024. 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

Daytime inspections of the Site were undertaken on the 11th October 2021 and 16th September 2024. The surveys undertaken on the 9th May 2021 and the 16th of May 2022 were undertaken in adherence to best practice guidelines (Collins, 2016 and Marnell et al., 2022) available at the time of the assessment.

Since this survey was conducted, the Collins (2016) guidelines have been updated and superseded by Collins (2023). The new guidance contains updated measures on scoring trees for their potential to support roosting bats. As such, this assessment has been updated during the walkover survey carried out on the 16th September 2024.

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

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

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

- NONE – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree; and
- PRF – A tree with at least one PRF present.

Where a tree contains at least one PRF, each PRF is further assessed according to Table 6.2 (Collins 2023). PRFs are scored as either:

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

For trees with PRF-Is only, no further surveys may be required, but appropriate compensation for all PRF-I's must be designed and incorporated in advance of impacts along with a Precautionary Working Method Statement

(PWMS). As the Site increases in suitability for roosting bats e.g., PRF-Ms present, the survey effort increases accordingly. A PRF-M will require a detailed inspection, such as aerial inspection, conducted over three survey visits, a minimum of three weeks apart, which should be carried out between May and September with at least two in the period May to August. Where features are inaccessible by ladder, climbing, or MEWP, or too extensive for a PRF inspection, the aerial inspection should be replaced with emergence surveys carried out between May and September with Night Vision Aids (NVA) where possible or otherwise surveyed using Advanced Licence Bat Survey Techniques (ALBST), such as trapping, tagging, and radio-tracking to inform of the importance of a roost.

3.5.2.2 Preliminary Bat Habitat Suitability Assessment

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on the 16th September 2024. 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 Surveys

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The activity surveys undertaken on the 9th May 2021 and the 16th May 2022 were undertaken in adherence to best practice guidelines (Collins, 2016 and Marnell et al., 2022) available at the time of the assessment.

Since these surveys were conducted, the Collins (2016) guidelines have been updated and superseded by Collins (2023). The new guidance contains updated methodology and survey effort with regards to bat activity. As such, the activity survey carried out on the 16th September 2024 has been updated and undertaken during times of suitable weather conditions, as detailed below;

The weather conditions during the September 2024 survey were clear with temperatures ranging from 16-18ºC over the course of the survey with generally calm wind conditions. Bat activity and emergence surveys are best carried out mid-March to the end of September, in suitable weather conditions. This activity survey began at 19:30 just before sunset (19:37) and finished 2 hours later at 21:30, along a predesigned transect route with regular point counts.

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

3.5.2.5 Data Analysis

Species were identified from recordings using Elekon's BatExplorer software (Version 2.1.10.1). Bat data was analysed and species assigned to each record with reference to species identification guides such as Russ (2012).

Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some bats such as *Pipistrelle* species may continuously fly around a habitat or feature, therefore, it is possible that a series of bat passes within a similar time frame is representative of an individual bat. On the other hand, Leisler's bats (*Nyctalus leisleri*) tend to travel through an area quickly, and as such, an individual sequence or bat pass is more likely to be indicative of individual bats.

3.5.3 Bird Scoping 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.

3.5.4 Other Fauna

A general fauna survey of the Site was carried out in conjunction with the other field surveys on the 11th October 2021 and the ground truthing survey undertaken on the 16th September 2024. The habitat types recorded 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.

- While a full suite of bat surveys has not been carried out on Site within the last 12 months, the mitigation and enhancement measures outlined in section 6 below will act to mitigate potential impacts to the bats within the surrounding environment. As such, and based on the limited habitats available to bats on the Site of the Proposed Development, including lack of roost and foraging habitat, it is considered that the limited survey effort is not a significant limitation to this assessment.
- While breeding bird surveys were not carried out on Site, the habitats on Site were used to assist in identifying the bird species considered likely to utilise the area. In addition, the mitigation and enhancement measures outlined in section 6 below will act to mitigate potential impacts to the birds within the surrounding environment. As such, and based on the limited habitats available to birds on the Site of the Proposed Development, it is considered that the limited survey effort is not a significant limitation to this assessment.
- While some of the data collected during the preliminary surveys exceed the 18 month validity period as per the CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys, subsequent ground truthing surveys have been carried out by qualified ecologists to verify Site conditions and to ensure the findings of this report remain valid.

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 (EU Code: 09) and Dodder_SC_010 sub-catchment (EU Code: 09_16). The closest watercourse to the Site is the Jobstown Stream (EU Code: IE_EA_09D010620), also referred to as the Dodder_040, a 2nd order tributary of the River Dodder, 410m southeast of the Site, which flows into the River Dodder almost 2km to the east of the Site, and ultimately into Dublin Bay (EU Code: IE_EA_090_0000).

The status of the River Dodder was designated as Moderate by the EPA in 2022 (station code: RS09D010620), with this station located 4.8km northeast of the Proposed Development, downstream of the Site. The River Dodder is classified as *At Risk* of not meeting its Water Framework Directive (WFD) objectives (EPA, 2025).

The Site is situated on the Dublin groundwater body, which is currently under review as to whether it will meet WFD objectives. The aquifer type within the Site boundary is a Locally Important Aquifer (LI) aquifer 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, 2025). 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 made ground (Made) (EPA, 2025).

The Waterbody Status for river, groundwater and coastal water bodies relevant to the Site as recorded by the EPA (2025) in accordance with European Communities (Water Policy) Regulations 2003 (SI no. 722/2003), Part IV of the European Communities Environmental Objectives (Surface Waters) Regulations 2009 and Part IV of the European Communities Environmental Objectives (Groundwater) Regulations 2010, 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	WFD water body status (2016-2021)	WFD 3rd cycle Risk Status	Hydraulic Connection to the Site
Surface Water Bodies						
Jobstown Stream / River Dodder	IE_EA_09D010620	Southeast	410m	Moderate	At risk	Potential hydrological connection via surface water discharge to the local drainage network.
Coastal Water Bodies						
Dublin Bay	IE_EA_090_0000	East	11.3km	Good	Not at risk	Potential hydrological connection via surface water discharge to the local drainage network.
Groundwater Bodies						
Dublin	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 conclusion is given below.

Other nationally or internationally designated sites potentially linked to the Proposed Development are identified in section 4.2.1.

4.2.1 European sites – Appropriate Assessment

The following conclusion is extracted from the AA accompanying this application under separate cover (DNV, 2025):

"The Proposed Development on lands at Belgard Square East, Blessington Road, Tallaght, Dublin 24, has been assessed considering:

- *The nature, size and location of the Proposed Development and possible impacts arising from the Construction and/or Operational Phase.*
- *The QIs and conservation objectives of the European sites.*
- *The potential for in-combination effects arising from other plans and projects.*

In carrying out this AA screening, ecology specific mitigation measures have not been accounted for. Standard best practice construction measures which could have the effect of mitigating any effects on any European Sites have similarly not been considered.

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:*

- *North Dublin Bay SAC (000206).*
- *South Dublin Bay SAC (000210).*
- *South Dublin Bay and River Tolka Estuary SPA (004024).*
- *North Bull Island SPA (004006).*
- *North-West Irish Sea SPA (004236).*

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 Appropriate Assessment process; and the preparation of an NIS is not required."

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

4.2.2 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 Direct Pathways

4.2.2.1.1 Hydrological pathways

There are no drainage ditches or surface waterbodies within or immediately adjacent to the Site. As the Site lies within the Dodder sub-catchment, it is likely the local surface water sewer network surrounding the Site discharges to the Jobstown Stream, 410m southeast of the Site, which flows into the River Dodder, and subsequently the

Liffey Estuary and Dublin Bay. As such, there is a potential, weak hydrological pathway via surface water run-off to North Dublin Bay pNHA (000206), South Dublin Bay pNHA (000210), and Dolphins, Dublin Docks pNHA (000201) should surface water run-off containing silt/sediments or other pollutants inadvertently flow into the local surface water sewer system during the Construction Phase of the Proposed Development. In addition, Tolka Estuary contains Sandymount Strand / Tolka Estuary Ramsar Site (832) and North Bull Island Ramsar Site (406) and is also designated as part of the Dublin Bay UNESCO Biosphere.

The hydrological pathway to these downstream European sites is over 15km along the Jobstown Stream and the River Dodder, prior to discharging into the River Liffey estuary and subsequently Dublin Bay, 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.

During the Operational Phase of the Proposed Development, surface water discharge from the Site will discharge to the local surface water network via a newly constructed connection, which would then also ultimately reach these European sites within Dublin Bay. However, as outlined in section 2.2.1.1 above, in addition to the 15km downstream distance over which dilution of any potential pollutants will occur, a number of SuDS measures are proposed on the Site of the Proposed Development, which is currently a brownfield site. These embedded SuDS measures included as part of the design of the Proposed Development, including blue roofs, permeable paving, and green areas, will attenuate and treat surface water discharge prior to entering the local sewer network at a reduced greenfield rate. As such, this potential hydrological pathway to downstream designated sites in Dublin Bay during the Operational Phase is considered insignificant.

4.2.2.1.2 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 Jobstown Stream and River Dodder, 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 between the Proposed Development and the nearest designated sites within Dublin Bay.

4.2.2.1.3 Air and land pathways

No air or land pathways from the Proposed Development to any other designated sites were identified, as the distance between the Site and the nearest designated site (Dodder Valley pNHA (000991) approx. 1.5km southeast) is deemed sufficient to exclude any potential for impacts from increases in noise, lighting and/or dust or other airborne pollutants.

4.2.2.2 Indirect Pathways

4.2.2.2.1 Hydrological pathways

The Site will also be connected to the public 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 North Dublin Bay pNHA (000206), South Dublin Bay pNHA (000210), and Dolphins, Dublin Docks pNHA (000201) via discharges from Ringsend WwTP during the Operational Phase. In addition, there is a weak hydrological link between Sandymount Strand / Tolka Estuary Ramsar Site (832) and North Bull Island Ramsar Site (406) and the Dublin Bay UNESCO Biosphere.

However, the potential for foul waters generated at the Site of the Proposed Development to reach these European sites within Dublin Bay and cause significant effects, during the Operational Phase, is negligible due to the following:

- 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.
- It is considered that effects on marine biodiversity and the designated sites within Dublin Bay from the current operation of Ringsend WwTP are unlikely.
- 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.

4.2.2.2.2 Air and land pathways

No significant indirect pathways (e.g., disruptions to migratory paths) were identified.

4.2.2.2.2.1 Likelihood of Collision Impacts

From a review of available literature on the subject, bird collisions with man-made structures are common and well documented[2] with migratory passerine species the most prevalent collision victims[3]. Bird collision with buildings is generally associated with reflective material such as windows or large surfaces of glass which create a mirror and appear to show the continuation of the sky or surrounding landscape, an effect that can be exacerbated by lighting.

In addition, the physical location of buildings and structures can influence the likelihood of bird collisions, with structures placed on or near areas regularly used by large numbers of feeding, breeding, or roosting birds, or on local flight path; such as those located between important foraging and roosting areas, can present a higher risk of collision.

The Site in itself is not deemed to represent *ex-situ* feeding/roosting habitat for any such species, as while the Site is comprised of a derelict building and hardstanding.

4.2.2.2.2.2 Building Appearance

Whilst the design of the facades of the dwellings do include windows, no large surfaces of glass are proposed. Rather the overall façades of the proposed buildings are well broken up, with a varied material composition interspersing any reflective areas. These architectural design features provide important visible cues as to the presence and extent of the proposed structures to any commuting/foraging bird species should they be in the vicinity of the Site. This overall visual heterogeneity of the building façades will be sufficient to further ensure that the risk of bird collisions as a result of the Proposed Development is negligible. These architectural design features are part of the overall design of the Proposed Development and are not considered to represent specific mitigation measures to prevent collisions, however, they will contribute to the overall effect in this regard. It is noted that birds are not deemed to be at any particular risk of collisions with the proposed buildings at the Site.

As such, based on the physical appearance of the proposed structures and the nature of their location, it is deemed that birds including any 'at-risk' species, do not have the potential to be impacted by the Proposed Development in terms of collisions and the risk is therefore deemed to be **imperceptible** in the absence of any mitigation.

4.2.2.2.2.3 Building Height

With respect to SCI birds for SPAs within the zone of influence of the Proposed Development which regularly use or travel over inland areas (i.e. light bellied brent goose, gull species, duck species and a number of waders such as oystercatcher, godwit species or curlew) in Dublin City, they navigate the urban environment with built structures daily.

To put some context on some of their avoidance capabilities, in a different setting and for use in collision risk modelling for onshore wind turbines, an avoidance rate of 99.5% is applied for large gull species and an avoidance rate of 99.2% is applied for small gull species (Furness, 2019) , which essentially means that 99.5% and 99.2% of

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[2] Banks, R.C (1979). Human related mortality of birds in the United States. U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl. 215. 16 pp.
Jenkins, A., Smallie, J.J. and Diamond, M. (2010). Avian collisions with power lines: A global review of causes and mitigation with a South African perspective. Bird Conservation International, 20(03), 263 – 278.
Klem, D. (1990). Collisions between birds and windows: mortality and prevention. Journal of Field Ornithology, 61, 120–128.
Erickson, W.P., Johnson, G.D. and Young, P.D. (2005). A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. 2005.
Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka, and R. E. Good. (2001). Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington, D.C.
[3] Bing G.-C., Choi C.-Y., Nam H.-Y., Park J.-G., Hong G.-P., Sung J.-K., Chae H.-Y & Choi Y.-B. (2012). Causes of mortality in birds at stopover islands. Korean J. Ornithol., 19, 23–31.
Longcore, T. Rich, C., Mineau, P., MacDonald, B., Bert, D.G., Sullivan, L.M., Mutrie, E., et al. (2013). Avian mortality at communication towers in the United States and Canada: which species, how many, and where? Biological Conservation, 158, 410-419.

gull flights, respectively, will avoid collision with a moving turbine. For curlew the avoidance rate applied is 98% (SNH, 2018).

The risk of collision is even less with a static, clearly detectable building. The proposed buildings consist of glazing, broken up with a varied material composition interspersing any reflective areas. While the presence of the Proposed Development might alter flight patterns of bird species slightly to avoid the proposed building structures the risk of collision is extremely low.

The Proposed Development entails the construction of residential buildings ranging in height of up to 7 storeys, and as such, the risk of migrating birds colliding with the structure due to its height is deemed to be negligible (Migrating species tend to commute far above this with Swans and Geese flying up to 2500ft (ca.750m) during migration along Irish Coasts (Irish Aviation Authority, 2020)).

It is considered that birds that fly over the Site to commute between feeding grounds at various locations would fly lower than this, however, once the proposed structures are made of visible materials i.e., not entirely comprised of reflective materials such as glass, the birds would simply fly around or over them.

4.2.3 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. 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 DEVELOPMENT, AND ANY RELEVANT DESIGNATED SITES. THOSE SITES WITH NOTABLE S-P-R LINKS THAT ARE FURTHER ASSESSED IN THIS REPORT ARE HIGHLIGHTED IN GREEN (IF ANY).

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
INTERNATIONALLY DESIGNATED SITES			
Dublin Bay UNESCO Biosphere	8.5km NE	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 deemed insignificant due to distance and dilution.
Sandymount Strand / Tolka Estuary Ramsar Site (832)	11.3km NE	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)	15.6km NE	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	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		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 pairs, or about 30% of the Irish population) and for numerous species of wintering waterbirds. Human activities include bait digging.	
PROPOSED NATURAL HERITAGE AREAS			
Dodder Valley pNHA (000991)	1.5km SE	This stretch of the River Dodder extends for about 2 km between Firhouse Bridge and Oldbawn Bridge in the south-west of Dublin City. The vegetation consists of woodland scrub mainly of willows (*Salix* spp.), but up to thirteen species of tree have been recorded. The understorey vegetation contains a good variety of plant species, including Early-purple Orchid (*Orchis mascula*) and Bugle (*Ajuga reptans*). Along the banks there are wild flower meadows with a good diversity of plant species. There is also a pond in the river bed at Firville which has flourished greatly since the floods of 1986. Forty-eight bird species have been recorded recently in the area, including Little Grebe, Kingfisher, Dipper and Grey Wagtail. Part of the river bank supports a Sand Martin colony of up to 100 pairs. The site represents the last remaining stretch of natural river bank vegetation on the River Dodder in the built-up Greater Dublin Area.	No pathways identified.
North Dublin Bay pNHA (000206)	15.6km NE	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	None – Hydrological pathway deemed insignificant due to distance and dilution.

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 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 2110 Embryonic shifting dunes 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*)	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		A999 Wetland and Waterbirds	
South Dublin Bay pNHA (000210)	11.3km NE	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 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	

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
Dolphins, Dublin Docks pNHA (000201)	12.9km NE	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*) A193 Common Tern (*Sterna hirundo*) A194 Arctic Tern (*Sterna paradisaea*) A999 Wetland and Waterbirds	

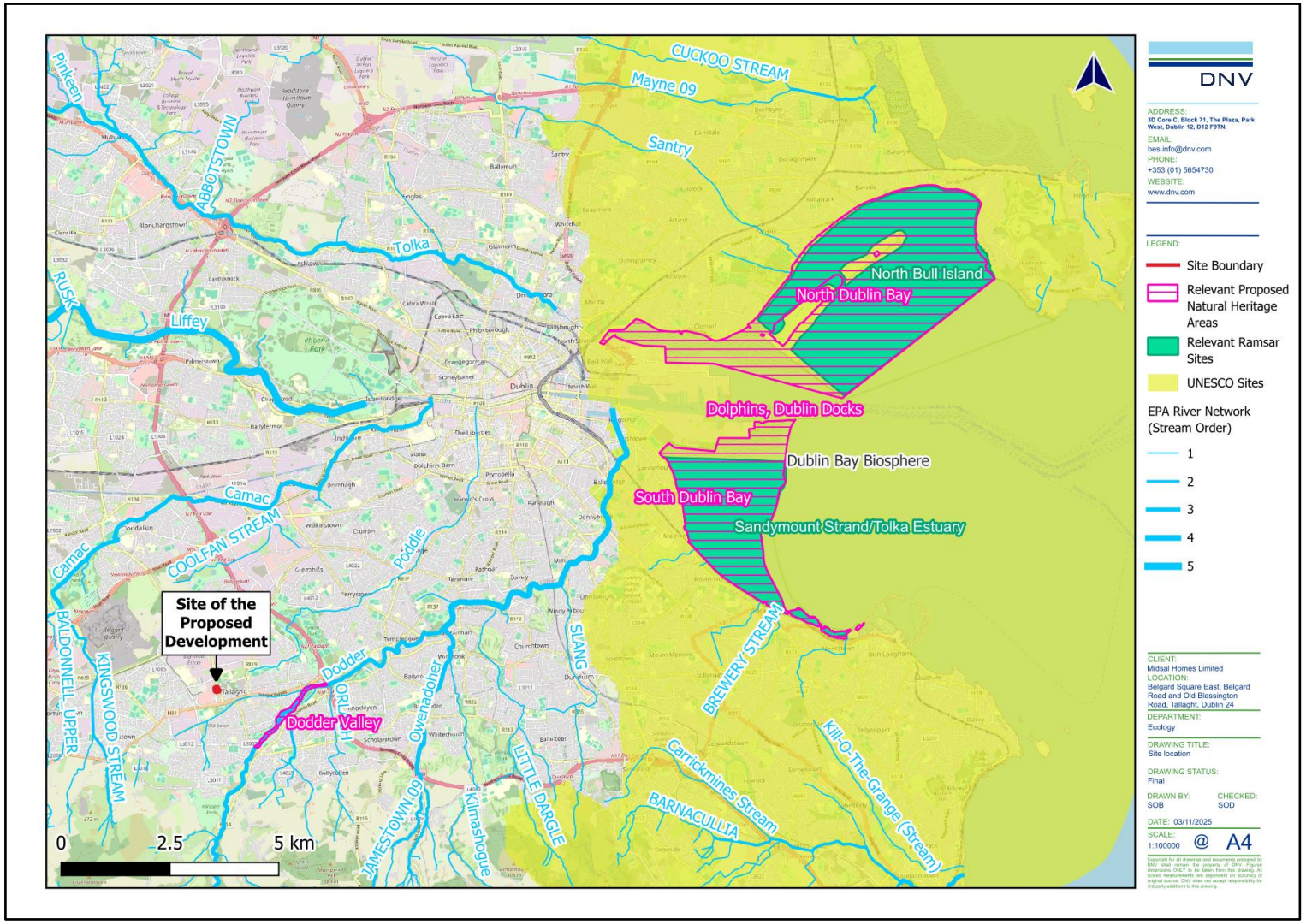

FIGURE 4. LOCATION OF DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT.

4.3 Habitats

The habitats present within the Site, as recorded in the survey area during the field survey, are described in this section and summarised below. Site photographs of these habitats are included in Appendix IV and a map of the habitats is presented in Figure 5.

The predominant habitat recorded at the Site of the Proposed Development is *Buildings and Artificial Surfaces (BL3)*, as the Site is comprised of hardstanding and modern walls along the perimeter of the Site. Areas of Belgard Road to the east and Belgard Square East to the west of the Site are also included within the boundary of the Proposed Development.

The northern half of the Site, along with a section in the southeast, has become *Recolonising Bare Ground (ED3)* habitat, with ground flora including dandelion (*Taraxacum sp.*), red clover (*Trifolium pratense*), dock (*Rumex sp.*), and hemp agrimony (*Eupatorium cannabinum*) observed, along with small butterfly bush (*Buddleia davidii*) and sycamore (*Acer pseudoplatanus*) saplings scattered throughout this habitat, both of which are classed as Medium Impact invasive species.

The margins of the Site, particularly along the south, east and north boundaries, are comprised of *Scrub (WS1)* habitat. The species observed within this habitat include immature to early mature Italian alder (*Alnus cordata*), sycamore, Norway maple (*Acer platanoides*), bramble (*Rubus fruticosus agg.*), ash (*Fraxinus excelsior*), and dog rose (*Rosa canina*). Large-leaved lime (*Tilia platyphyllos*) was recorded within the southwest corner of the Site. There are also a small number of young silver birch (*Betula pendula*) and Italian alder saplings recolonising the Site. Beech (*Fagus sylvatica*) was also recorded as managed *Hedgerow (WL1)* habitat along the east boundary of the Site, which combines with areas of scrub habitat within the main area of the Site.

Amenity Grassland (improved) (GA2) habitat was observed along the pathways of Belgard Square East, Old Blessington Road and Belgard Road bounding the Site of the Proposed Development. This habitat is highly managed with low species richness noted, as only daisy (*Bellis perennis*), dandelion, and buttercup (*Ranunculus sp.*) was observed. Street planting of early mature to semi-mature Norway maple and large-leaved lime, and sycamore was also recorded along these public roads which creates a mosaic of *Scattered Trees and Parkland (WD5)* habitat with this grassland.

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 (O02), 2km grid square (O02Y) and 1km grid square (O0827). Species records from the NBDC online database show these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contained no species protected under the Flora Protection Order within the 10km (O02) grid square, however three Near Threatened, one Endangered, and one Regionally Extinct species was recorded within this 10km grid square, all of which can be seen in Table 3. The one Endangered species was also recorded within the 2km (O02Y) grid square, with none of these species recorded within the 1km (O0827) grid square.

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 in this database exist within the immediate vicinity of the Proposed Development.

TABLE 3. RECORDS OF RARE OR PROTECTED FLORA FOR THE SURROUNDING 10KM (O02) AND 2KM (O02Y) GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC

Name	Grid Square	Date of last record	Database	Designation
Green-flowered Helleborine (*Epipactis phyllanthes*)	O02 O02Y	16/08/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Endangered
Upright Brome (*Bromopsis erecta*)	O02	23/08/2010	Species Data from the National Vegetation Database	Threatened Species: Near threatened
Yellow Bartsia (*Parentucellia viscosa*)	O02	07/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Round-fruited Flapwort (*Jungermannia sphaerocarpa*)	O02	22/06/2007	Bryophytes of Ireland	Threatened Species: Near threatened
Swedish Pouchwort (*Calypogeia suecica*)	O02	03/08/2015	Bryophytes of Ireland	Threatened Species: Regionally Extinct

4.4.1.2 Invasive Species

4.4.1.2.1 Desk Study Results

There are records for 16 species of flora considered to be invasive within the grid 10km grid square which encompass the Site of the Proposed Development, six of which were also recorded in the 2km gird square, and four are also recorded in the 1km grid square. Details of these records are listed in Table 4.

TABLE 4. RECORDS OF INVASIVE SPECIES OF FLOWERING PLANT FOR THE SURROUNDING 10KM (O02), 2KM (002Y) AND 1KM (00827) GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Grid square	Date of last record	Source	Designations
Douglas Fir (*Pseudotsuga menziesii*)	O02	16/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
American Skunk-cabbage (*Lysichiton americanus*)	O02 O02Y O0827	24/04/2025	National Invasive Species Database	Medium Impact Invasive Species EU Regulation No. 1143/2014 Regulation S.I. 477 (Ireland)
Black Currant (*Ribes nigrum*)	O02	19/04/2005	Species Data from the National Vegetation Database	Medium Impact Invasive Species
Butterfly-bush (*Buddleja davidii*)	O02 O02Y O0827	29/08/2025	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Cherry Laurel (*Prunus laurocerasus*)	O02	04/05/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species
Fringed Water-lily *(Nymphoides peltata)*	O02	15/06/2016	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Giant Hogweed (*Heracleum mantegazzianum*)	O02	22/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Giant Knotweed (*Reynoutria sachalinensis*)	O02 O02Y	06/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Himalayan Balsam (*Impatiens glandulifera*)	O02	31/12/2017	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Japanese Knotweed (*Reynoutria japonica*)	O02 O02Y O0827	13/07/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species Regulation S.I. 477 (Ireland)
New Zealand Pigmyweed (*Crassula helmsii*)	O02	02/07/2021	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Rhododendron (*Rhododendron ponticum*)	O02	25/01/2025	National Invasive Species Database	High Impact Invasive Species Regulation S.I. 477 (Ireland)
Sycamore (*Acer pseudoplatanus*)	O02 O02Y O0827	23/04/2023	Vascular plants: Online Atlas of	Medium Impact Invasive Species

			Vascular Plants 2012 Onwards	
Three-cornered Garlic (*Allium triquetrum*)	O02 O02Y	30/04/2025	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species Regulation S.I. 477 (Ireland)
Turkey Oak (*Quercus cerris*)	O02	11/04/2005	Species Data from the National Vegetation Database	Medium Impact Invasive Species
Wild Parsnip (*Pastinaca sativa*)	O02	11/07/2015	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species

4.4.1.2.2 Field Survey Results

As outlined in section 4.3 above, two Medium Impact Invasive Species were recorded at the Site of the Proposed Development, namely butterfly bush and sycamore, with butterfly bush recorded as small to medium stands and sycamore recorded as saplings to immature trees to street planting across the Site of the Proposed Development.

4.4.2 Bats

4.4.2.1 Desk Study Results

A total of six bat species have been recorded within the 10km (O02) grid square which encompasses the Site (Table 5).

TABLE 5. RECORDS OF BATS FOR THE SURROUNDING 10KM GRID SQUARE (O02) ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Database	Designation
Brown Long-eared Bat (*Plecotus auritus*)	05/07/2012	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto)*	14/05/2018	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Daubenton's Bat *(Myotis daubentonii)*	27/08/2021	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Lesser Noctule *(Nyctalus leisleri)*	14/05/2018	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Natterer's Bat *(Myotis nattereri)*	14/05/2018	National Bat Database of Ireland	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Soprano Pipistrelle *(Pipistrellus pygmaeus)*	14/05/2018	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 (24.67) 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, Medium-High for three species of bats, Low-Medium for two species, and Low for two species.

TABLE 6. LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES WITHIN THE 2KM GRID SQUARE (SOURCE: NBDC). THOSE SPECIES THAT HAVE BEEN RECORDED IN THE NBDC DATABASE WITHIN THE O02 10KM GRID SQUARE ARE HIGHLIGHTED IN GREEN.

Bat Species	Suitability Index (2km Grid Square)
Soprano pipistrelle *(Pipistrellus pygmaeus)*	33 (Medium-High)
Brown longed-eared bat *(Plecotus auritus)*	36 (Medium-High)
Common pipistrelle *(Pipistrellus pipistrellus)*	40 (High)
Lesser horseshoe bat *(Rhinolophus hipposideros)*	0 (Low)
Lesser noctule *(Nyctalus leisleri)*	40 (High)
Whiskered bat *(Myotis mystacinus)*	18 (Low-Medium)
Daubenton's bat *(Myotis daubentonii)*	15 (Low-Medium)
Nathusius' pipistrelle (*Pipistrellus nathusii*)	11 (Low)
Natterer's bat *(Myotis nattereri)*	29 (Medium-High)

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 ground-based preliminary bat roost assessment did not find any suitable PRFs within the Site. There are no buildings on Site which could offer potential roost habitat and the young trees on Site were not considered suitable to support roosting bats due to their maturity and lack of cracks or crevices on the trees comprising the scrub habitat on Site, and as such were deemed as NONE.

The scrub habitat on Site was considered to offer Low commuting and foraging habitat, due to the lack of mature linear vegetation or watercourses present on Site, and the relatively isolated nature of the Site of the Proposed Development (Collins, 2023). In addition, as the Site is located in an urban landscape with public street lighting along the boundaries of the Site of the Proposed Development.

4.4.2.2.2 Bat Activity Survey

In total, two species were recorded at the Site of the Proposed Development during the bat activity survey, namely common pipistrelle (*Pipistrellus pipistrellus*) and lesser noctule (*Nyctalus leisleri*). There were five separate records of lesser noctule documented during the September 2024 survey, however, four of these recordings were captured in the same location at 19:55 as a single bat commuted over the Site. There were two records for common pipistrelle also commuting through the Site, with no feeding buzzes recorded for either species, which suggests these individuals were commuting through the Site, rather than foraging.

The bat activity results can be seen in Table 7 below, with the locations of these records shown in Figure 7.

TABLE 7. SUMMARY OF BAT ACTIVITY RECORDED ON THE BAT DETECTOR - 16TH OF SEPTEMBER 2024 (NON BAT "NOISE" RECORDS REMOVED).

Species	Common name	Number of Recordings	Number of Calls
16th September 2024			
Pipistrellus pipistrellus	Common Pipistrelle	2	46
Nyctalus leisleri	Lesser Noctule	5	38

4.4.2.3 *Evaluation*

Due to lack of suitable habitats and roosting features at the Site, as well as low level of activity recorded during the scoping dusk survey, the bat population within the Site is considered to be very limited. However, due to historical records within the vicinity of the Site for several species, and a limited bat activity survey effort, a precautionary approach is applied. As such it is considered likely that the scrub habitat on Site may provide foraging and commuting habitat in this urban landscape and therefore support regularly occurring populations of the more common Irish bat species.

FIGURE 7. BAT ACTIVITY MAP (16/09/2024).

4.4.3 Birds

4.4.3.1 Desk study Results

A total of 105 bird species have been recorded within the O02 10 km grid square. Of these, 33 are amber listed birds and 15 are red 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 8. The remaining species are either green listed or without designation due to being rare visitors to Ireland.

TABLE 8. DETAILS OF AMBER AND RED LISTED BIRD SPECIES WITHIN THE 10KM GRID SQUARE (O02).

Species	Date of record	BoCCI Status
Barn Owl (*Tyto alba*)	19/04/2023	Red
Curlew (*Numenius arquata*)	28/02/2024	Red
Goldeneye (*Bucephala clangula*)	17/12/2021	Red
Grey Wagtail (*Motacilla cinerea*)	12/04/2023	Red
Kestrel (*Falco tinnunculus*)	17/03/2024	Red
Lapwing (*Vanellus vanellus*)	21/05/2019	Red
Meadow Pipit (*Anthus pratensis*)	28/02/2024	Red
Red Grouse (*Lagopus lagopus*)	31/12/2011	Red
Red Kite (*Milvus milvus*)	22/06/2021	Red
Redwing (*Turdus iliacus*)	04/03/2023	Red
Snipe (*Gallinago gallinago*)	28/02/2024	Red
Stock Dove (*Columba oenas*)	08/05/2019	Red
Swift (*Apus apus*)	04/05/2025	Red
Woodcock (*Scolopax rusticola*)	31/12/2011	Red
Yellowhammer (*Emberiza citrinella*)	10/06/2021	Red
Black-headed Gull (*Chroicocephalus ridibundus*)	06/11/2022	Amber
Brambling (*Fringilla montifringilla*)	23/11/2020	Amber
Common Gull (*Larus canus*)	06/11/2022	Amber
Common Sandpiper (*Actitis hypoleucos*)	31/12/2011	Amber
Coot (*Fulica atra*)	06/05/2025	Amber
Cormorant (*Phalacrocorax carbo*)	06/05/2025	Amber
Goldcrest (*Regulus regulus*)	28/12/2024	Amber

Great Crested Grebe (*Podiceps cristatus*)	31/12/2011	Amber
Greenfinch (*Chloris chloris*)	10/04/2023	Amber
Greylag Goose (*Anser anser*)	31/12/2011	Amber
Hen Harrier (*Circus cyaneus*)	22/03/2019	Amber
Herring Gull (*Larus argentatus*)	26/12/2020	Amber
House Martin (*Delichon urbicum*)	09/05/2020	Amber
House Sparrow (*Passer domesticus*)	17/05/2025	Amber
Kingfisher (*Alcedo atthis*)	14/08/2024	Amber
Lesser Black-backed Gull (*Larus fuscus*)	15/05/2025	Amber
Linnet (*Linaria cannabina*)	10/05/2025	Amber
Mallard (*Anas platyrhynchos*)	06/05/2023	Amber
Merlin (*Falco columbarius*)	31/12/2011	Amber
Mute Swan (*Cygnus olor*)	25/04/2023	Amber
Ringed Plover (*Charadrius hiaticula*)	04/06/2019	Amber
Ruff (*Calidris pugnax*)	16/08/2022	Amber
Sand Martin (*Riparia riparia*)	24/04/2023	Amber
Skylark (*Alauda arvensis*)	25/03/2023	Amber
Spotted Flycatcher (*Muscicapa striata*)	10/05/2025	Amber
Starling (*Sturnus vulgaris*)	10/05/2025	Amber
Swallow (*Hirundo rustica*)	20/04/2023	Amber
Teal (*Anas crecca*)	31/12/2011	Amber
Tree Sparrow (*Passer montanus*)	31/12/2011	Amber
Tufted Duck (*Aythya fuligula*)	28/12/2024	Amber
Wheatear (*Oenanthe oenanthe*)	09/05/2020	Amber
Whooper Swan (*Cygnus cygnus*)	31/12/2011	Amber
Willow Warbler (*Phylloscopus trochilus*)	10/05/2025	Amber

4.4.3.2 Field Survey Results

4.4.3.2.1 Bird Scoping Survey

During the Site walkover on the 16th of September 2024, nine species of birds were recorded (Table 9). Of these, only the house sparrow (*Passer domesticus*) and herring gull (*Larus argentatus*) are amber listed, with the remaining seven species being green listed (Gilbert et al. 2021).

TABLE 9. BIRD SPECIES RECORDED DURING WALKOVER SURVEY ON THE 16TH OF SEPTEMBER 2024.

Species	BoCCI Status	Observations
Blackbird (*Turdus merula*)	Green	Observed foraging within the scrub habitat on Site
Blue Tit (*Cyanistes caeruleus*)	Green	Observed commuting within the scrub habitat on Site
Feral Pigeon (*Columba livia f. domestica*)	Green	Recorded as flying over the Site
Robin (*Erithacus rubecula*)	Green	Observed foraging within the scrub habitat on Site
House Sparrow (*Passer domesticus*)	Amber	Recorded as flying over the Site
Herring Gull (*Larus argentatus*)	Amber	Recorded as flying over the Site
Magpie (*Pica pica*)	Green	Recorded as flying over the Site
Rook (*Corvus frugilegus*)	Green	Recorded as flying over the Site
Wren (*Troglodytes troglodytes*)	Green	Observed commuting within the scrub habitat on Site

4.4.3.3 Evaluation

Considering the variety of bird species recorded both in the historical records and during the various field surveys, as well as the scrub habitat on Site which offers potential breeding habitat for passerine species, it is considered that the Site contains 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 10 lists these species, their date of last record and summarises their protected status/designation. In total, 17 mammal species (11 native and 6 non-native or invasive) were recorded within the 10km grid square which encompasses the Proposed Development Site.

TABLE 10. RECORDS OF TERRESTRIAL MAMMALS (NATIVE AND NON-NATIVE) FOR THE SURROUNDING 10KM (O02) GRID SQUARE ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Source	Designation
NATIVE SPECIES			
Eurasian Badger (*Meles meles*)	14/05/2018	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Eurasian Pygmy Shrew (*Sorex minutus*)	25/04/2010	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended)
Eurasian Red Squirrel (*Sciurus vulgaris*)	19/02/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)

Species	Date of last record	Source	Designation
European Otter (*Lutra lutra*)	24/08/2014	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex II & IV
Irish Hare (*Lepus timidus subsp. hibernicus*)	22/01/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex V
Irish Stoat (*Mustela erminea subsp. hibernica*)	23/12/2023	Irish Stoats of Ireland	Wildlife Act 1976 (as amended)
Pine Marten (*Martes martes*)	07/03/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex V
Red Deer (*Cervus elaphus*)	09/11/2015	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended)
Red Fox (*Vulpes vulpes*)	19/10/2018	Mammals of Ireland 2016-2025	Not legally protected
West European Hedgehog (*Erinaceus europaeus*)	24/06/2023	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Wood Mouse (*Apodemus sylvaticus*)	05/03/2023	Mammals of Ireland 2016-2025	Not legally protected
NON-NATIVE AND INVASIVE SPECIES			
Brown Rat (*Rattus norvegicus*)	09/10/2015	Atlas of Mammals in Ireland 2010-2015	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland) – Offshore Islands Only
Eastern Grey Squirrel (*Sciurus carolinensis*)	07/09/2022	Mammals of Ireland 2016-2025	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland)
European Rabbit (*Oryctolagus cuniculus*)	28/02/2023	Mammals of Ireland 2016-2025	Medium Impact Invasive Species
Fallow Deer (*Dama dama*)	20/12/2016	Mammals of Ireland 2016-2025	High Impact Invasive Species Regulation S.I. 477/2011 (Ireland) - Specified provisions of Regulations 49 and 50
Greater White-toothed Shrew (*Crocidura russula*)	26/03/2020	Mammals of Ireland 2016-2025	Medium Impact Invasive Species
Sika Deer (*Cervus nippon*)	25/01/2025	National Invasive Species Database	High Impact Invasive Regulation S.I. 477/2011 (Ireland)

4.4.4.2 Field Survey Results

There was no evidence of large, protected mammals, such as badger (*Meles meles*), found within this urban Site. Similarly, there were no watercourses present on or within the immediate vicinity of the Site which could support

any aquatic/semi-aquatic species, including otter (*Lutra lutra*), and no woodland habitats present which could provide suitable habitat for other protected species such as red squirrel (*Sciurus vulgaris*).

Due to the limited scrub habitat on Site, and the lack of ecological corridors to suitable habitats, the only species likely to utilise the Site are either opportunistic small mammals or urbanised species, such as fox (*Vulpes vulpes*).

4.4.4.3 Evaluation

The Site could potentially support resident and regularly occurring and locally important populations of some of the smaller native mammals, such as hedgehog, stoat and pygmy shrew. These species are less likely to be recorded during walkover surveys due to their timid behaviours and small size, however, the scrub habitat on Site may provide potentially sufficient suitable habitats for these species.

4.4.5 Other Fauna

4.4.5.1 Amphibians

Both common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*) have been recorded in the 10km (O02) grid square encompassing the Site of the Proposed Development

No amphibians were observed on Site during the field surveys, and it is unlikely they would utilise the Site due to the lack of suitable breeding habitats such as watercourses, drainage ditches or pooling, in addition to the lack of ground cover as the recolonising flora on Site is currently relatively patchy.

The habitats observed on Site were not suitable for breeding smooth newt as it typically prefers more established watercourses, particularly small, vegetated, non-linear ponds of less than 200m^2 between 0.5m – 1.0m deep.

4.4.5.2 Reptiles

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

4.4.5.3 Fish

There are no waterbodies within the Site of the Proposed Development, and as such, there are no waterbodies present which could support notable fish species such as salmonids or lampreys, nor are there records of notable fish species within the 10km grid square.

4.4.6 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**
  - White-clawed Crayfish (*Austropotamobius pallipes*) – no waterbodies/suitable habitat present within the Site.
  - 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 1. Table 11 below summarises the evaluation rating assigned to each ecological feature and the rationale behind these evaluations is also provided.

TABLE 11. 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			
Buildings and Artificial Surfaces BL3	Local Importance (Lower Value)	Man-made habitat of low biodiversity value.	No
Recolonising Bare Ground (ED3)	Local Importance (Lower Value)	Low diversity ground flora of limited biodiversity value.	No
Scrub (WS1)	Local importance (Lower value)	Low diversity scrub of limited biodiversity value.	No
Amenity Grassland (Improved) (GA2) / WD5 - Scattered trees and parkland	Local importance (Lower value)	Low diversity managed habitat of limited biodiversity value, with the majority of this habitat to be retained and enhanced.	No
Hedgerow (WL1)	Local Importance (Lower Value)	Relatively short managed habitat of limited biodiversity value due to the lack of connectivity to the wider landscape.	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.	**Yes**
NATIVE FAUNA			
Bat Assemblage	Local Importance (Higher Value)	Site assessed as having no potential for roosting bats, and low suitability for commuting/foraging bats.	**Yes**
Bird Assemblage	Local Importance (Higher Value)	Variety of amber and green listed species recorded at the Site during scoping survey.	**Yes**

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
Badger	Local Importance (Lower Value)	These species were not recorded on Site and no suitable habitat for these species recorded on Site.	No
Pine Marten			
Irish Hare			
Red Squirrel			
Fox		Not legally protected in Ireland. No evidence of fox dens at the Site.	
Hedgehog	Local Importance (Higher Value)	Some commuting and foraging habitat suitability is present for these small native mammals at the Site.	**Yes**
Pygmy Shrew			
Irish Stoat			
Amphibians	Local Importance (Lower Value)	These species were not recorded on Site and no suitable habitat for these species recorded on Site.	No
Common Lizard	Local Importance (Higher Value)	Suitable habitats present on Site. Considered likely to occur regularly at the Site.	**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 12.

TABLE 12. 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: • Blue roofs, • Permeable paving, and • Green areas.	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: • Proposed tree and hedge planting. • Proposed herbaceous planting.	Proposed planting at the Site will offer resources to wildlife present in urban landscapes, including birds and pollinators.

5.2 Construction Phase

5.2.1 Impacts on Habitats and Flora

Butterfly bush should be removed from the Site to avoid further spread within and offsite. This species can grow into large stands and out-compete native species and can colonise urban landscapes. As such, spread off Site can be defined as a *short-term, negative, moderate* impact if unmitigated.

5.2.2 Impacts on Native Fauna

5.2.2.1 Bats

There is potential for loss of limited potential foraging habitat for local bats through the removal of the scrub habitat from the Site. In the absence of a full suite of activity surveys, this could have a *negative, permanent, slight* impact on local bats in the area.

Noise and lighting generated during the Construction Phase has the potential to cause *negative, short-term, slight* impacts in the form of disturbance to mammals at a local level, potentially including bats should they roost in the surrounding landscape.

In addition, there is potential for a *negative, short-term, moderate* impact on bats in the locality through the loss of foraging resources and construction related disturbance including construction related lighting at the Site.

5.2.2.2 Birds

Birds, particularly fledglings, present within the scrub or hedgerow habitat, which will continue to grow and colonise the Site until any works commence on Site, may be at risk of injury or death if clearance is carried out during the breeding season (1st March – 31st August, inclusive), which could have a *negative, short-term, significant* impact at a local level, in the absence of mitigation.

Local birds are likely to adapt to a certain degree of urban ambient noise due to the location of the Site, the Construction Phase of the Proposed Development will likely result in elevated noise levels associated with the demolition and construction works. As a result, there is a potential risk of noise disturbance to birds in the vicinity of the Site, representing a *short-term, negative, slight* impact in the absence of suitable mitigation.

5.2.2.3 Non-volant Mammals

The Proposed Development could have a potential *negative, permanent, slight* impact at a local level on mammals utilising the Site, such as hedgehog, in the absence of mitigation measures, through the habitat loss of ground flora and scrub 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, may be present on the Site during vegetation clearance or 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 Reptiles

The clearance of vegetation during the Construction Phase of the Proposed Development has the potential to cause *negative, permanent, moderate* impacts in the form of loss of potential shelter/commuting habitat to common lizard at a local level, in the absence of suitable mitigation measures.

There is also a potential risk of injury or death to any lizards which may be present on the Site during vegetation clearance or become entrapped in construction-related rubbish, which constitutes a *negative, short-term, moderate* impact at a local level.

5.3 Operational Phase

5.3.1 Impacts on Habitats and Flora

There is potential for the recolonisation and reestablishment of butterfly bush on Site during the Operational Phase of the Proposed Development in the absence of appropriate mitigation. This could have a *negative, short-term, moderate* impact on habitats at the Site of the Proposed Development.

As outlined in section 2.2.2 above, the landscape design includes pollinator-friendly tree, shrub, and ground flora planting as part of the Proposed Development. This has the potential to result in a *positive, permanent, slight* impact after a period of establishment.

5.3.2 Impacts on Native Fauna

5.3.2.1 Bats

Given the presence of lighting in the immediate surrounding environment (i.e. the adjacent residential and commercial units) and street lighting along the surrounding roads, the local bat population associated with more urban environments, such as pipistrelles and lesser noctule which were recorded at the Site, would be expected to be habituated to artificial light spill (Roche et al., 2014). However, the bat-friendly lighting measures in line with the Bat Conservation Trust guidelines on artificial lighting and bats (BCT, 2023) have been incorporated into the lighting design plan and are outlined below:

- 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 (3000 Kelvins will be used to reduce the blue light component of the LED spectrum) is proposed for the majority of the lighting on Site, however luminaires of 4000 Kelvins are proposed for pedestrian crossing areas for health and safety.

- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- 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.
- Light shields will be used to reduce light spill and direct it only to where it is needed.

As such, the potential impact to bats within the vicinity of the Proposed Development as a result of the increase in lighting on Site is considered to be *negative, permanent, slight* at a local level.

The proposed planting included as part of the landscaping to take place on Site will offer potential foraging and commuting habitat for local bats. As such, the likely impact is considered *positive, permanent, slight* at a local level.

5.3.2.2 Birds

No significant impacts on birds are anticipated during the Operational Phase, including collision risks, as outlined above in section 4.2.2.2.2. The proposed planting included as part of the landscaping to take place on Site will offer potential foraging and nesting habitat for local birds. As such, the likely impact is considered *positive, permanent, slight* at a local level.

5.3.2.3 Non-volant Mammals

The Proposed Development has the potential to impact small mammals via disturbance of commuting and foraging habitat along the planted areas of the Site via increased disturbance due to noise and lighting during operation of the Site. As such, in the absence of suitable mitigation measures, this risk represents a *negative, permanent, slight* impact on small mammals at a local scale.

5.3.2.4 Lizard

No significant impacts on lizards are anticipated during the Operational Phase. The proposed planting included as part of the landscaping to take place on Site will offer potential foraging, hibernating and breeding habitat for local reptiles and may act to offset the loss of suitable habitat from the Site. As such, the likely impact is considered *positive, permanent, slight* at a local level.

5.4 Do Nothing Impact

If the Proposed Development was not to go ahead, the habitats on Site would continue to evolve. The ground flora and small areas of scrub habitat would continue to grow and become denser as it colonises the Site and provide foraging, commuting, and nesting habitat for local wildlife. The invasive species on Site would also continue to spread across the Site, potentially outcompeting the native species on Site.

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.

- South Dublin County Development Plan 2022 – 2028.
- South Dublin County Biodiversity Action Plan 2020 – 2026.

No specific projects or plans within the South Dublin County 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, (see Appendix I for details). The South Dublin County Biodiversity Action Plan 2020 – 2026 is set out to protect and improve biodiversity in the South 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 existing developments identified within 300m of the Site and along the same impact pathways as the Proposed Development are identified below in Table 13 and the potential for possible in-combination effects with the Proposed Development are assessed.

TABLE 13. GRANTED AND PENDING DEVELOPMENT APPLICATIONS WITHIN 300M OF THE PROPOSED DEVELOPMENT. LOCATION AND DISTANCE GIVEN IS RELATIVE TO THE PROPOSED DEVELOPMENT.

Planning Reference	Planning Authority	Status	Location
ABP-303306-18	**An Bord Pleanála**	**Grant Permission with Conditions**	**210m N**
Development Description 438 no. apartments and 403 no. student bedspaces and amenity and staff facilities, crèche, 6 retail/commercial units, parking, public plaza and associated site works.			
ABP-316828/ ABP-317070-23	**An Bord Pleanála**	**Grant Permission with Conditions**	**Immediately north of the Site**
Development Description Tallaght/Clondalkin to City Centre BusConnect Core Bus Corridor Scheme.			
ABP-305763-19	**An Bord Pleanála**	**Grant Permission with Conditions**	**335m N**
Development Description The development will consist of the demolition of the existing industrial buildings on site (4,800 sq m) and the construction of 2 No. blocks comprising 328 No. apartments (93 No. 1 bed, 222 No. 2 bed and 13 No. 3 bed), ancillary residential support facilities and commercial floorspace measuring 31,147 sq m gross floor space above a single basement level measuring 5,861 sq m. Block A is a part-5 to part-7 No. storey building (13,710 sq m) over basement block comprising 149 No. apartments with office space (222 sq m). Block B is a part-6 to part-9 No. storey (17,437 sq m) over basement block comprising 179 No. apartments, 2 No. double-height Class 1/2 commercial/retail units (as set out in Schedule 2, Part 4, Article 10 of the Planning and Development Regulations 2001 (as amended)) (354 sq m), café/restaurant (313 sq m), creche (360 sq m), internal residents amenity area (644 sq m) at ground floor including reception (37.7 sq m), residents lounge (91.3 sq m), private dining area (52.6 sq m), co-working space (45.5 sq m), games room (47.3 sq m), gym (80 sq m) and communal lounge (220 sq m) at 6th floor level. The development also consists of the provision of a landscaped courtyard; public plaza at the corner of Airton and Belgard Road; pedestrian access from Airton Road to the Technological University campus; balconies; landscaped roof terrace at 6th floor level (7th Storey) of Block B (671 sq m); 184 No. car parking spaces at basement level including 14 No. club car spaces, 10 No. disabled parking spaces and 4 No. crèche parking spaces; 727 No. basement and surface bicycle parking spaces; 4 No. motorbike parking spaces; bin storage; boundary treatments; green roofs; hard and soft landscaping; plant; lighting; Vodafone cabin sub-station; ESB sub-stations, switch rooms and generators; and all other associated site works above and below ground.			
LRD24A/0004W	**South Dublin County Council**	**Grant Permission**	**335m N**
Development Description Mabelground Limited intend to apply for retention permission for development (Large-scale Residential Development (LRD)) comprising amendments to a permitted Strategic Housing Development (SHD) as granted under ABP Reg. Ref. ABP-305763-19 at this c. 1.19 Ha. site at the corner of Airton Road and Belgard Road, Tallaght, Dublin 24, D24 HD35. Retention permission is sought for the following modifications: The amalgamation of 2 No. retail/commercial units (178.5 sq m and 175.4 sq m) to create one larger unit, and the relocation of the ESB substation and switch room from the southern boundary into the retail/commercial floorspace (total retail/commercial unit floorspace is 310 sq m); shell and core provided to the permitted creche (fit-out subject to tenant requirements); modifications to the height of the scheme including a minor increase to the finished floor levels, minor adjustment to the parapet heights			

including a slight increase of one section of roof by 125mm in Block B, minor increase in the height of the roof level amenity space by 500mm, and increase in the height of a staircore by 2.3 metres at roof level; revised roof design layout including an amended PV panel layout, increased green roof provision from 2,490 sq m to 2,576 sq m (increase of 86 sq m), reduction in plant, and provision of railings to the roof terrace amenity space; removal of the second private terrace accessed from bedroom No. 3 of Unit No. AG.105; removal of en-suite bathrooms from Unit Nos. B1.302, B1.303, B1.307, B2.301, B2.302, B2.303, B2.307, B3.301, B3.302, B3.307, B4.301, B4.302, B4.307, B5.301, B5.302 and B5.307; removal of stairs leading from the surface level courtyard to the basement; modifications to the landscaping strategy for fire safety including the addition of ventilation for the basement and adjustments to the landscaping layout at surface level; elevational changes including amendments to the material finishes, and provision of additional fire escapes on the western elevation; minor internal design changes including the provision of a metering room in lieu of 9 sq m of creche floor area, reconfiguration of staircores, reconfiguration of the refuse store, bicycle parking and disabled parking at basement level, and the provision of an attenuation tank at basement level; and all associated development works above and below ground.			
LRD24A/0005W	**South Dublin County Council**	**Grant Permission**	**335m N**
Development Description Mabelground Limited intend to apply for permission for development (Large-scale Residential Development (LRD)) comprising amendments to a permitted Strategic Housing Development (SHD) as granted under ABP Reg. Ref. ABP-305763-19 at this c. 1.2 Ha. site at the corner of Airton Road and Belgard Road, Tallaght, Dublin 24, D24 HD35. The proposed amendments comprise revisions to the permitted site entrance from Airton Road to the north including the provision of a new island and dished kerbs.			
SHD3ABP-308398-20	**An Bord Pleanála**	**Grant Permission**	**450m NW**
Development Description Mabelground Limited intend to apply for permission for development (Large-scale Residential Development (LRD)) comprising amendments to a permitted Strategic Housing Development (SHD) as granted under ABP Reg. Ref. ABP-305763-19 at this c. 1.2 Ha. site at the corner of Airton Road and Belgard Road, Tallaght, Dublin 24, D24 HD35. The proposed amendments comprise revisions to the permitted site entrance from Airton Road to the north including the provision of a new island and dished kerbs.			
SD23A/0231	**South Dublin County Council**	**Grant Permission**	**135m S**
Development Description Located on a section of Belgard Square South. The development includes the closure of the slip road from Belgard Square South onto the N81. This development is proposed to accommodate the increase in the volume of buses in the area as a result of the changes proposed under BusConnects. The volume of buses is set to increase from 22 to 49 buses per hour. It forms part of Government efforts to improve public transport and address climate change nationally, supporting national strategies such as the National Development Plan 2021 - 2030 and the Climate Action Plan 2023. The layover facility will be comprised of bus parking for 10 buses and welfare facilities for drivers. The development consists of two separate parking areas with 7 bus bays in the south layover and 3 in the layby to the north of Belgard Square South. There will be one entrance point into the layover area located on the southern side of Belgard Square South. This layover area will have 2 egress points with a right turn ban in place. There will be a layby located on the northern side of Belgard Square South, across from the layover area. The layover area includes a bus driver welfare facility comprising of two toilet units. The proposed Development includes the closure of the hard shoulder on the northern side of the N81 to accommodate the realignment of the cycle track along the N81. The proposed development includes all the associated works to facilitate the bus layover and welfare facility. This includes drainage works, utility diversions, public lighting, fencing and landscaping. The overall area of the site is approximately 0.7 ha.			

The above-listed planning applications were 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, South Dublin County Council will evaluate 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.

6 Avoidance, Mitigation, Compensation and Enhancement Measures

6.1 Avoidance By Design

The SuDS measures which are embedded into the design of this project, serve to ensure a precautionary approach to the project design, and to comply with the South Dublin County Development Plan 2022 – 2028.

The sections that follow outline proposed mitigation measures which should be implemented to further ensure protection of key ecological receptors located within the ZOI of the Proposed Development.

6.2 Construction Phase

Table 14 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, Trinity Consultants Company, 2025) accompanying this application under separate cover.

Table 14. Summary of Best Practice Standards and Mitigation outlined in the Construction and Environmental Management Plan (AWN Consulting, Trinity Consultants Company, 2025). 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 SDCC 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 (i.e., settlement ponds), prevention and control of accidental spills and leaks, concrete handling.	No.
Water - Water Supply, Drainage & Utilities	Appropriate use of settlement ponds, 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 SDCC prior to works, with the potential compound location outlined in the CEMP (AWN Consulting, Trinity Consultants Company, 2025) accompanying this application. 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 EPA's 2021 Publication – '*Best Practice Guidelines for the Preparation of Resources & Waste Management Plans for Construction & Demolition Projects'*.	Yes – See section 6.2.2.3
Landscape and Visual Impact	Appointment of an Arborist to oversee works relating to trees, establishment on Tree Protection Zones in accordance with BS 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations*'; 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 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: Invasive Species Management

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.

With regards to the invasives species present on Site, namely butterfly bush, the following is extracted from TII (2020):

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 butterfly is recommended where it occurs within the survey area.

6.2.1.2 Mitigation 2: Biosecurity

It is also necessary to ensure that the potential spread of invasive alien species (IAS) into areas/sites where they are not present is prevented. Equally, this applies to the risk of contaminated material being brought onto the Site.

Unwashed construction equipment, plant and vehicles, and footwear can provide a vector for the spread of IAS within a site and from areas outside the site where infestation is present or where vector material potentially containing seed/root material is attached to plant. The following hygiene measures shall be undertaken:

- 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).

6.2.1.3 Mitigation 3: Tree Protection

Protective tree fencing in-compliance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' will be erected prior to any Construction works being undertaken to prevent damage to the retained trees at the Site. The fencing will be signed off by a qualified arborist prior to Construction to ensure it has been properly erected. No ground clearance, earthworks, stock-piling or machinery movement will be undertaken within these areas.

6.2.2 Protection of Fauna

6.2.2.1 Mitigation 4: Construction Phase Lighting

As outlined in section 2.3 above, works will only be carried out between the hours of 07:00 to 19:00 Mondays to Fridays inclusive and between 08:00 and 14:00 hours on Saturdays. As such, the requirement for Construction Phase lighting during the seasons where bats are active is unlikely.

However, where overnight lighting cannot be avoided due to health and safety concerns, the lighting within the Site during the Construction Phase will be designed and installed to minimise the impact on local wildlife as agreed with the Ecologist and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (BCT, 2023):

- 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 (3000 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., with 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 5: Timing of Vegetation Clearance

Vegetation removal is proposed to facilitate the development. This will include the removal of the scrub and recolonising vegetation on Site, which may continue to grow and colonise prior to works commencing on Site, which can form dense thickets and provide habitat for local wildlife, the beech hedgerows along the east of the Site, and seven of the 29 trees lining the streets to the north, west, and east of the Site.

To ensure compliance with the Wildlife Act 2000 as amended, the removal of areas of vegetation will not take place within the nesting bird season (March 1st to August 31st inclusive) to ensure that no significant impacts (i.e., nest/egg destruction, harm to juvenile birds) occur as a result of the Proposed Development. Where any removal of vegetation within this period is deemed unavoidable, a qualified Ecologist will be instructed to survey the vegetation prior to any removal taking place. Should nesting birds be found, then the area of habitat in question will be noted and suitably protected until the Ecologist confirms the young have fledged.

Table 15 provides guidance for when vegetation clearance is permissible. Information sources include The Herpetological Society of Ireland, the British Hedgehog Preservation Society's Hedgehogs and Development and The Wildlife (Amendment) Act, of 2000.

The preferred period for vegetation clearance is within the months of September and October. Vegetation will be removed in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog). Where this seasonal restriction cannot be observed, a check for active roosts and nests, will be carried out immediately prior to any Site clearance by an appropriately qualified ecologist and repeated as required to ensure compliance with legislative requirements.

TABLE 15. SEASONAL RESTRICTIONS ON VEGETATION REMOVAL. RED BOXES INDICATE PERIODS WHEN CLEARANCE/WORKS ARE NOT PERMISSIBLE.

Ecological Feature	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Breeding Birds	Vegetation clearance permissible		Nesting bird season No clearance of vegetation or permitted unless confirmed to be devoid of nesting birds by an ecologist.						Vegetation clearance permissible			
Hibernating mammals (namely Hedgehog)	Mammal hibernation season No clearance of vegetation unless confirmed to be devoid of hibernating mammals by an ecologist.			Vegetation clearance permissible							Mammal hibernation season No clearance of vegetation permitted unless confirmed to be devoid of hibernating mammals by an ecologist.	
Common Lizard	Lizard Hibernation Season No habitat clearance permissible			Active period Vegetation clearance permissible							Lizard Hibernation Season No habitat clearance permissible	

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, reptiles) 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 outside the most vulnerable breeding periods for hedgehogs wherever practicable (main hedgehog birthing months June and July) and will be supervised by the ECoW.

6.2.2.3 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.

There is the potential for the inadvertent import of invasive species to the Site. If established, there is a risk of further spread both within and out of the Site.

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 Proposed Development.

6.3.2 Protection of Fauna

6.3.2.1 Mitigation 8: Operational Phase Lighting

In accordance with the best practise bat-friendly lighting guidelines (BCT, 2023), the below measures will be incorporated as part of the Lighting Design of the Proposed Development:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (<2700K) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

6.4 Biodiversity Enhancement Measures

6.4.1 Enhancement 1: Reptile Hibernacula

It is recommended to include habitats for herpetofauna use by providing suitable refuge and hibernacula around the proposed planting on Site. It is recommended that 2-3 areas of hibernacula are provided around the proposed

planting areas, at the point which is furthest removed from traffic and likely human activity, and the location would provide a potential link to the adjoining habitats.

Hibernacula for amphibians and reptiles are 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. The top can be planted with for example grass and native wildflowers. See Figure 8 for examples of finished hibernacula.

FIGURE 8. EXAMPLES OF SUITABLE AMPHIBIAN AND REPTILE HIBERNACULA AND REFUGIA.

6.4.2 Enhancement 2: Swift Box Scheme

A Swift box scheme is proposed to be installed at the Site of the Proposed Development and should be implemented with the landscape plan so as to enhance the potential bird nesting habitat in the area during its Operational Phase.

It is recommended that swift boxes or bricks are incorporated into the Proposed Development where possible. The incorporation of swift boxes or bricks would 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.

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.

In addition, and as part of this scheme, it is proposed to include 6 No. Swift boxes on Blocks A and B. These nest bricks will be installed at least 5 metres above the ground, in safe areas where they will not be disturbed. In addition,

a timed calling device will also be installed to attract swifts to this newly created habitat. The location of bird boxes will be advised by a suitably qualified ecologist.

Guidelines for the bird box scheme should also follow guidelines published by Swift Conservation Ireland, and those published by Birdwatch Ireland entitle "Saving Swifts" (2009/2010).

6.4.3 Enhancement 3: Bat Box Scheme

It is proposed to place a total of 2 No. bat boxes on poles along suitable vegetation within the Site. As such, a suitably qualified ecologist will be required to select and oversee the placement of these bat boxes in suitable locations, paying consideration factors such as aspect and height.

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.

6.4.4 Enhancement 4: Pollinator Habitat

Pollinator/insect habitat, as seen in Figure 9, 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 9. 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.

7 MONITORING

Table 16 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 outlined below will be included in a Biodiversity Management Plan (BMP) 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, this document should detail the landscape management operations for the Proposed Development, including cutting/trimming regimes and maintenance of bird and bat boxes (if applicable). The BMP will be prepared and agreed in consultation with a suitably qualified ecologist and South Dublin County Council.

TABLE 16. 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: Invasive Species Management	Ongoing monitoring by ECoW and licensed specialist.
Mitigation 2: Biosecurity	Ongoing monitoring by contractor.
Mitigation 3: Tree Protection	Ongoing monitoring by contractor and ECoW.
Mitigation 4: Construction Phase Lighting	Ongoing monitoring by contractor.
Mitigation 5: Vegetation Clearance	Any Site vegetation clearance within the scrub habitat subject to supervision by an Ecologist and a phased approach.
Mitigation 6: Waste Management	Ongoing monitoring by contractor.
OPERATIONAL PHASE	
Mitigation 7: Operational Phase 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.
Mitigation 8: Operational Phase Lighting	Monitor by contractor.
ENHANCEMENT	
Enhancement 1: Amphibian and Reptile Hibernacula	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.

Measure	Monitoring
Enhancement 2: Swift Brick Scheme	The location and placement of these structures should be carried out under the advisement and supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 3: Bat Box Scheme	The location and placement of these structures should be carried out under the advisement and supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 4: Pollinator Habitat	The location and placement of these structures should be carried out under the advisement and supervision of an Ecologist to ensure they are fit for purpose.

8 RESIDUAL IMPACTS

Residual impacts are impacts that remain once mitigation has been implemented or impacts that cannot be mitigated. Table 17 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 17. 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									
Invasive Species	Negligible	**Construction Phase:** Spread of invasive species. **Operational Phase:** Spread of invasive species.	*Negative* *Negative*	*Local* *Local*	*Short-term* *Short-term*	*Moderate* *Moderate*	**Mitigation 1:** Invasive Species Management **Mitigation 2:** Biosecurity **Mitigation 7:** Invasive Species Management	None	**Imperceptible**
FAUNA									
Bat Assemblage	Local Importance (Higher Value)	**Construction Phase:** Loss of habitat. Increase in noise and lighting to surrounding roost habitat during construction works. Increase in lighting to foraging habitat during construction works. **Operational Phase:** Increase lighting.	*Negative* *Negative* *Negative* *Negative*	*Local* *Local* *Local* *Local*	*Permanent* *Short-term* *Short-term* *Permanent*	*Slight* *Slight* *Moderate* *Slight*	**Mitigation 4:** Construction Phase Lighting **Mitigation 8:** Operational Phase Lighting	**Enhancement 3:** Bat Box Scheme Landscape Design Plan	**Imperceptible**

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
		Habitat creation.	*Positive*	*Local*	*Permanent*	*Slight*			
Bird Assemblage	Local Importance (Higher Value)	**<u>Construction Phase:</u>** Disturbance from noise, dust and/or lighting. Risk of injury or death during vegetation clearance **<u>Operational Phase:</u>** Habitat creation.	*Negative* *Negative* *Positive*	*Local* *Local* *Local*	*Short-term* *Short-term* *Permanent*	*Slight* *Significant* *Slight*	**Mitigation 5:** Vegetation Clearance	**Enhancement 2:** Swift Brick Scheme **Enhancement 4:** Pollinator Habitat	**Positive, Local, Permanent, Slight**
Small Mammals (Irish Stoat, Irish Hare, Hedgehog, Pygmy Shrew)	Local Importance (Higher value)	**<u>Construction Phase:</u>** Habitat loss. Risk of injury or death during vegetation clearance and / or entrapment in construction-related rubbish. Disturbance from noise, dust and/or lighting. **<u>Operational Phase:</u>** Disturbance due to human activity.	*Negative* *Negative* *Negative* *Negative*	*Local* *Local* *Local* *Local*	*Permanent* *Short-term* *Short-term* *Permanent*	*Slight* *Moderate* *Slight* *Slight*	**Mitigation 5:** Vegetation Clearance **Mitigation 6:** Waste Management	None	**Negative, Local, Permanent, Slight**

Key Ecological Resource	Evaluation	Potential Impact	Impact Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
Common Lizard	Local Importance (Higher Value)	**Construction Phase:** Loss of habitat Risk of injury or death during vegetation clearance and / or entrapment in construction-related rubbish. **Operational Phase:** Habitat creation	*Negative* *Negative* *Positive*	*Local* *Local* *Local*	*Permanent* *Short-term* *Permanent*	*Moderate* *Moderate* *Slight*	**Mitigation 5:** Vegetation Clearance **Mitigation 6:** Waste Management	**Enhancement 1:** Amphibian and Reptile Hibernacula	**Negative, Local, Permanent, Not Significant**

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 CEMP 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 landscaping plan for the Proposed Development will increase the vegetation cover on Site and will further enhance the area to create ecological connectivity throughout and within the wider landscape via an ecological stepping stone.

10 REFERENCES

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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 through-out Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive 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 2023-2030

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

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

Objective	Outcome
1: Adopt a Whole-of-Government,	1A. Governance structures and reporting outputs have improved.

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

South Dublin County Development Plan 2022 – 2028

Chapter 3 of the South Dublin County Development Plan 2022 – 2028 (SDCDP) 2022-2028 outlines the policies and objectives for Natural, Cultural and Built Heritage, including a number of policies addressing the importance of protecting biodiversity and ecological corridors within Dublin City. The policies relevant to this Chapter are outlined below:

Policy NCBH2: "*Protect, conserve, and enhance the County's biodiversity and ecological connectivity having regard to national and EU legislation and Strategies.*"

NCBH2 Objective 1: "*To support the implementation of the National Biodiversity Action Plan (2017- 2021) and the All-Ireland Pollinator Plan (2021-2025) and to support the adoption and implementation of the South Dublin County Biodiversity Action Plan (2020-2026) and Pollinator Action Plan (2021-2025) and any superseding plans*."

NCBH2 Objective 2: "*To ensure the protection of designated sites in compliance with relevant EU Directives and applicable national legislation*."

NCBH2 Objective 3: "*To protect and conserve the natural heritage of the County, and to conserve and manage EU and nationally designated sites and non-designated locally important areas which act as 'stepping stones' for the purposes of green infrastructure and Article 10 of the Habitats Directive."*

NCBH2 Objective 4: "*To protect our rivers and in particular to avoid overdevelopment which could have an adverse effect on the biodiversity and ecosystems of the river*."

Policy NCBH4: Proposed Natural Heritage Areas: "*Protect the ecological, visual, recreational, environmental and amenity value of the County's proposed Natural Heritage Areas and associated habitats and species*."

NCBH4 Objective 1: "*To ensure that any proposal for development within or adjacent to a proposed Natural Heritage Area (pNHA) is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the pNHA particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats*."

NCBH4 Objective 2: "*To restrict development within or adjacent to a proposed Natural Heritage Area to development that is directly related to the area's amenity potential subject to the protection and enhancement of natural heritage and visual amenities including biodiversity and landscapes. Such developments will be required to submit an Ecological Impact Assessment prepared by a suitably qualified professional*."

NCBH4 SLO1: "*To promote opportunities to improve the habitat relating to the Lugmore Glen pNHA and to ensure that any proposals for development have full regard to the sensitivities of the area within the pNHA and along the Tallaght Stream*."

Policy NCBH5: Protection of Habitats and Species Outside of Designated Areas: "*Protect and promote the conservation of biodiversity outside of designated areas and ensure that species and habitats that are protected under the Wildlife Acts 1976 to 2018, the Birds Directive 1979 and the Habitats Directive 1992, the Flora (Protection) Order 2015, and wildlife corridors are adequately protected*."

NCBH5 Objective 1: "*To ensure that development does not have a significant adverse impact on biodiversity, including known rare and threatened species, and that biodiversity enhancement measures are included in all development proposals*."

NCBH5 Objective 2: "*To ensure that an Ecological Impact Assessment is undertaken for developments proposed in areas that support, or have the potential to support, protected species or features of biodiversity importance, and that appropriate avoidance and mitigation measures are incorporated into all development proposals*."

South Dublin County Biodiversity Action Plan 2020 – 2026

South Dublin County Biodiversity Action Plan 2020 – 2026 is set out to protect and improve biodiversity through specific actions:

- Collate ecological data and survey and map the County, to provide an evidence base for informed biodiversity decision-making and to form the basis for a Green Infrastructure network, key projects to include:
    - i. Map the distribution of the habitats and species in the County.
    - ii. Map and manage the spread of non-native invasive species.
    - iii. Survey and monitor biodiversity at identified pollinator sites.
    - iv. Survey and map wetlands in the County.
    - v. Map the tree canopy cover in the County and quantify its carbon capture.
    - vi. Map the County's hedgerow network and identify key Green Infrastructure links.

- Develop a Biodiversity Communications Strategy, to celebrate and promote the enjoyment and protection of nature in South Dublin County, promoting engagement with national initiatives and events such as Biodiversity Week, Tree Week, Heritage Week, Pure Mile etc,.

- Support rural and urban communities to undertake local biodiversity projects, training, and citizen science, encouraging appropriate initiatives that protect biodiversity while benefiting local economies.
- Quantify and promote the economic benefits (the natural capital) provided by the County's ecological landscapes (ecosystem services).
- Devise and implement good governance strategies to ensure the smooth integration of national and EU biodiversity legislation and policy requirements into all Council plans, projects, and services.
- Develop and implement best practice biodiversity protection guidelines and maintenance plans for the County's habitats and species, for use on Council lands and as guidance to assist local communities, developers, businesses, farming community, schools, etc.
- In the preparation process for the SDCC Development Plan, innovative approaches to promote strategic biodiversity policies and objectives will be developed.
- Coordinate with the Council's Climate Change Action Plan 2019-2024 to identify impacts on biodiversity arising from climate change, targeting and implementing necessary measures to assist biodiversity adapt to changing conditions.

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 A2.1. 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:

	○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. ○ Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. - County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; 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: ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or o ○ Species listed on the relevant Red Data list. ○ Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

APPENDIX III – EPA IMPACT ASSESSMENT CRITERIA

In line with the draft EPA Guidelines (EPA 2022), the following terms are defined when evaluating and quantifying the quality, significance, extent/context, probability and duration/frequency of effects.

TABLE A3.1. DEFINITION OF QUALITY, SIGNIFICANCE, EXTENT/CONTEXT, PROBABILITY AND DURATION/FREQUENCY OF EFFECTS.

Term	Definition
Quality of Effects	
Positive	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	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse	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).
Significance of Effects	
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. No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Extent and Context of Effects	
Extent	Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.

Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects	
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	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	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

APPENDIX IV – SITE PHOTOGRAPHS

Photograph 1. Recolonising bare ground (ED3) habitat recorded on Site, with butterfly bush present.

Photograph 2. Scrub WS1 and Buildings and artificial surfaces BL3 recorded within the south of the Site.

About DNV

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