AtkinsRéalis

Ecological Impact Assessment

Shankill Property Investments Limited

June 2025

0118265DG0005

SEA GARDENS PHASE 1 BLOCK A

Notice

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1. Introduction

AtkinsRéalis Ireland have been commissioned by Shankill Property Investments Limited to prepare an Ecological Impact Assessment (EcIA) Report for the Sea Gardens Phase1 Block A residential development (hereafter referred to as the "proposed development").

The proposed development is located on a site at the former Bray Golf Club Lands off the Dublin Road, Bray, Co. Dublin. The proposed development extents and redline boundary are highlighted on the map below as shown in Figure 1-1. The proposed development within the context of the wider Sea Gardens Masterplan lands is shown in Figure 1-2.

1.1 Development Description

The proposed development comprises of a residential development on a site at the former Bray Golf Club Lands off the Dublin Road, Bray, Co. Dublin. The development will complete Phase 1 of the wider Sea Gardens development – the first part of which (Shoreside Park as permitted under ABP-311181-21) is nearing completion and occupation.

The c. 1.38 hectare site is generally bounded to the north by existing public open space at Corke Abbey Valley Park, to the east by the Irish Rail Dublin-Wexford/Rosslare main rail line, to the south by undeveloped lands and to the west by Shoreside Park.

The proposed development will consist of the provision of 159 no. residential units over/around a shared 2-level podium comprising of: 9 no. 4-bedroom, 3 and 4-storey terraced houses with associated private gardens / terraces; and 150 no. apartments in 2 no. blocks ranging in height from 6 to 10-storeys (Block A1) and 7 to 11-storeys (Block A2) and consisting of a total of 48 no. 1-bedroom units, 58 no. 2-bedroom units, 44 no. 3-bedroom units, all with private balconies or terraces. The blocks will also include communal lounge areas; a communal gym in Block A1; refuse storage areas; and associated plant. The shared 2-level podium will include car, motorcycle and bicycle parking, with additional car parking provided within the curtilage of 5 no. of the proposed townhouses. The proposed development will also include: public open space including play areas; communal open space within the central podium courtyard; pedestrian / cycle linkages with adjoining existing and permitted developments; associated connections to the surrounding road network; all associated landscaping and public lighting; an ESB substation; drainage arrangements; utility connections; and all site development works.

The proposed design for Block A is shown in Figures 1-3 - 1-5.

Figure 1-1 – Site Location.

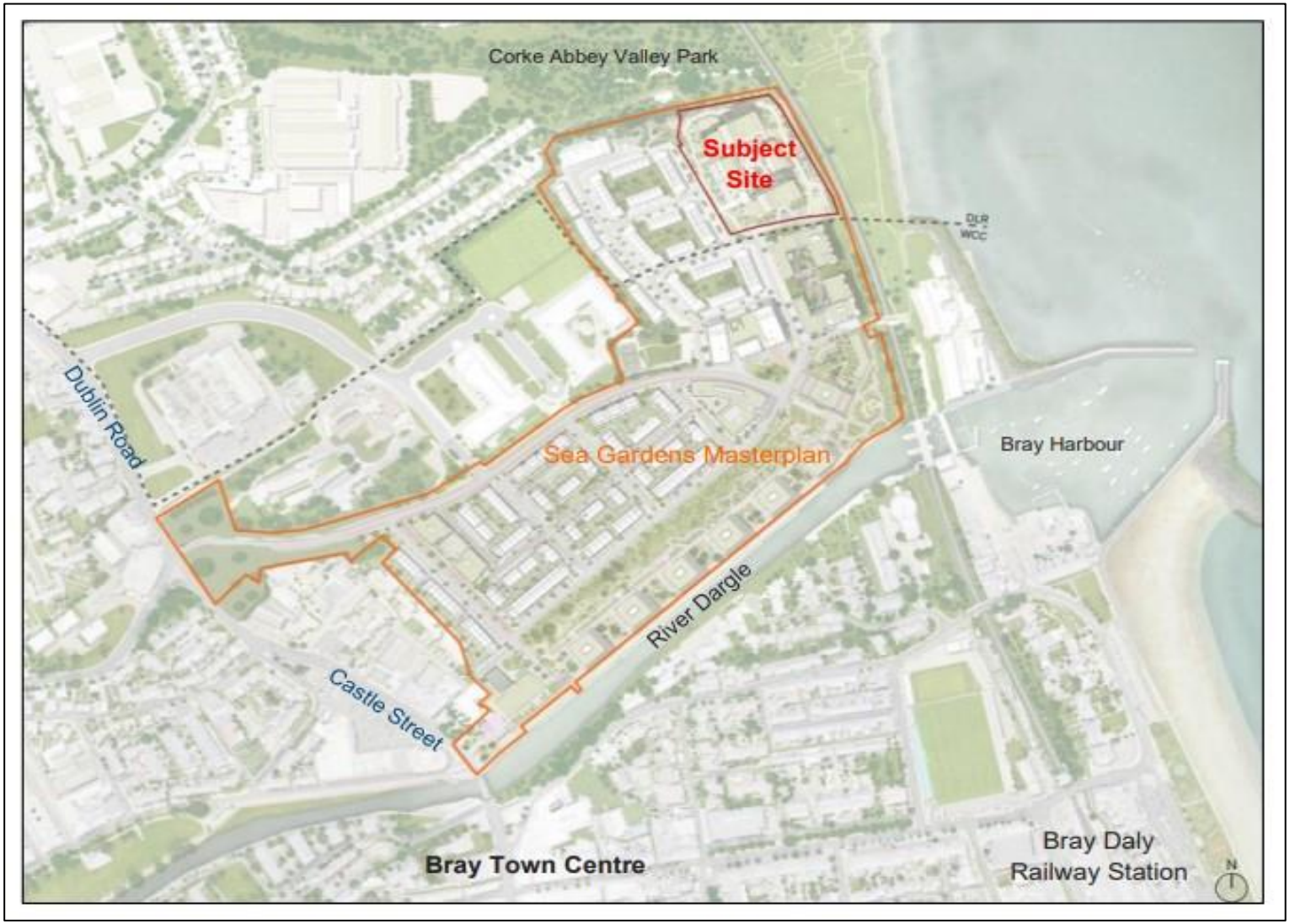

Figure 1-2 - Proposed development within Sea Gardens Masterplan context

Figure 1-3 - Proposed Site Layout

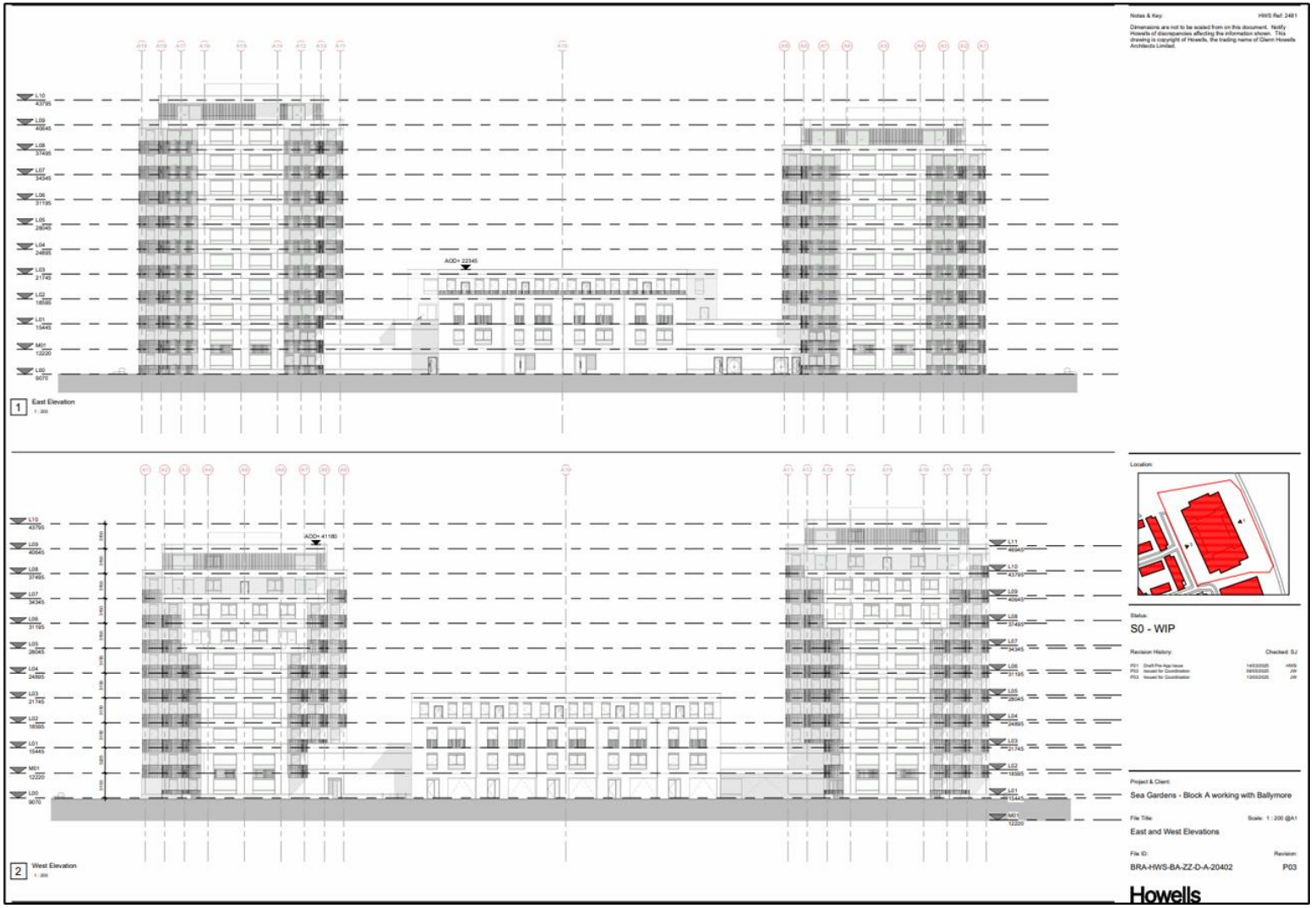

Figure 1-4 - Block A Elevation (West)

1.2 Surface Water Drainage

Surface water drainage infrastructure for the proposed development site has already been constructed as part of the adjoining Sea Gardens Phase 1 residential development as permitted under ABP–311181-21. The system employs SuDS techniques including:

- Swales within Open Space / Park areas adjacent to roads
- Permeable paving in light traffic areas (parking bays)
- Green roofs to suitable apartment blocks
- Green courtyards to suitable apartment blocks
- Green corridors / park areas
- Sealed underground concrete attenuation tank
- Filter drains in rear gardens
- Tree pits

1.3 Foul Water Drainage

The foul drainage network for Block A will be designed in compliance with UÉ Code of Practice for Wastewater Infrastructure UÉ-CDS-5030-03, Standard Details UÉ-CDS-5030-01. The main foul drainage within the site road network for the Sea Gardens Masterplan site has been constructed as permitted under ABP–311181-21.

Foul water from the proposed development will connect to the local foul water network with final treatment to be at Shanganagh Waste Water Treatment Plant (WwTP). The Shanganagh WwTP has recently been subject to an upgrade and as such has the capacity to accept the additional foul water the proposed housing development would generate. Uisce Éireann has confirmed that the plant has capacity to adequality process the additional input from the operational demand presented by the proposed development.

1.4 Construction Methodology

The following text outlines the program of works for the construction of the Sea Gardens Phase 1 Block A Large Residential Development (LRD), including the scheduling of activities to be carried out during the construction period. The program shall be designed to ensure efficient project execution while minimizing disruptions to traffic and nearby stakeholders.

Throughout the construction of the proposed development all works will comply with the relevant legislation, construction industry guidelines and best practice to avoid and minimise adverse environmental effects.

A Construction Environmental and Management Plan (CEMP) will be prepared by the Contractor and agreed with Dún Laoghaire-Rathdown County Council before commencement of the development.

Construction working hours will be the standard working hours as follows:

- 8:00am to 6:00pm Monday to Friday;

- 9:00am to 1:00pm on Saturdays; and,
- No work on Sundays and Public Holidays.

Plant/machinery expected to be used during construction include heavy excavators, piling rigs, smaller excavators, dumpers, mobile cranes, and tower crane.

Materials expected to be used during construction include piling mat, Continuous flight auger (CFA) piled foundations with in-situ reinforced concrete structural frame up to and including podium transfer slab, drainage and services, Precast reinforced concrete superstructure, brick external leaf, with Steel Framing System (SFS) metal or concrete wall infill for internal leaf, Scaffolding and Internal party walls will be Reinforced Concrete (RC), other walls SFS metal drylined.

The Construction period for the proposed development is anticipated to be 22 months and can be briefly summarised as follows.

- Enabling works including piling mat installation, all completed using heavy excavators.
- Substructure works include CFA piled foundations with in-situ reinforced concrete structural frame up to and including podium transfer slab. All constructed using piling rig, smaller excavators, dumpers and mobile cranes.
- Civil works including drainage and services installed in parallel with substructure.
- Precast reinforced concrete superstructure frame up to roof level constructed primarily using tower crane.
- Facade build up comprising of brick external leaf, with SFS metal or concrete wall infill for internal leaf. Scaffolding around perimeter to build.
- Internal party walls will be RC, other walls SFS metal drylined.
- External landscaping completed last with small excavators and dumpers.

The phasing timeline for the project is as follows;

- Enabling works: Months 1-3
- Substructure: Months 4-6
- Superstructure: Months 7-9
- Envelope/Facade: Months 10-15
- Landscaping: Months 16-19
- Interior Fitout: Months 13-18
- Commissioning: Months 19-21
- Handover PC: Month 22.

The proposed location of the site compound is to the west of the site and can be seen in red below in Figure 1-5.

Figure 1-5 - Site Compound Location

2. Methodology

The ecological assessment of the proposed development followed methodologies and guidelines including, but not limited to the following:

- National Roads Authority (2009). Guidelines for Assessment of Ecological Impacts of National Roads Schemes;
- Environmental Protection Agency (EPA) (2022). Guidelines on the Information to be contained in Environmental Impact Assessment Reports. (May 2022);
- CIEEM (2018, as amended - Version 1.3 updated 2024). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine;
- CIEEM (2021). Good Practice Guidance for Habitats and Species. Version 3.0;
- National Roads Authority. Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes;
- A Guide to Habitats in Ireland. The Heritage Council. The Heritage Council (Fossitt, 2000);
- Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council, Church Lane, Kilkenny, Ireland (Smith, G., O'Donoghue, P., O'Hora, K. & Delaney, E. (2011);
- Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin. Unpublished Report;
- EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Local Government and Heritage 2018);
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009);
- Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018; 2024 reissue);
- Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017);
- A Guide to Habitats in Ireland. The Heritage Council (Fossitt, 2000);
- Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council (Smith et al., 2011);
- Habitats Directive (92/43/EEC);
- Birds Directive (2009/147/EC);

- European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended);
- Flora (Protection) Order, (2022);
- Environmental Impact Assessment (EIA) Directive (2011/92/EU, as amended by 2014/52/EU);
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018);
- The Wildlife Act, 1976 (as amended);
- The Planning and Development Act, 2000 (as amended);
- Fourth National Biodiversity Action Plan (2023–2030) (NPWS, 2024);
- All-Ireland Pollinator Plan (2021–2025). National Biodiversity Data Centre.
- Dún Laoghaire Rathdown County Development Plan 2022-2028

2.1 Desk Study

A desk study was carried out to collate available existing information on habitats and species of ecological value within and surrounding the proposed development. Ecology reports, sourced from National Parks and Wildlife Service and Dún Laoghaire Rathdown Council, were also reviewed as part of the desktop exercise. The ecological information was collated with the aim of providing a comprehensive evaluation of baseline ecological conditions found within the development site and was used to undertake an evaluation of the likely impacts the proposed development will have on biodiversity.

Sites designated for nature conservation considered included both internationally (European sites, Ramsar sites) and nationally designated conservation areas (Natural Heritage Areas, proposed Natural Heritage Areas, Nature Reserves).

The Natura 2000 network (European sites) is comprised of both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) for birds; these sites are designated for the protection of biodiversity across the European Union. SACs are designated under the EU Habitats Directive (92/43/EEC), as transcribed into Irish law by the European Communities (Birds and Natural Habitats) Regulations, 2011, while SPAs are designated under the EU Birds Directive (79/4089/EEC; and as amended 2009/147/EC). SACs are sites of international importance due to the presence of Annex I habitats and/or Annex II species listed under the EU Habitats Directive (92/43/EEC). SPAs are designated for the protection of bird species listed on Annex I of the Bird Directive (2009/147/EC), regularly occurring populations of migratory species and areas of international importance for migratory birds. Ramsar sites are wetland sites designated to be of international importance under the Ramsar Convention an intergovernmental environmental treaty established by UNESCO. A Natural Heritage Area (NHA) is the basic designation for wildlife under the Wildlife Amendment Act (2000). NHA sites are selected by having special scientific significance for one or more species, communities, habitats, landforms or geological features, or for a variety of natural attributes. A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order and sites are established under Section 15 of the Wildlife Act 1976.

The inland surface waters (e.g., rivers, streams and lakes) within close proximity to the proposed development, or which receive drainage from the proposed development, were reviewed. Where information was available waterbodies were assessed in relation to their fisheries value, biological status, water quality and designation

status. Relevant waterbodies within the study area were identified through the EPA online Map Viewer facility[1]. Available records of protected aquatic species, designation status and water quality for these water features were reviewed.

The desk-based study also reviewed available information on any known or potentially important sites for rare or protected flora or fauna known to occur along or within the zone(s) of influence of the proposed development. Available information on any other sites of ecological value, that are not nationally or internationally designated, found within or in close proximity to the proposed development were also reviewed.

The locations of conservation sites, protected species occurrences and areas of ecological interest were reviewed using Google maps / Google StreetView[2] and Bing maps[3]. Sources of data used to collate and compile information of ecological features of interest and importance for the study include:

- National Parks and Wildlife Service (NPWS)
  - Information on sites designated for nature conservation, including spatial data.
  - Habitats and species data
  - Wildfowl Sanctuaries
- National Biodiversity Data Centre (NBDC)
  - Protected species records
  - Invasive species records
  - Forestry datasets
  - Heritage Trees
- Environmental Protection Agency
  - Watercourses and lake spatial files
  - Water quality data
  - Corine Land Cover data
- Geological Survey of Ireland
  - Underlying geology, soils and hydrogeology
- Tailte Éireann
  - Historic mapping
- Birdwatch Ireland
  - Bird count data from the Irish Wetland Bird Survey (IWeBS)
- Wetland Survey Ireland
  - Information on identified wetland habitats within the study area.
- OPW Wildlife Service Report (1990)
  - Wildlife Sanctuaries
- Irish Peatland Conservation Trust
- National Heritage Plan
- Ramsar sites information service.
- Teagasc
  - Ireland Peatland Maps.

[1] https://gis.epa.ie/EPAMaps/

[2] https://www.google.ie/maps

[3] http://www.bing.com/maps/

2.2 Zone of Influence of the Proposed Development

The zone of influence is the area over which ecological features may be subject to significant effects as a result of the proposed development and associated activities. This is likely to extend beyond the footprint of the development. The zone of influence can vary for different ecological features depending on their sensitivity to environmental change (CIEEM, 2018). Ecological resources or features of conservation value within the zone of influence of the proposed development may be subject to impacts as a result of their direct or indirect connectivity to the proposed development. Direct connectivity refers to ecological features found within or partly within the development study area. These features may be directly impacted by the proposed development, e.g., through habitat loss. Indirect connectivity refers to sites outside of the development study area but connected through features such as linear habitats (i.e., wildlife corridors) or surface water pathways. Indirect impacts may include deterioration of water quality or air quality, increase in noise or the severing of linear corridors used by wildlife to move between sites.

For the purposes of this assessment, direct impacts such as loss of habitat and direct mortalities of species were confined to ecological resources contained within proposed development boundary. For the consideration of indirect impacts, such as impacts to water quality or disturbance of species, the zone of influence was extended to 15km to incorporate the presence of European and nationally designated sites, as the zone of influence will vary for different ecological features depending on their sensitivity to environmental change (CIEEM, 2018). This 15km distance is derived from UK guidance (Scott Wilson *et al*., 2006) and is used a guide but development sites are considered on a case by case basis with consideration given to connectivity (e.g. hydrological links).

2.3 Site Visits

Multiple ecological surveys were undertaken within the Masterplan lands, including the development site, by AtkinsRéalis ecologists Colin Wilson, Daniel Blake and Kevin Coogan from 2020 to 2025 details of which presented below. Surveys were also undertaken by Dr Tina Aughney (2020 Bat Surveys) and John Morgan of Independent Tree Surveys (Tree Surveys 2020 & 2024).

Previous Surveys

Initial ecological surveys were undertaken by Colin Wilson on 27th February, 16th July and 14th August 2020 and 21st July 2022. Surveys were undertaken within the Masterplan site and also across the wider landscape including all the Masterplan lands, Rathmichael Woods to the north of the Site and scrublands to the east of the railway line / east of the Site. During the course of both the winter and summer walkover surveys the development site was evaluated for the presence of and suitability for birds, mammals, amphibians and insect groups such as lepidoptera and hymenoptera. A Phase 1 habitat survey was undertaken during 16th July and 14th August 2020.

Dr Tina Aughney was commissioned by AtkinsRéalis to undertake bat surveys for the development site and Masterplan lands in line with published best practice. The Site was surveyed for evidence of bat activity during 12th and 15th July and 6th and 7th August 2020. Bat surveys assessed the site for evidence of roosting, feeding and commuting bats and included Tree Potential Bat Roost (PBR) Surveys, Static Detector Surveys, Dusk and Dawn Bat Surveys, Walking Transects and Building Inspections (old clubhouse buildings now demolished).

2023 - 2024 Surveys

The Masterplan lands including the development site was subject to re-surveying in 2023 and 2024 by AtkinsRéalis ecologists. The site and surrounding lands were resurveyed for evidence of terrestrial mammal activity and mammal refugia (badger setts, fox dens) during the 22nd February, 22nd April and 24th May 2024. The site was surveyed for evidence of badger, otter, fox, hedgehog, and squirrel activity as these species have been historically recorded within the environs of the site. Surveys paid particular attention to any evidence of protected

mammal species; badger as there is a known and recorded breeding/maternity sett located in lands to the west (c. 1km outside) of the proposed development site.

An otter survey was undertaken on the 25th October 2024. The survey consisted of inspecting both banks of the River Dargle (c. 840m per bank) beginning at the Swan Sanctuary at Harbour Road extending as far as Lower Dargle Road. The area surveyed for field signs of otter such as prints, slides, holts, couches and spraints.

The proposed development site and Masterplan lands were subject to surveying for the presence of wintering waterbirds on 22nd February 2023, 31st March 2023, 15th September 2023 and 22nd February 2024. A further waterbird survey was undertaken within the development site and along the River Dargle to ascertain if the Mute Swan (*Cygnus olor*) population associated with Bray Harbour utilise the greenfield areas of the development site or have regular passage over the Masterplan lands and development site. Morning and evening vantage point surveys were undertaken on the 22nd February 2024, 23rd February 2024, 29th February 2024 (midday survey), 7th March 2024 and 8th March 2024.

A Tree Survey was undertaken by Independent Tree Surveys during 2020 and again in 2024 for the proposed development. The significant individual trees inside the Site were assessed from ground level using Visual Tree Assessment (VTA) techniques and relevant observations and findings were recorded in compliance with the industry standard document BS5837: *Trees in relation to design, demolition and construction (2012)*.

2025 Surveys

The proposed development site was subject to a walkover survey on 17th February 2025 by AtkinsRéalis ecologist. Additional ecological surveys were undertaken on 29th April 2025 which included identifying primary habitats and plant species, a survey for terrestrial mammal activity and a bat emergence survey to determine if there are any bat roosts accommodated within the scattered trees found within the development site.

Site surveys evaluated the importance of the development site to flora and fauna in line with the approach set out in the *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018, 2024 reissue).

2.4 Statement of Authority

This report was prepared by Kevin Coogan, Daniel Blake and Colin Wilson. Kevin McCaffery provided peer review and support.

Kevin Coogan (AtkinsRéalis) has a BSc (Hons) in Zoology from University College Dublin. He has developed ecological surveying skills through country-wide small river sampling experience, as well as habitat evaluation experience in Spain and Ireland. He has volunteer experience in bird surveying on North Bull Island SPA and Ireland's Eye SPA. Kevin collated background information for this assessment. He conducts research and site surveys including habitat classification (Fossitt classification), bird surveys, and terrestrial mammal activity. He assists in bat surveying and has carried out numerous bat emergence/activity surveys. He also assists in the development of Appropriate Assessment Screening reports, biodiversity chapters in various types of environmental assessment report (environmental constraints reports, feasibility reports, project design reports). Kevin undertook site surveys and assisted in the preparation of this report.

Daniel Blake (AtkinsRéalis Dublin) has a degree in Wildlife Biology and has been working in the environmental consultancy sector for the past eight years. He has worked in both large scale government infrastructure projects as well as domestic projects across the UK and Ireland conducting both environmental and ecological roles. Primarily conducting protected species surveys such as bats, badgers, birds, reptiles, small mammals and amphibians as well as invasive species surveys. He has also earned a Natural England licence for the survey of

Great crested newt. He has been involved in habitat surveying and assisted in the writing of Appropriate Assessments, Preliminary ecological appraisals and protected species reports. Throughout his career he has acted as an ECoW for numerous sites to ensure environmental laws and practices are met. He has been involved in water and soil sampling surveys, levelling surveys and creation of hibernaculum. Daniel undertook field surveys and for the proposed development assisted with the collation of background information to inform this report.

Colin Wilson (AtkinsRéalis Dublin) has a BSc (Hons) in Environmental Science and is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He has over 16 years working in the fields of ecology and environmental management. He is a Senior Ecologist with experience in ecological surveying, environmental assessment, on-site ecological supervision and mitigation. He has experience on multiple infrastructure projects regarding all elements of surface and groundwater management, monitoring, sampling and associated reporting. Colin also has a broad range of experience in invasive species management, biosecurity and control. Colin has prepared AA screening reports, Natura Impact Statements and has also been involved in the development of Environmental Operating Plans and Construction Environmental Management Plans for a number of national infrastructure projects. Colin is the author of this report.

Kevin Mc Caffrey (AtkinsRéalis Galway) has a BSc (Hons) in Applied Freshwater and Marine Biology and a MSc in Environmental Sustainability. He is a Senior Ecologist with over 12 years' experience in freshwater and marine ecology, environmental surveying, impact assessment and as an Ecological clerk of Works. He has prepared and reviewed a wide range of technical reports including Environmental Impact Assessment, AA screening, Natura Impact Assessment and sanitary surveys. Kevin provided peer review and support for this assessment

2.5 Valuing Ecological Importance

Ecological features can be important for a variety of reasons. Importance may relate, for example, to the quality or extent of the site or habitats found within, or the rarity of the habitat and / or species, the extent to which such habitats and / or species are threatened throughout their range, or to their rate of decline.

The importance of an ecological feature was considered within a defined geographical context. The frame of reference used to determine ecological value relied on known and published accounts of the feature's ecological importance, rarity and distribution combined with professional judgement.

The following geographic frame of reference was used for evaluating the importance of ecological features within the study area:

- International importance
- National importance
- County importance
- Local importance (higher value)
- Local importance (lower value)

The geographical context for determining the value of ecological receptors followed recommendations as outlined in the *Guidelines for Assessment of Ecological Impacts of National Roads Scheme*, National Roads Authority (2009).

2.6 Determining Ecological Significant Effects

CIEEM (2018, 2024) define an ecologically significant impact as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area.

The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified (CIEEM, 2018, 2024). The significance of predicted effects has been assessed in line with National Roads Authority Guidelines for Assessment of Ecological Impacts of National Road Schemes, (NRA, 2009) and best scientific professional judgement. The evaluation of significant effects should always be based on the best available scientific evidence. If sufficient information is not available, further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect should be assumed. Where uncertainty exists, it must be acknowledged in the EcIA.

2.7 Mitigation & Overall Residual Ecological Impact

Where significant impacts have been identified, the mitigation hierarchy has been taken into account considered, as suggested in the 2018 EcIA Guidelines and 2017 EPA Guidelines, which sets out a sequential approach of avoidance of impacts where possible, application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied, along with any necessary compensation measures, and opportunities for enhancement incorporated, residual impacts have then been identified.

Overall residual, or mitigated, ecological effects are assessed by taking account of any expected beneficial ecological effects and those measures which have been integrated within the development proposals in order to avoid, eliminate or reduce the significance of ecological impacts (and any further recommended measures which attach a high probability of successful implementation). The following widely accepted strategy for mitigation (Chapter 6 of the CIEEM Guidelines) has been employed (Refer to Table 2-1).

Table 2-1 - Approach to Mitigation

Avoidance	**Where viable, the project has been re-designed to avoid adverse ecological effects.**
Elimination	Where possible and feasible, measures which eliminate adverse ecological effects are employed.
Reduction	Measures intended to reduce the significance of adverse ecological effects are employed where options for avoidance or elimination have been exhausted or are deemed to be impractical.
Compensation	Where adverse ecological effects cannot be avoided or eliminated or reduced in significance to an acceptable level, consideration is given to compensating for residual adverse effects.
Remediation	Where adverse ecological effects are unavoidable, consideration is given to undertaking limiting remedial works.
Enhancement	Consideration is given to providing opportunities for ecological improvement, enhancement and the realisation of beneficial ecological effects.

2.8 Uncertainty in Assessment

In Impact Assessment, uncertainty is associated with both the prediction and assessment of environmental effects. The precautionary principle, a central feature of environmental legislation, planning policy and professional guidance, provides a mechanism for managing uncertainty in ecological assessment – the precautionary principle requires that where there is a lack of full scientific certainty, the protection of the environment is prioritised.

Where confidence or uncertainty is expressed, an objectively defined scale, as detailed in Table 2-2[4] is employed. Decisions as to confidence in predictions are necessarily based primarily on expert judgement.

Table 2-2 - Confidence & Uncertainty

Confidence Level	Details
Certain	Probability estimated at 95% chance or higher.
Probable	Probability estimated at above 50% but below 95%.
Unlikely	Probability estimated at above 5% but below 50%.
Extremely Unlikely	Probability estimated at less than 5%.

2.9 Appropriate Assessment (AA)

The proposed development has been subject to the Appropriate Assessment process. Details of the assessment are provided for in the accompanying Appropriate Assessment Screening Report (AtkinsRéalis, 2025).

2.10 Difficulties Encountered in Completion of this Assessment

No difficulties were encountered in completing survey work to inform this ecological assessment. Habitat surveys, terrestrial and volant mammal surveys were undertaken during the seasonally appropriate times of year. Datasets of species records was sought from and provided by BirdWatch Ireland for I-WeBS high tide waterbird survey records in the coastal waters of Bray Harbour count site; 0T907. The latest and most up-to-date available I-WeBS data is for the period 2018/19 – 2023/24 (the last data request was submitted to BirdWatch Ireland 24/10/2024).

[4] The confidence levels employed were originally set out in an earlier (2006) version of the CIEEM guidelines, have been adapted and reproduced in several other guidance documents since then, and are widely applied and accepted in Ecological Impact Assessment.

3. Existing Environment

The site of the proposed development is located largely on lands formerly used as a golf course. The development site is also bordered to the south by former Bray Golf Club lands / Masterplan lands at the south of which the River Dargle which flows in an easterly direction outfalling to the Irish Sea in Bray Harbour c. 225m from the southeast extent of the development site. This stretch of the river has been subject to flood alleviation works and the banks of the river have been recently developed into a formalised promenade and public amenity space. To the north of the site the Rathmichael Stream flows in an easterly direction through wooded and grassland areas which have formalised public pathways throughout. To the east the Dublin to Rosslare railway line forms a continuous border for the entirety of the development site. The west boundary of the development site is dominated by a newly developed residential estate constructed as part of Phase 1 of the Sea Gardens Masterplan.

3.1 Sites Designated for Nature Conservation

There are 14 no. conservation sites of international importance which are designated for protection and there are 20 no. conservation sites which are of national importance within 15km of the proposed development. These designated sites are outlined in greater detail below.

3.1.1 International Importance – European Sites

The potential for impacts on European sites within the '*zone of influence*' (ZoI) of the proposed development site was considered. Full details of the assessment are outlined in the accompanying Appropriate Assessment, (AtkinsRéalis, 2025 Document reference 00118265DG0001). The ZoI for a project is the area over which ecological features may be subject to significant effects as a result of the development and associated activities. This is likely to extend beyond the development site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM 2018, 2024 reissue).

A distance of 15km is recommended in the case of plans, as a potential zone of influence and this distance is derived from UK guidance (Scott Wilson *et al*., 2006). However, for projects the distance could be much less, and in some cases less than 100m. National Parks and Wildlife Service guidance[5] advises that this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects.

Thus, given the nature, scale and extent of the mixed use development in Bray, the potential zone of influence will consider European sites with regard to the location of a European site, the Qualifying Interests of the site and their potential mobility outside that European site, the Cause-Pathway-Effect model and potential environment effects of the project.

The proposed development does not lie within any European site.

There are 14 no. European sites within the potential ZoI of the development; 9 no. Special Areas of Conservation (SACs) and 5 no. Special Protection Areas for birds (SPAs), as outlined in Table 3-1 below.

[5] DoEHLG (2009). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of Environment, Heritage and Local Government, Dublin, Ireland.

Table 3-1 - European sites with potential ZoI of the proposed Site.

European Site (site code)	Distance from Works
Bray Head SAC (000714)	ca. 1.9km
Ballyman Glen SAC (000713)	ca. 2.2km
Knocksink Wood SAC (000725)	ca. 4.1km
Rockabill to Dalkey Island SAC (003000)	ca. 4.1km
Glen of the Downs SAC (000719)	ca. 7km
Wicklow Mountains SAC (002122)	ca. 7.5km
South Dublin Bay SAC (000210)	ca. 10km
The Murrough Wetlands SAC (002249)	ca. 11km
Carriggower Bog SAC (000716)	ca. 11.3km
Dalkey Islands SPA (004172)	ca. 6.4km
Wicklow Mountains SPA (004040)	ca. 7.7km
South Dublin Bay and River Tolka Estuary SPA (004024)	ca. 10km
The Murrough SPA (004186)	ca. 12.1km
North-West Irish Sea SPA (004236)	ca. 14.5km

The nearest European site is Bray Head SAC which is located along the coastline ca. 1.9km south of the development site. There is no direct connectivity from the development site to Bray Head SAC or any other European site. There is no viable hydrological connectivity to the qualifying interest (QI) terrestrial heath and cliff habitats of this SAC as they are terrestrial in nature. In addition, there is no direct or viable indirect hydrological connectivity to the QI habitats of any other European site within the potential ZoI of the development site.

The proposed development site is connected to the River Dargle as surface water drainage (rainfall) from the development site is proposed to outfall to the River Dargle when the development is in use. As such there is the potential for some mobile ex-situ QI species that may utilise the river or adjoining coastal waters to be within the ZoI of the proposed development.

It is considered that QI species Harbour Porpoise (*Phocoena phocoena*), a QI species of Rockabill to Dalkey Island SAC, which have been recently recorded directly around Bray harbour are within the ZoI of the proposed development. Other QI mobile species have also been considered. Otters (*Lutra lutra*) are a QI of Wicklow Mountains SAC and whilst it is considered that the lower stretches of the River Dargle in Bray town are likely outside of the territorial range of the otter populations of the geographically large Wicklow Mountains SAC, following a precautionary approach, it is considered that ex-situ QI otters from the SAC may range >14km downstream to the estuarine waters of the River Dargle in Bray town. As such Wicklow Mountains SAC QI Otters are considered to be within the ZoI of the proposed development. No SPAs are considered to be within the ZoI of the proposed development. Site surveys and NBDC records identify the proposed development site is not used by SPA birds (bar small numbers of common gull, Refer to Section 3.2.5 below). The proposed development is not a terrestrial area utilised by field feeding wildfowl and/or waterbirds. The proposed development does not lie between wetland sites and as such there is no regular passage, or migratory paths, of wintering waterbirds across the proposed development site.

Figures 3-1 and 3-2 depict the locations of the European Sites within the potential ZoI of the proposed development.

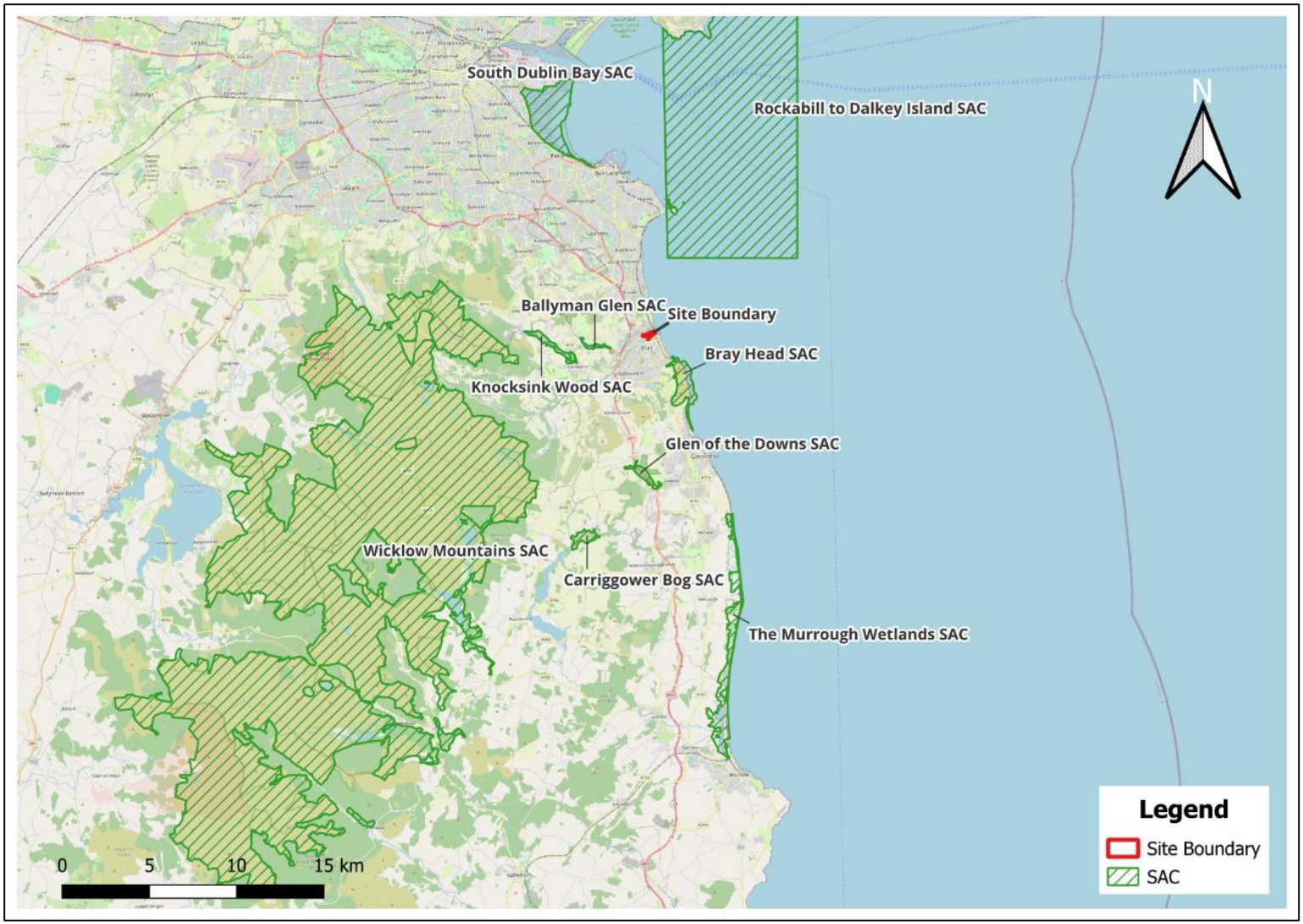

Figure 3-1 - SACs within the potential zone of influence of the proposed development.

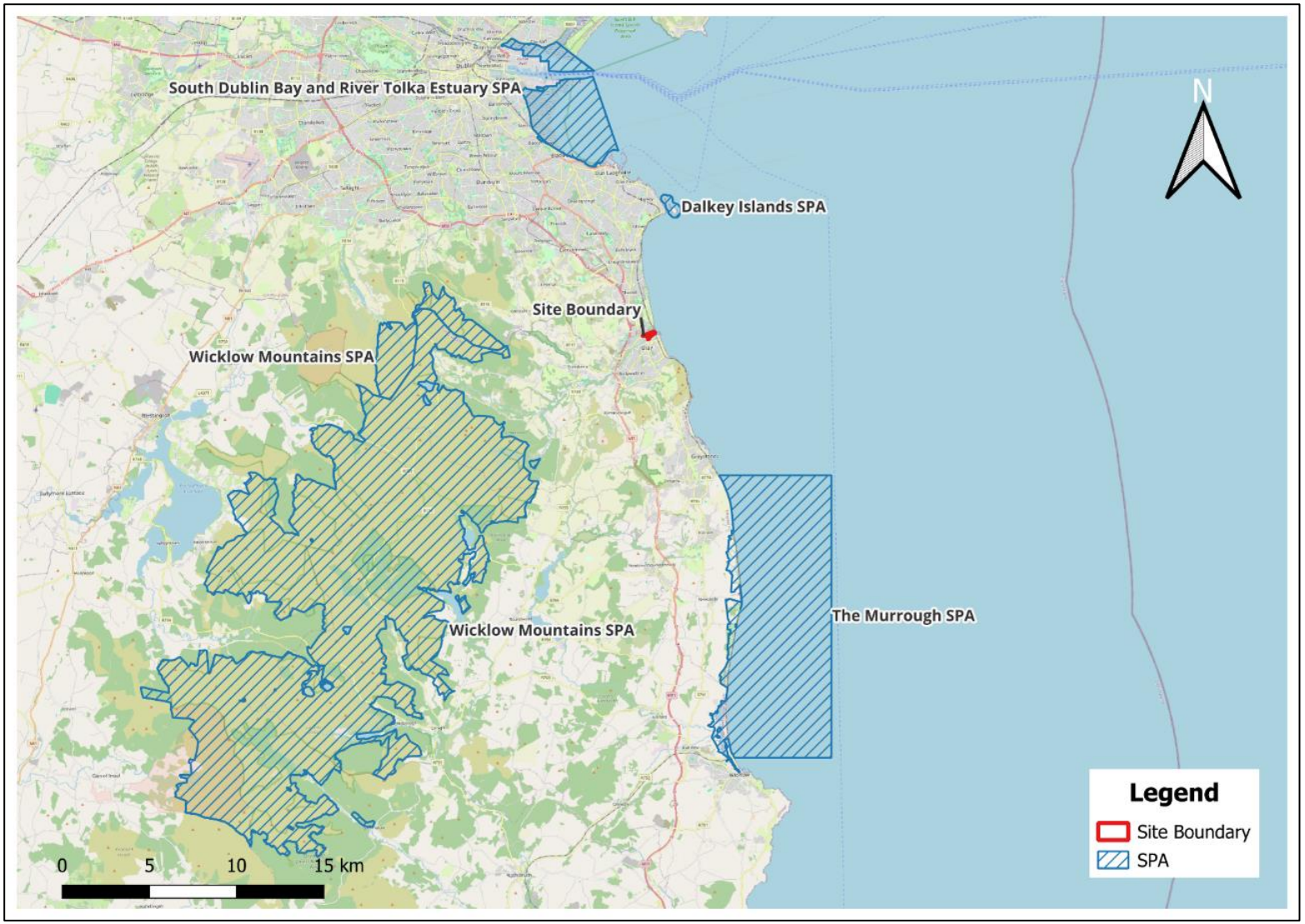

Figure 3-2 - SPAs within the potential zone of influence of the proposed development.

3.1.2 International Importance – Ramsar Sites

A Ramsar Site is a wetland site designated to be of international importance under the Ramsar Convention, an intergovernmental environmental treaty established in 1971 by UNESCO. It provides for national action and international cooperation regarding the conservation of wetlands, and wise sustainable use of their resources.

There are no Ramsar sites within or connected to the proposed development site. The nearest Ramsar site is Sandymount Strand/Tolka Estuary (Site number; 832) located in Dublin Bay c. 11.5km north of the development site.

3.1.3 International Importance – Annex I Habitats

Annex I habitats are those whose conservation requires the designation of Special Areas of Conservation. Priority habitats which are in danger of disappearing within the EU territory[6].

The proposed development is located c. 100m from Annex I habitat; Tidal mudflats and sandflats [8330] located along the coastline, the proposed development is separated from the annexed habitat by the physical barrier of the railway line.

Refer to Figure 3-3 below for Article 17 habitats within 5km of the proposed development.

[6] https://www.npws.ie/sites/default/files/publications/pdf/Art17-Vol1-web.pdf

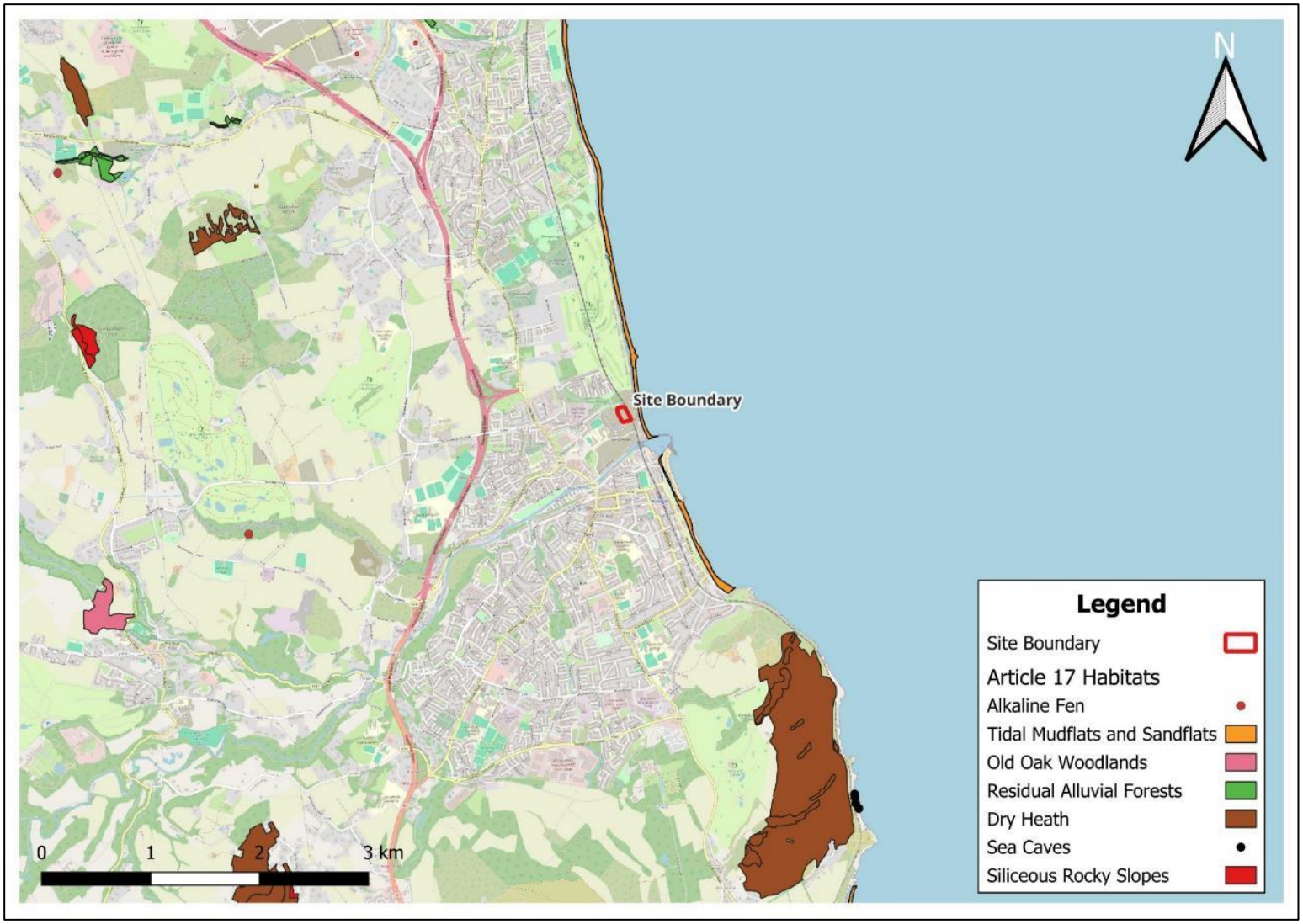

Figure 3-3 - Article 17 habitats within 5km of the proposed development

3.1.4 National Importance – Natural Heritage Areas

Of national importance, there are no Natural Heritage Areas (NHAs) and 20 no. proposed Natural Heritage Areas (pNHAs) within 15km of the proposed development. Details of the sites including a synopsis of each pNHA site is provided in Tables 3.2. Nationally important sites within 15km of the proposed development are shown in Figure 3-4 below.

The site synopsis (where available), for each site were reviewed and summarised. The distances between each site and the proposed development were also measured and the potential connectivity between them assessed.

Table 3-2 –Proposed Natural Heritage Areas within 15km of the proposed development.

Site Name / Code	Distance from proposed development	Site Synopsis	Connectivity
South Dublin Bay	10km north	This pNHA forms part of the South Dublin Bay SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Ballyman Glen	2.6km west	This pNHA forms part of the Ballyman Glen SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Bray Head	1.8km south	This pNHA forms part of the Bray Head SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development
Carriggower Bog	11km south	This pNHA forms part of the Carriggower Bog SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Glen of the Downs	7.5km south	This pNHA forms part of the Glen of the Downs SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Kilmacanoge Marsh	5.2km south	This pNHA contains an area of Annex 1 Residual Alluvial Woodland Habitat, as well as characteristic wet woodland species. The Kilmacanoge stream flows south to north through the site before joining the Dargle River 3km upstream.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Knocksink Wood	4.6km west	This pNHA forms part of the Knocksink Wood SAC	No direct connectivity. No surface water or landscape connectivity from the proposed development.
The Murrough	10km south	This pNHA forms part of The Murrough Wetlands SAC	No direct connectivity. No surface water or landscape

			connectivity from the proposed development.
Ballybetagh Bog	6km west	This pNHA consists of three separate areas of marshland situated in an old glacial spillway. It contains small examples of fen and marsh vegetation, and is renowned for a number of Giant Irish Deer skeletons that have been excavated from the site.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Booterstown Marsh	12.5km north	This pNHA forms an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Dalkey Coastal Zone and Killiney Hill	3.8km north	This pNHA stretches from Scotsman's Bay to south of White Rock at Killiney Beach. It includes the Dalkey Island group and Dalkey Sound, before extending inland to encompass Killiney Hill. This site is valuable for its marine and coastal elements, as well as the terrestrial habitats of heath, grasslands, mixed woodland, and exposed rocks that occur on Killiney Hill and the islands. This site contains a number of rare plant species including clovers, Bloody Crane's-bill and Wild Madder	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Dingle Glen	5.5km north west	This pNHA is a linear dry valley, formed as a glacial lake overflow channel. It is located 2km east of Kilternan and is important for a variety of habitats contained within a relatively small site. These habitats consist mainly of regenerating woodlands with associated ground flora, scrub and heath.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Loughlinstown Woods	3.5km north	The Loughlinstown River flows through this site, supporting a good example of wet Alder woodland. Regenerating woodland also occurs on the sloping ground overlooking the river, with Beech, Sycamore, Elm, Holly, and Laurel predominating.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Fitzsimon's Woods	10km north west	This semi-natural woodland is located west of Sandyford Village. Birch dominates the woodland, with Alder and Holly distributed throughout. Woodland birds are abundant	No direct connectivity. No surface water or landscape connectivity from the proposed development.

		with Long-eared owls, newts, foxes, badger, and deer also present.	
Dargle River Valley	3.5km south west	This site is designated for the woodland habitats present and the species they support including several rare, scarce and threatened plants.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Glencree Valley	8km south west	A good example of deciduous woodland, with an upland river and boggy flushes that add to the habitat diversity of the site	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Powerscourt Waterfall	8.5km south west	This site is important because it has one of the most spectacular waterfalls in Ireland and it shows good exposures of schist and granite. The area is important botanically for its rare and scarce flowering plants, ferns, bryophytes and lichens	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Powerscourt Woodland	4.8km west	A mixed woodland within the two large demesnes of Powerscourt and Charleville (with 4km of Dargle River)	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Great Sugar Loaf	5km south west	A site of both ecological and geological interest that supports dry mountain heath and upland grassland, with exposed rocky outcrops and areas of screen on the mountain sides.	No direct connectivity. No surface water or landscape connectivity from the proposed development.
Vartry Reservoir	13.6km south west	As well as their scenic beauty the Vartry Reservoirs have an interesting cultural, historical and functional value and are an important recreational resource for locals and visitors to the area. The Vartry Reservoir loop walks were completed in June 2018 and form part of a network of almost 20km of walks available in the area.	No direct connectivity. No surface water or landscape connectivity from the proposed development.

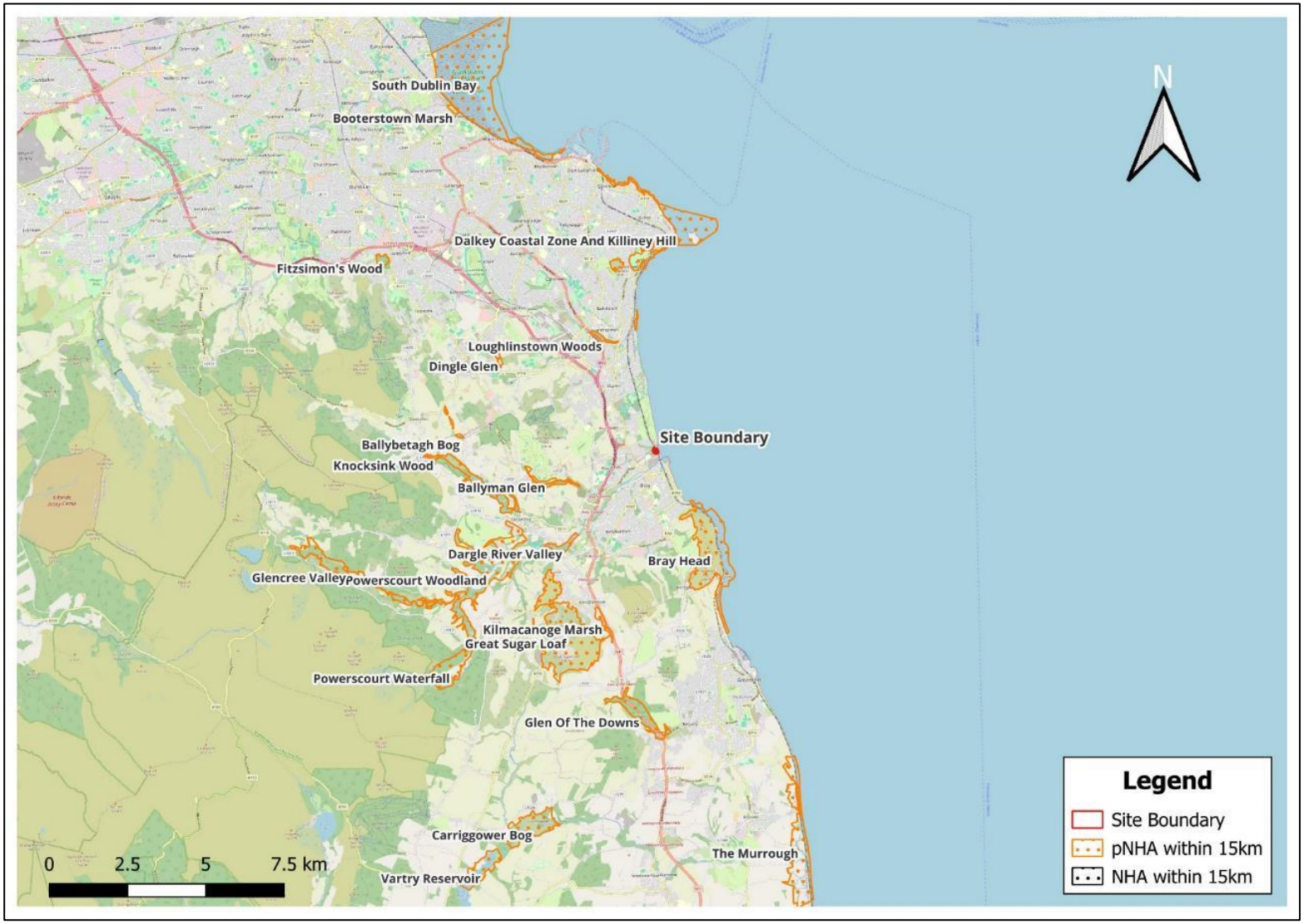

Figure 3-4 - Proposed Natural Heritage Areas with 15km of the proposed development.

3.1.5 National Importance – National Parks, Nature Reserves and Wildlife Sanctuaries

There is one National Park within 15km of the proposed development. Wicklow Mountains National Park is located c. 8km west from the proposed development and is encompassed by the Wicklow Mountains SAC. There are 2 no. Nature Reserves within 15km of the proposed development. Knocksink Wood Nature Reserve is located c. 5km west of the proposed development and is encompassed by Knocksink Wood SAC. The Glen of the Downs Nature Reserve is located c. 8km south of the proposed development and is encompassed by the Glen of the Downs SAC.

There is no indirect connectivity from the proposed development site to any National Park or Nature Reserve.

3.2 Other Known Sites of Ecological Value

There are sites and habitats outside of those designated above which are protected and / or are of ecological value which may have connectivity to the proposed development. Wetland and woodland habitats closest the proposed development are discussed in greater detail below. Similarly, surface water features near the proposed development, such as rivers and streams, are described below.

The predominant habitat types present within the footprint of the development, as well as within the lands directly adjacent (c. 50m) to the proposed development, are presented below. Details on the habitats present and adjacent to the proposed development are informed through desk-based research as well as by site surveys undertaken in April 2025. Habitats were categorized and photographed, and particular attention was paid to the primary habitats and land take to be directly affected by the proposed development. The walkover survey also included search for evidence of the presence of, and the potential of each habitat to support, priority and protected species as recommended by CIEEM[7].

3.2.1 Woodland Habitat

Datasets from the National Survey of Native Woodlands[8] (NSNW) 2003-2008, the Ancient and Long-established Woodland Inventory[9] (ALEW) 2010, and Heritage Trees of Ireland[10] 2009 were reviewed to identify any surveyed native woodland habitat, ancient and long-established, or heritage trees intersected by, or in close proximity to the proposed development. There are no woodlands identified in the NSNW, ALEW, or Heritage Trees within the footprint of the development site.

Mixed broadleaf woodland habitat is found c. 70m north of the development site along the banks of Rathmichael Stream, there is no connectivity from the development site to this wooded area.

There are 2 no. Heritage Trees within 1km of the proposed development. See figure 3-5 below.

A review of the National Biodiversity Data Centre's (NBDC) forestry datasets and site survey evidence identifies no areas of forestry within the footprint of the proposed development. There is 1 no. Mature Spruce forestry located 500m north west of the proposed development.

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[7] Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal, Second Edition.

[8] https://maps.biodiversityireland.ie/Map

[9] https://data.gov.ie/dataset/ancient-and-long-established-woodland-inventory-2010

[10] Heritage Trees of Ireland - Dataset - data.gov.ie

Figure 3-5 – Heritage Trees within 1km of the proposed development

3.2.2 Freshwater Habitat

There are no surface water features within the proposed development site. During the operational phase of the proposed development, surface water drainage will outfall to the River Dargle located c. 225m south the Site. The Rathmichael Stream is located c. 35m north of the proposed development site, there is no connectivity from the development site to Rathmichael Stream. These two watercourses flow directly to the Irish Sea east of the development site. Refer to Figure 3-6 below for the locations of surface water features near the development site.

The proposed development is located within the Dargle subcatchment (Subcatchment ID 10-5). The River Dargle (EPA code: IE_EA_10D010300) is detailed by the EPA as having 'Good' water quality status (2016-2021) and is detailed as being 'Not at Risk' of failing to meet the relevant Water Framework Directive (WFD) objectives by 2027. The Rathmichael stream (EPA code: IE_EA_10D010300) is detailed as having 'Good' water quality status (2016-2021) and is noted as being 'Not at Risk'.

EPA undertake biological monitoring of the River Dargle along a stetch of the river c. 2km upstream of the Dargle estuary. The 2024 EPA Q-Value is noted to be 4 indicating the watercourse has a 'Good' WFD status, is unpolluted and has a satisfactory condition. The main channel of the River Dargle is noted to be designated as a Salmonid Water under the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. No. 293/1988) and the River Dargle is known to accommodate otters (NBDC records, 2017).

The EPA also monitor the Dargle Estuary (EPA code: IE_EA_110_0100) which commences in Bray Harbour. The estuary is recorded as having 'Moderate' water quality status (2016-2021) and is detailed as being under 'Review' of failing to meet the relevant Water Framework Directive (WFD) objectives by 2027.

Figure 3-6 - Watercourses within the vicinity of the proposed development

3.2.3 Bray Head

As detailed above Bray Head is designated as a Special Area of Conservation; Bray Head SAC and is further designated at a national level as a proposed Natural Heritage Area; Bray Head pNHA. Bray Head is also subject to a Special Amenity Area Order (Wicklow County Council; Bray Town Council; Greystones Town Council, 2007[11]). A Special Amenity Area Order (SAAO) is designed to protect areas that are of particularly high amenity value, which are sensitive to intense development pressure and which cannot be adequately protected by existing planning controls. The Special Amenity Area Order for Bray Head lists: - *Objectives in relation to the Preservation or Enchantment of the Character or Special Features of the Area*. A summary of the objectives detailed in Bray Head SAAO are as follows (non-exhaustive list): -

- Objective 1.1 - *'In order to facilitate social inclusion, it is an objective of the Council to increase public access on foot to coastal, heathland and woodland areas for informal recreation.'*
- Objective 1.2 - '*To protect the special amenity area ensuring that its resources are used in an effective and sustainable manner.'*
- Objective 1.3 - '*To manage the area in order to conserve its natural and cultural assets and realise its exceptional potential as a place for informal recreation, tourism and environmental education*.'

The SAAO further outlines: - "*Heath, a habitat listed on Annex I of the EU Habitats Directive, is the principle habitat over much of the Head. It occurs over the light sandy soils found in the upper slopes of Bray Head. The heath community is frequently accidentally or deliberately burned and this assists its development rather than hinders it.*' Bray Head SAAO lists as Policy 1.3.4; '*The Council, in accordance with the Wildlife (Amendment) Act, 2000 and the National Parks and Wildlife Service shall promote a Heathland Management Programme consisting of controlled burning of the site on a ten year rotation, in small patches, during the legal burning season*."

3.2.4 Wetland Habitats

A review of the Irish Wetlands Survey database[12] show no wetland sites within 2km of the proposed development. The nearest wetland site is Ballyman Glen (MIW_WW159) located c. 3km west of the proposed site. No direct or indirect connectivity links the proposed development to this site.

3.2.5 Irish Wetland Bird Survey

Bray Harbour Swan Sanctuary and I-WeBS Monitoring Site

Bray Harbour is noted to a Swan Sanctuary. The harbour and the lower stretches of the River Dargle are also an I-WeBS (Irish Wetland Bird Survey) monitoring site which is located c. 230m south of the proposed development along the River Dargle[13]. This site is home to a high number of mute swans. Figure 3-7 below illustrates the proximity of the proposed development site to Bray Harbour I-WeBS count site as well as the Swan Sanctuary.

[11] https://www.wicklow.ie/Portals/0/adam/Content/l46A8jfaW0el3Wd4pR64AQ/Link/Bray%20Head%20Special%20Area%20Amenity%20Order%202007.pdf

[12] http://www.wetlandsurveysireland.com/wetlands/map-of-irish-wetlands--/map-of-irish-wetlands---map/index.html

[13] https://birdwatchireland.ie/app/uploads/2023/08/iwebs_trends_0T907_Bray_Harbour.html

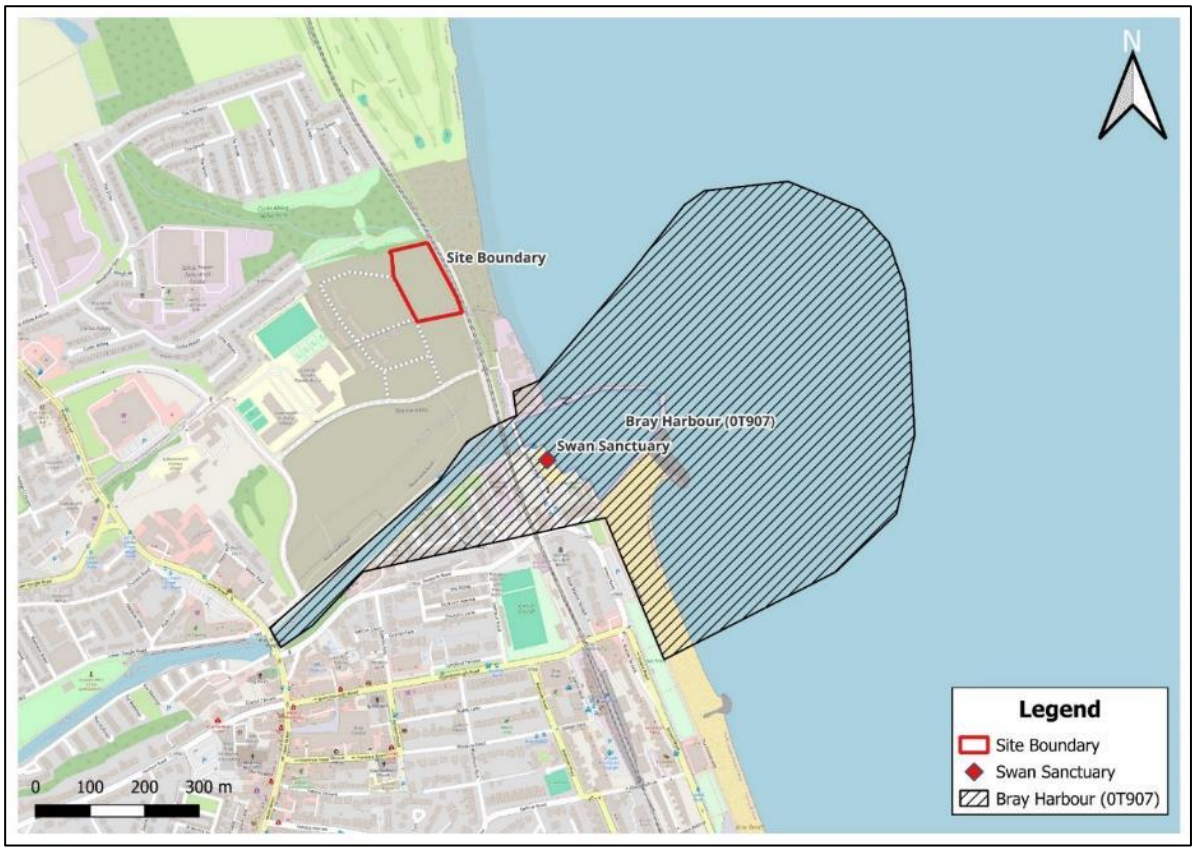

Figure 3-7 - Bray Harbour I-WeBS site and Swan Sanctuary.

The latest bird count data for the Bray I-WeBs site was requested from BirdWatch Ireland and was received on 5th November 2024. Table 3-3 below lists the latest available bird count data and details the annual peak waterbird counts between 2018-2024 (data deficient for 2020) for I-WeBS count site; Bray Harbour (0T907).

Table 3-3 – Annual Peak Waterbird counts for I-WeBS site Bray Harbour (0T907)

Species Name	Scientific name	2018/2019	2021/2022	2022/2023	2023/2024
Mute Swan	*Cygnus olor*	47	87	59	68
Light-bellied Brent Goose	*Branta bernicla hrota*		0	0	5
Mallard	*Anas platyrhynchos*	31	16	13	48
Red-throated Diver	*Gavia stellata*		0	0	2
Cormorant	*Phalacrocorax carbo*	3	13	1	4
Shag	*Phalacrocorax aristotelis*		3	1	24
Little Egret	*Egretta garzetta*		0	1	0
Grey Heron	*Ardea cinerea*	2	1	0	2
Oystercatcher	*Haematopus ostralegus*		0	0	15
Ringed Plover	*Charadrius hiaticula*		0	0	1
Curlew	*Numenius arquata*	1	0	0	0
Turnstone	*Arenaria interpres*	64	63	32	87
Black-headed Gull	*Chroicocephalus ridibundus*	98	376	133	183
Common Gull	*Larus canus*	2	5	3	16
Lesser Black-backed Gull	*Larus fuscus*	1	0	0	0

Herring Gull	*Larus argentatus*	187	142	25	410
Great Black-backed Gull	*Larus marinus*	3	1	0	7
Mediterranean Gull	*Larus melanocephalus*				28
Greylag Goose	*Anser anser*	3	0	0	0
Mallard (domestic)	*Anas platyrhynchos*	2	0	0	0
Ring-billed Gull	*Larus delawarensis*	1	0	0	0

2024 Site Survey Evidence

2024 site surveys included dawn, day and dusk surveys and assessed bird activity and species numbers both within and overflying the Masterplan lands and development site.

2 no. Vantage Points were employed for each survey; the Swan sanctuary at Bray Harbour was used as Vantage Point 1 and the River Dargle walkway parallel to the Site was used as Vantage Point 2. Each dawn and dusk survey lasted 4 hours and daytime surveys lasted 2 hours.

It was noted that the waterbirds found in Bray Harbour, in particular the Mute swans and gulls, are habituated to human activity with pedestrians and cars noted within c. 2m of the swans and gulls roosting location on the beach within the harbour walls. 1 no. Mute Swan and 1 no. mallard were noted overflying the railway bridge adjacent to Bray Harbour, both birds flew from the harbour to the River Dargle and did not cross the proposed development Site. No geese species, such as Light-bellied Brent Geese, were noted during surveys. Long-term data for the past 23 years suggests that turnstone, mallard, and mute swan numbers are stable or increasing for Bray Harbour[14]. Table 3-4 below outlines the bird species observed during the survey, notes location and if they are Qualifying Interest of a Natura 2000 site.

[14] https://birdwatchireland.ie/app/uploads/2023/08/iwebs_trends_0T907_Bray_Harbour.html

Table 3-4 – Bird species noted during 2024 surveys of the Sea Gardens Masterplan site.

Species	Scientific name	Max Number Recorded in Bray Harbour I-WeBs site	Number Overflying Masterplan Lands	Number Recorded Within the Masterplan Lands	Qualifying Interest of Natura 2000 site
Blackbird	*Turdus merula*	2	3		
Wood pigeon	*Columba palumbus*	60+	15		
Hooded Crow	*Corvus cornix*	100+	3		
Herring gull	*Larus argentatus*	150+/-	6	7	The Murrough SPA, North-West Irish Sea SPA
Mute Swan	*Cygnus olor*	57			
Heron	*Ardea cinerea*	1	1		
Mallard Duck	*Anas platyrhynchos*	60			
Common Gull	*Larus canus*	21		40	North-West Irish Sea SPA
Turnstone	*Arenaria interpres*	80			
Mediterranean Gull	*Ichthyaetus*	20			
Black-Headed Gull	*Larus ridibundus*	150	5		Dublin Bay and River Tolka Estuary SPA, The Murrough SPA, North-West Irish Sea SPA
Cormorant	*Phalacrocorax carbo*	2	1		North-West Irish Sea SPA
Jackdaw	*Coloeus monedula*	10			
Wagtail	*Motacilla alba yarelli*	4			
Lesser Black-Backed Gull	*Larus fuscus*	120			North-West Irish Sea SPA
Shag	*Gulosus aristotelis*	1			
Magpie	*Pica pica*	2			
Great Black-Backed Gull	*Larus marinus*	1			North-West Irish Sea SPA
Oystercatcher	*Haematopus ostralegus*	1			Dublin Bay and River Tolka Estuary SPA

3.3 Species Records

This section of the report outlines species that have been recorded within the proposed development. A review of the National Biodiversity Data Centre (NBDC) datasets of rare, protected and invasive species records for the last 10 years was undertaken. Records greater than 10 years old are unlikely to be relevant given their age and subsequent changes in land use and management that has occurred in the intervening period. This section of the report also details the findings of site surveys undertaken in 2025.

3.3.1 Birds

NBDC datasets record 5 no. species which are noted to be on the Birds of Conservation Concern for Ireland's red list (BOCCI 4[15]); Swift (*Apus melba*), Oystercatcher (*Haematopus ostralegus*), Red Kite (*Milvus milvus*), Black-legged Kittiwake (*Rissa tridactyla*) and Eurasian Curlew (*Numenius arquata*).

In addition NBDC records identifies 19 no. species on the BOCCI amber list; Barn Swallow (*Hirundo rustica*), Black Guillemot (*Cepphus grylle*), Black-headed Gull (*Larus ridibundus*), Kingfisher (*Alcedo atthis*), Guillemot (*Uria aalge*), Northern Gannet (*Morus bassanus*), Linnet (*Carduelis cannabina*), Starling (*Sturnus vulgaris*), Common Tern (*Sterna hirundo*), Shag (*Phalacrocorax aristotelis*), Great Cormorant (*Phalacrocorax carbo*), Herring Gull (*Larus argentatus*), House Martin (*Delichon urbicum*), House Sparrow (*Passer domesticus*), Lesser Black-backed Gull (*Larus fuscus*), Mediterranean Gull (*Larus melanocephalus*), Mute Swan (*Cygnus olor*), Northern Wheatear (*Oenanthe oenanthe*) and Sand Martin (*Riparia riparia*).

3.3.2 Mammals

Bats

Four species of bats have been recorded in NBDC datasets within the reviewed area Daubenton's Bat (*Myotis daubentonii*), Common Pipistrelle (*Pipistrellus pipistrellus*), Lesser Noctule (*Nyctalus leisleri*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*). All bat species in Ireland are strictly protected under Article 12 of the Habitats Directive, as transposed by Regulation 51 of the EC (Birds and Natural Habitats) Regulations, 2011 (as amended), and the Wildlife Act, 1976 (as amended) affording them protection wherever they occur.

The proposed development site was subject to surveying for bats by AtkinsRealis ecologists on 29th of April 2025.Table 3-5 details the environmental factors of the bat survey.

Table 3-5 - Environmental Factors - Emergence Survey

Date	**29/04/2025**
Start Time	20:35
Finish Time	22:20
Sunset Time	20:50
Temperature	14 °C
Rain	Dry
Wind	Light breeze

[15] Gilbert, G., Stanbury, A. and Lewis, L. (2021). Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds* 43: 1-22.

Cloud Cover	30%

No bats were recorded emerging from any of the 4 no. sycamore trees around the southern border of the development site during the survey indicating these trees are not used by roosting bats (Refer to Section 3.4 for details of trees bordering the development site). Of note; these trees have been subject to 3 no. separate bat surveys since 2020 with no bat roosts recorded at any time.

Two species of bats were recorded by the detectors during the survey; Common pipistrelle (*Pipistrellus pipistrellus*) and Leisler's bat (*Nyctalus leisleri*). Bat activity across the development site was noted to be very low. A single Common pipistrelle was observed commuting centrally along the site from north to south. 3 no. Leisler's bats was recorded overflying the site but not observed though this is typical as this is a high flying bat species and was likely commuting over the site.

No bat roosts were recorded during the survey. The bats recorded during the survey were considered to be commuting across the site. This commuting activity was considered to be low.

Otter

Otter (*Lutra lutra*) is listed on Annex II and Annex IV to the Habitats Directive and is also protected under the Wildlife Acts. Otters feed on aquatic prey (e.g. salmonids, eels and sticklebacks) and requires refugia (holts) along or near watercourses and associated riparian habitats.

Otter have historically been recorded within the River Dargle with the latest NBDC recorded sighting noted to be during 2017.

An otter survey was undertaken on the 25th October 2024. The survey consisted of inspecting both banks of the River Dargle (c. 840m per bank) beginning at the Swan Sanctuary at Harbour Road extending as far as Lower Dargle Road. The area surveyed for field signs of otter such as prints, slides, holts, couches and spraints.

Along the northern bank of the Dargle off Ravenswell Road the bank is a concrete structure with no habitat suitable for otters. Two locations along this point were accessible for otters, a boat slip and a set of stairs. No field signs of otter were seen on these two entry points to the river. On the southern bank is approximately 2m of rock armour below a grassland bank. This habitat is suboptimal for otters.

The survey proceeded after the Fran O'Toole Bridge. Areas around the abutment's of these bridges were examined for the presence of otter prints but none were observed. Proceeding up this route the banks on both side on the river were noted to be manmade concrete structures with over a 4m drop to the river.

Across from the western side of the Peoples Park Bray on the southern side the bank becomes accessible to the river and the habitat becomes more semi-natural with the presence of grassland and trees. No field signs of otters were observed in this location.

No field signs of otters were observed during the survey. The bankside habitat along the river varied from unsuitable to sub-optimal for otters with the suboptimal areas located on the southern bank of the Peoples Park Bray which is remote from the proposed development site. The area would be suitable for otters to occasionally forage but the high level of anthropogenic disturbance and lack of areas to rest or create a holt would likely make otters favour other more suitable areas.

No evidence of otter activity was found during the survey and there are no otter holts located alongside the proposed development site. The man-made banks of the River Dargle 225m south of the development site (concrete flood defence wall, promenade, rock armour) are not suitable habitats for holt establishment.

Badger

A review of NBDC datasets identifies badger (*Meles meles*), a protected species under the Wildlife Acts, within a 1km radius of the proposed development. NBDC datasets did not record badger within a 1km radius of the proposed development.

No evidence of badger activity was noted during 2025 site surveys. There are no. badger setts within the development site.

Historically (2020, 2022) evidence of badgers has been recorded within the development site and wider Masterplan lands. There is a known badger sett (maternity sett) c. 800m north of the development site in the area of the new Woodbrook Housing Development site (currently under construction) and neighbouring Woodbrook Golf Club. Whilst no evidence of badgers was noted during 2025 surveys, the proposed development site is within the foraging territory and commuting area of the badgers located in the Woodbrook area. It is considered likely that the local badgers in this area could have territorial range across the development site, all of the former Bray Golf Club lands, the wooded corridor along the Rathmichael Stream, scrub lands to the east of the railway line as well as across the extensive areas of agricultural lands and Woodbrook Golf Club lands located north of the proposed development site. Local badgers are likely to range across both sides of the railway line utilising gaps in railway fencing and significantly the railway underpass and level crossing at the Woodbrook Golf Club and likely use the railway underpass directly southeast to the proposed development site. The large area of scrubland / undeveloped lands on the east side of the railway line (adjacent to the Site) with dense vegetative cover provides connectivity from the Woodbrook Golf Club lands (north of the Site) to the railway underpass adjacent to the Site. It is noted that the ongoing construction activities associated with the granted Phase 1 development may have reduced badger activity/foraging within the development site.

Marine Mammals

NBDC records identify the following marine mammals as having been recorded within the coastal waters directly around Bray Harbour; Common Porpoise (*Phocoena phocoena*), Bottle-nosed Dolphin (*Tursiops truncatus*), Common Dolphin (*Delphinus delphis*) and Grey Seal (*Halichoerus grypus*).

Other Mammals

West European Hedgehog (*Erinaceus europaeus*) are protected under the Wildlife Acts. This species was recorded on NBDC datasets within a 1km radius of the proposed development.

Evidence of fox was noted (prints) was noted during site surveys in 2025.

Other Fauna

Two butterfly species including Small Tortoiseshell (*Aglais urticae*) and Painted Lady (*Vanessa cardui*) were recorded within 1km of the development site in 2023.

3.3.3 Invasive Species

NBDC datasets of invasive plant species listed on the third schedule of the EC (Birds and Natural Habitats) Regulations 2011 S.I. No. 477/ 2011 records for the proposed development and a 1km radius around the proposed development were examined for the period 2015-2025. Surveys were undertaken during April 2025 which is within the seasonally appropriate window to assess the site for the presence of invasive plant species.

NBDC datasets recorded the following invasive species within a 1km radius of the proposed development, Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Eastern Grey Squirrel (*Sciurus carolinensis*).

Site survey evidence and a review of NBDC datasets did not identify any invasive species within the proposed development site.

3.4 Habitats

This section addresses the habitats and flora within the proposed development as determined by 2025 site survey evidence. Figure 3-8 below illustrates the habitats within and adjacent to the proposed development site.

3.4.1 Scattered Trees and Parkland (WD5)

A total of 4 no. trees were recorded on site. All four of these trees are Sycamore species (*Acer pseudoplatanus*) and are located along the southern boundary of the development site. Two of these sycamores are mature and the other two are noted to be semi mature. It is noted that sycamores are a non-native and are considered to be an invasive species. Plates 3.1 and 3.2 below show the mature sycamore trees on the boundary of the site.

The trees can provide valuable habitat for birds as sheltering and foraging areas. No bat roosts were recorded in these trees. These trees would be considered to be of local ecological value. These trees will be lost as a result of the development. Tree loss is discussed and mitigation measures are presented in Section 4 below.

Plate 3.1 – 3.2 Mature Sycamores on the southern boundary of the development site.

3.4.2 Amenity Grassland (GA2)

The site is a former golf course and the lands are predominantly comprised of amenity grassland (GA2). The c. 0.65 hectares of grasslands have been historically well maintained and regularly mown for the large part, however, small areas of grassland have been left uncut. Grass species within the site include; *Lolium perenne*

(Rye grass), *Fescue* spp. and *Dactylis glomerata* (Cock's foot) (non-exhaustive list); as well as *Trifolium repens* (White clover). In areas where the grass has been left uncut Cleavers (*Galium aparine*) and Red Valerian (*Centranthus ruber*).have also established. This grassland is also used for storage of construction materials on pallets. The amenity grassland is considered to be of local ecological importance (lower value) as it can provide foraging habitat for mammals and birds. Plate 3.3 below shows the grassland within the site.

The loss of amenity grassland within the development is discussed and mitigation measures are presented in Section 4 below.

Plate 3.3 Amenity Grassland

3.4.3 Spoil and Bare Ground (ED2)

There are areas of spoil and bare ground (ED2) within the grasslands and a large spoil heap in the northern section of the site. The spoil has been generated from the adjoining housing development site. Some plant species are starting to establish on the spoil heap but not to the extent where it could be classified as recolonising bare ground. The spoil heap is considered to have no ecological value. Plate 3.4 below shows the spoil heap in the northern section of the site.

Plate 3.4 Spoil and Bare Ground

3.4.4 Buildings and Artificial Surfaces (BL3)

There are extensive areas of gravel surfaces within the development site which are currently used for the storage of construction materials related to the adjoining construction site (materials include; containers, bricks, pallets, ducting pipes, sand etc.). The artificial surfaces is considered to have no ecological value.

Large areas of the development site comprised of gravel surfaces and amenity grasslands are scattered with a wide range of construction related materials. Plate 3.5 shows the gravel surfaces within the development site.

Plate 3.5 Buildings and Artificial Surfaces

3.4.5 Hedgerows (WL1)

A hedgerow is located outside the eastern side of the development boundary. This hedgerow is excluded from the site works and runs along an informal pathway. The hedgerow is predominantly hawthorn (*Crataegus monogyna)* and is gappy in sections.

Given the geographical setting of the hedgerow, i.e., alongside an informal pathway, they do not provide for a high value ecological corridor between ecological sites or good quality habitats. The gappy hedgerow will provide for some opportunities for nesting and foraging passerine bird species. Hedgerows in this area are considered to be patchy and species poor and are of local ecological value.

Plate 3.6 **Hedgerows adjacent to the development boundary**

Figure 3-8 – Habitat map of the development site.

3.5 Ecological Receptors

In summary, the proposed development site does not lie within any area that has been designated for nature conservation at an international or national level. There are no habitats listed on Annex I of the Habitats Directive or records of rare or protected plants within the development site.

Surface water (rainfall) run-off from the development site during the operational phase will outfall to the River Dargle and as such this watercourse is considered to be a key ecological receptor. Given this watercourse is Designated Salmonid Waters under S.I. No. 293/1988 - European Communities (Quality of Salmonid Waters) Regulations 1988 and accommodates other protected species such as otters, the River Dargle is considered to be of national ecological importance.

There will be direct loss of 2 no. mature trees and 2 no. immature trees within the footprint of the proposed development. These sycamore trees can provide for foraging and nesting habitat for local passerine bird species as such these are deemed to be key ecological receptors of local ecological importance (higher value).

There will be direct loss of c. 0.65 hectares of amenity grassland within the footprint of the proposed development. This area of grassland is considered to be local importance (lower value) as it can provide foraging habitat for a range of mammal and bird species.

The development site is not considered to be a highly suitable site for bats. Bat activity within the development site was noted to be low and no roosts were identified during 3 no. site surveys. Two mature trees being lost within the footprint of the development were assessed to have moderate bat roost potential (2020 surveys) and as a precautionary measure local bat populations are considered an ecological receptor.

Native passerine bird species have the potential to forage within the proposed development site. As such, native bird species are identified as an ecological receptor. The site is not utilised by wintering waterbirds and therefore waterbirds are not considered an ecological receptor.

No evidence of terrestrial mammals was found during site surveys. The development site does not proffer habitats suitable for terrestrial mammal refugia but does proffer foraging habitat for badgers known to be located in the Woodbrook area north of the development site. As such badgers are considered an ecological receptor.

4. Impact Assessment

4.1 Potential Impacts

The potential for impacts on nature conservation interests have been assessed in light of habitats and the species that are likely to be affected by the proposed development. The approach considers the following guidance:

- *Guidelines on the Information to be Contained in Environmental Impact Assessment Report*, EPA (2022);
- *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2018, reissue 2024);
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes*, 2nd Edition (NRA, 2009).

Potential impacts from the proposed development on the ecological receptors of protected sites and habitats (which are listed in Section 3 above) are outlined in this section. Potential direct and indirect impacts during both construction and operational phase of the proposed development are discussed. Impacts to European sites are also considered in detail within the accompanying Appropriate Assessment report (AtkinsRealis 2025).

4.1.1 Designated Conservation Sites

The proposed development does not directly intersect or lie within with any internationally or nationally designated conservation sites such as SACs, SPAs, Ramsar, or NHAs. The nearest designated conservation site is Bray Head SAC located c. 1.9km south of the proposed development. Otters of Wicklow Mountains SAC and Harbour porpoise of Rockabill to Dalkey Island are considered to be within the zone of influence of the proposed development.

A comprehensive assessment of potential impacts on European sites is outlined in the accompanying Appropriate Assessment Screening Report (Document reference no: 0118265DG0001) which concludes; "*On the basis of objective information and in view of best scientific knowledge and applying a precautionary principle, it is concluded by the authors of this report that with the absence of any mitigation measures the proposed Sea Gardens Block A development, either alone or in-combination with other plans or projects, will not result in likely significant effects on Rockabill to Dalkey Island SAC or Wicklow Mountains SAC or any other Natura 2000 site. Thus, it is recommended that it is not necessary for the development to proceed to Appropriate Assessment.*"

There is no direct or viable indirect connectivity to any Ramsar sites, Nature Reserves, Annexed habitats, National Heritage Areas, proposed National Heritage Areas or National Parks.

4.1.2 Watercourses

Storm water drainage infrastructure for the Block A development has already been constructed as part of the granted Phase 1 housing development (ABP-311181-21). As such, the construction phase of Block A does not necessitate or involve any interaction with the River Dargle which is located c. 225m south of the red line boundary of the proposed development. In addition, a flood defence wall and promenade act as physical barrier between the proposed development and the River Dargle so there is no potential for any contaminated surface water run-off from the construction site to reach the River Dargle. Given these factors, potential negative effects on the surface water quality of the River Dargle as a result of surface water run-off during the construction phase is precluded.

Excavation works on the proposed development site can interact with groundwater and have the potential to expose groundwater to contamination to by concrete, hydrocarbons and other chemicals used in construction. Temporary dewatering will likely be required during excavation in portions of the proposed development, however

there will be no discharge to the River Dargle from any dewatering activities. Significant impacts to groundwater quality or flow during the construction phase are not likely. Any potential impacts on groundwater as a result of construction activities will not likely affect the surface water quality in the River Dargle or the coastal water quality in the Irish Sea.

In summary, given the location, nature and scale of the proposed development, during the construction phase potential impacts from contaminated surface water run-off, or through groundwater pathways, which could affect the water quality or the aquatic environment of the River Dargle are not considered likely. It can be safely concluded that the construction phase of the proposed development will have no effect on the River Dargle or any protected species (such as otter or salmon) within the watercourse.

During the operational phase of Block A surface water / rainfall from the proposed development site will outfall to the River Dargle. Rainfall run-off from the proposed development site will be treated (via swales / filter drains / bypass interceptor) and attenuated prior to discharge and as such will not result in any significant water quality impacts to the river. Given that no adverse water quality impacts are anticipated, there will be no effects to otters or aquatic species from surface water run-off whilst the development is occupied and in use.

During the operational phase of the development the foul water generated from the development will discharge into the local foul water network. The local foul water network is connected to the Shanganagh WwTP which has been recently upgraded and as such can accommodate the additional load to the network. As such there will be no adverse ecological impacts form foul water emissions when the development is in use.

4.1.3 Scattered Trees and Parklands

The development involve the direct loss of 4 no. non-native sycamore trees. These trees can provide potential nesting habitat for local native birds. Mitigation measures in the form of an extensive landscaping plan are presented in Section 5 below which will offset the loss of these trees. Once established the landscaping measures will result in a net gain in terms of trees and plants within the development site (c. +5 years to establish).

4.1.4 Amenity Grassland

The development is of relatively small scale but will result in the loss of c. 0.65 hectares amenity grassland within the site boundary. Although this area could provide suitable foraging habitat for birds and terrestrial mammals there is no site survey evidence of protected species using this site. Notwithstanding this, mitigation measures in the form of an extensive landscaping plan are presented in Section 5 below which will offset the loss of low value grassland habitat.

4.1.5 Bats

Given the low number of trees being lost and the low bat activity within the development site, the loss of 4 no. trees will not result in any significant adverse effects on the local bat populations both in relation to roosting habitat and ability to commute. These trees were deemed to be moderate suitable for bats, however, from the survey evidence outlined above, no bats were found to be roosting in these trees (2020-2025). Notwithstanding that significant impacts to bats are not anticipated, the lighting design for the easter boundary of Block A, and the entire eastern side of the wider Masterplan lands, has been designed to provide for a darker corridor to facilitate bat commuting between the Rathmichael Stream and the River Dargle.

4.1.6 Badgers

There are no badger setts within the development site and as such there will be no impacts on badger refugia. The amenity grasslands within the development site provide for foraging habitat for local badgers known to be

located north of the development site. Mitigation measures for the protection of badgers during the construction phase are presented below. In addition the landscaping design for the eastern boundary of Block A and the wider masterplan lands, as detailed in mitigation measures below, will allow for connectivity of habitats and the continuance of the site to be used as a badger foraging area.

4.1.7 Birds

The loss of 4 no trees and grassland habitat may have a slight adverse impact on local native bird species as there will be a small loss of potential nesting and foraging habitat. Mitigation measures in the form of an extensive landscaping plan are presented in Section 5 below which will offset the loss of potential foraging and nesting habitat.

5. Mitigation Measures

The following recommendations and mitigation measures are proposed:

5.1.1 Drainage Design

Sustainable urban Drainage Systems (SuDS) is a key focus for the entire design of the development and wider Masterplan lands. Along with permeable paving for parking areas, the landscape design includes for attenuation areas throughout the Phase 1 development by channelling runoff to planted areas and tree pits. This has the added benefit of reducing surface water runoff rates. In addition, planted swales will be created areas to aid with storm water flow and these planted areas will contain suitably water tolerant plant species. The roof areas which will include sedum and wildflower green roof treatments will further slowdown the flow of water from areas that traditionally contribute to high runoff flow rates during rainfall events.

5.1.2 Habitats

There will be loss of some amenity grassland and 4 no. sycamore trees within the development site during the construction phase. However, potential impacts have been minimised where possible via ecological input, including bat specialist recommendations, into the landscape design (included within the design documents for the proposed development submitted as part of this planning application). The design calls for the retention of the existing hedgerows around the development site boundary and inclusion of hedgerow planting where no boundary landscaping features are currently in situ. The development of the landscape design has been cognisant of existing flora and fauna on site, maintaining strong native boundary planting to ensure wildlife corridors are created.

On the eastern side of the development site and Masterplan lands it is proposed to implement an extensive landscaping design which will connect to existing habitats including Woodbrook Glen (stream and woodlands) to the north and the River Dargle and associated Sea Gardens Phase 2 linear park to the south. This green buffer zone between the new housing development and the railway line will have large swathes of wild flower meadow, ornamental grasses, shrubs and herbaceous planting (refer to Landscape Design submitted with this application). In particular the ecologically friendly buffer zone will have mixed native hedge and woodland screening planting along the existing boundary fence to help create bat flight lines and foraging routes as well as providing connectivity between the dark zones of the River Dargle and Rathmichael Stream. The landscape design for this ecological buffer zone includes for shrub and screening planting which will allow for cover for the movement of mammals, including badgers, through the area. The planting mix will also include for gorse (*Ulex europaeus*) to provide habitat suitable for bird species such as stonechat.

The landscaping design in this area calls for the planting of native wildflowers meadows and extensive planting of native trees with the aim to create semi-natural habitat akin to meadow and woodland edge. The planting schedule contains a mix of native plant species and emphasis has been placed on adhering to the objectives outlined in the All-Ireland Pollinator Plan 2021-2025 with the aim of planting species which are beneficial to pollinating insects. Plant species have also been carefully selected to be suitable for the coastal conditions. In addition to the diverse planting species mix at ground level, the roof level of the apartment block will be developed into green spaces to have a mix of sedum and wildflowers to further benefit pollinating species. Given the exposed nature of the development site a supplier of sedum carpets located in the east of Ireland has been identified to ensure the species are suitable for and acclimatised to the coastal conditions.

5.1.3 Birds

Tree clearance will be undertaken outside of bird nesting season (1st May – August 31st inclusive). Where tree clearance cannot be avoided during the nesting season period then NPWS will be consulted in advance and if, following consultation, it is deemed necessary then a suitably qualified ecologist should be appointed to ensure the area is free of nesting birds. If nests are found site clearance will be delayed until chicks have fledged and nesting is complete.

The design of the development and wider Masterplan lands also includes for multiple bird (10 no.) to be installed in landscaped areas (including roof gardens). Bird boxes will include for 2 no. of Swift (*Apus apus*) nesting boxes to be installed in the landscaped area along the northern boundary of the development site. Bird boxes will also be fitted to trees throughout the development providing additional nesting and refuge for local passerine species.

Within the landscape plan wildflowers, shrubs and trees which have the potential to support foraging populations of birds are proposed in the landscape plan and include (non-exhaustive list): -

- Gorse (*Ulex europaeus*)
- Hawthorn (*Crataegus monogyna*)
- Holly (*Ilex aquifolium*)
- Rowan/Mountain Ash (*Sorbus aucuparia*)
- *Agapanthus africanus*
- *Alchemilla mollis*
- *Achillea millefolium*
- *Armeria maritima*
- *Rudbeckia fulgida*

5.1.4 Bats

A bat survey was undertaken and no roosts were identified. The removal of trees is minimal and should not affect commuting or foraging capabilities of bats. Despite the minimal bat activity, measures have been included to reduce potential impacts on the local population of bats in the area and wider environs.

The design calls for the installation of bat boxes. The locations and specifications of bat roosting sites/bat boxes has been informed by bat survey findings. There are 14 no. Rocket Bat boxes to be installed in the dark zones within the Phase 1 area of the Masterplan lands (including the development site). These will be free standing chambers on free standing poles. In addition, 14 no. of Summer Bat Boxes (1FF Schwegler woodcrete or similar design) will be erected within the trees on the northern boundary of the development site and Masterplan lands. In the area of the existing pumping station (south west of the Site) there is a screening wall of natural stone wall proposed for this location. The granted Phase 1 development design calls for the insertion of 8 no. bat tubes within this structure (8 no. interconnecting units – such as Interconnecting Woodstone Bat Box or similar design). The wall will be at least 3m high and bat boxes are to be inserted at the highest points on the wall and no lighting will be directed towards the wall. The locations and installation of bat boxes will be done under the supervision of a bat specialist.

The design of the lighting around the proposed development has also been designed to be cognisant of minimising effects on local nocturnal species, such as bats and badgers, and has been developed so as to allow for a dark ecological corridor around the eastern boundary of the development site and Masterplan lands. The lighting design for the eastern side of the site has been developed with the following principals to the fore; only illuminating what needs to be illuminated (e.g. light directed to the path only), reducing night time light levels, reducing the height of the luminaires, shielding of luminaires and correct choice of light (e.g. a warm white spectrum <2700 Kelvins).

Development specific lighting designs for the eastern ecological buffer zone include for: -

- All luminaires shall lack UV/IR elements to reduce impact;
- LED luminaires shall be used due to the fact that they are highly directional, have lower intensity, have good colour rendition and dimming capability;
- A warm white spectrum <2700 Kelvins shall be used to reduce the blue light component of the LED spectrum;
- Luminaires shall feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Column heights shall be carefully considered to minimise light spill. The shortest column height allowed shall be used where possible, c. 5.5-6m or less;
- Bollard lighting shall be used for pedestrian and greenway areas, if lighting is deemed necessary;
- Only luminaires with an upward light ratio of 0% and with good optical control shall be used;
- Luminaires shall be mounted on the horizontal, i.e. no upward tilt;
- Any external security lighting shall be set on motion-sensors and short (1min) timers; and,
- The intensity of external lighting shall be limited to ensure that skyglow does not occur in order to reduce light pollution.

The lighting design has been designed in accordance with guidance contained in; *Institution of Lighting Professionals; Guidance Note 08/18*; Bats and artificial lighting in the UK (ILP 2018). The lighting design has been reviewed by a bat specialist and recommendations have been incorporated into the design.

5.1.5 Badgers

The creation of an ecological buffer zone along the northern and eastern boundary of the development site and Masterplan lands will allow for connectivity of habitats. The buffer zone allows for connectivity between Rathmichael woodlands/stream and the railway underpass which leads to scrub habitat and Woodbrook golf club lands which are known to be badger foraging territory. During the construction phase no works will be undertaken during night time hours and as such the construction activities will not take place whilst local badgers are foraging. During the construction phase an access track will be in situ along the northern and eastern boundaries which will allow for continued connectivity for terrestrial mammals from Rathmichael woodlands to the railway underpass and to scrubland habitats to the east of the railway line.

During the construction phase the following standard management and protection measures will be implemented during the construction works:

- No excavations are to be left uncovered overnight or without a means of egress (e.g. a ramp or sloped plank) to prevent terrestrial mammals (e.g. badgers) from falling in or entering in search of food and becoming trapped;
- No buildings or storage units are to be left open overnight to prevent terrestrial mammals from entering in search of food and becoming trapped;
- All food waste is to be properly secured and disposed of to avoid attracting mammals to the site;
- No toxic, poisonous or potentially harmful substances or materials are to be left unsecured overnight

5.1.6 Other Measures

The landscape design for the proposed development includes for the creation of wildflower areas to incorporate plant species which will attract pollinating insects. The installation of 10 no. insect hotels within the wider Phase 1 development will also form part of the wildflower landscaping measures and these insect boxes will allow for insects to establish and have refuge in the landscaped areas.

The planting schedule contains a mix of native plant species and emphasis has been placed on adhering to the objectives outlined in the All-Ireland Pollinator Plan 2021-2025 with the aim of planting species which are beneficial to pollinator species. Pollinator beneficial plant species include (non-exhaustive list): -

- *Nepeta* 'Walker Low'
- *Salvia nemorosa*
- *Lavandula angustifolia*
- *Achillea millefolium*
- *Armeria maritima*
- Hemp Agrimony
- Black Meddick
- Musk mallow
- Wild primrose
- Hedge woundwort

5.1.7 Landscaping Establishment

The landscape design calls for an ecological buffer zone around the northern and eastern boundaries of the development site. This planted buffer zone will ensure the area provides for bat flight lines and badger foraging connectivity to/from the ecological features to the north (Rathmichael woodlands), east (scrub habitat and golf club lands) and south (River Dargle and remainder of former Bray Golf Club lands). Once operational the implementation of the landscape plan and compensatory habitat such as wildflower meadows and additional planting will be inspected by the Contractor within one year post planting. If measures have failed due to lack of management an alternative solution will be proposed by the Contractor. Operational phase monitoring (in order

to ensure the continued success of the landscape features, specifically in relation to biodiversity enhancement measures) shall be undertaken by those in charge of the maintenance and management of the development.

5.1.8 Refuge Habitats

The design of the development calls for the installation of numerous bird nesting boxes, bat roosting boxes and insect boxes. Refuge boxes will be checked and maintained to ensure they do not fall into disrepair. It is recommended that bird boxes are checked and cleared of remnant nests during the winter season (as required). Operational phase monitoring in order to ensure the success of the refuge habitats shall be undertaken by those in charge of the maintenance and management of the development.

5.2 Cumulative Impacts

Cumulative impacts with other plans and projects were considered during the preparation of this report and the accompanying Appropriate Assessment Screening Report (AtkinsRealis 2025, document reference no: 0115265DG0001).

Available Dún Laoghaire-Rathdown County Council and Wicklow County Council records were reviewed with respect to other plans or projects which have the potential to occur during the same period as the proposed development to determine if there is the potential for other works or projects to act in combination with the proposed development to give rise to potential cumulative impacts on protected species or habitats of high ecological value.

All of the submitted planning applications within the vicinity of the proposed development, as outlined in the associated Appropriate Assessment Screening Report (AtkinsRealis 2025), will have no cumulative or in-combination impacts with the proposed development.

5.2.1 Sea Gardens MasterPlan

‘The proposed development site forms part of a larger landholding within the Applicant’s ownership that is currently being developed as Sea Gardens (formerly Coastal Quarter and River Quarter). This 18 hectare wider landholding is located to the west of the Dublin to Rosslare railway corridor and Bray Harbour, south of Corke Abbey Valley Park, north of the Dargle River and Bray town centre, and east of the Ravenswell schools campus.

Given the size and strategic location of the wider landholding a Masterplan Design Document has been prepared by Howells (2025). Ballymore commissioned the masterplan to guide the development of the former Bray Golf Club lands in recognition of the strategic significance and size of the landholding. It is intended as an overarching document setting out key design principles and illustrating a structured framework for the development of the overall landholding in a clear, logical and transparent manner as each phase is permitted and implemented.

Construction works are ongoing to the immediate west of the Block A site as Phase 1 A known as Shoreside Park is currently nearing completion with the residences having been occupied in Phases from mid-2024 (Ref. ABP-311181-21). Therefore the proposed development (Block A) will be carried out in a consecutive manner and will not run concurrently with the existing Shoreside park phase of development. It is not anticipated to have any cumulative effects with the construction of Block A.

The proposed development at the adjacent site directly to the south; Block B, will be subject to a future planning application and therefore it is not likely that both Block A and B will be constructed at the same time. It is also noted that the combined number of residential units between Block A and B are 334 so still cumulate to a minor housing development.

Phase 2 referred to as River Quarter Phase 2, has been recently submitted to Wicklow County Council for planning permission and is located ca. 125m south of Block A. A comprehensive EIAR was submitted as part of this application which verified that no likely significant effects to the receiving environment will occur. Phase 2 is expected to start construction 6 months after granted permission.

Finally Phase 3, located directly south of Phase 2 ca. 230m from Block A, marks the final stage of the Sea Gardens masterplan, and will be submitted as a future planning application. Based on current programme Block A construction will be complete in advance of the commencement of Phase 3 construction.

Operational phase cumulative effects as a result of the development of the masterplan lands will likely be not significant given that the design and environmental assessment of each phase of the masterplan development have considered the masterplan lands as a whole. For example a Daylight and Sunlight Assessment has been prepared for the development accompanying this submission (3DDB, 2025). The report examined the level of impact from a daylight and sunlight perspective that the updated design would have on the granted SHD 2 Block B (ABP -314686-22) as well as the currently under construction duplexes to the west and found the impact is limited to the approved SHD 2 Block B, with results for the duplexes all presenting as fully compliant.

5.3 Residual Impacts

The proposed development will result in the loss of c. 0.65 hectares of amenity grassland and 4 no. non-native trees. Mitigation by avoidance is proposed for breeding birds, bats and hedgerows. Measures to reduce the effects of artificial lighting and loss of habitats are also proposed. Planting of native woody species and wildflower meadows in public spaces is also proposed as mitigation in the landscape design (refer to accompanying planning pack).

Enhancement proposals incorporated into the landscape design will improve the site's potential for foraging bats and birds and will increase the potential for nesting and roosting opportunities for both. There will be a loss of foraging area for badgers but no loss of habitat connectivity between foraging areas. The introduction of wildflower areas and insect boxes will lead to an increased availability for pollinating insects and food source for local bat and passerine bird populations.

This assessment has demonstrated that through iterative project design and assessment, and the identification of appropriate ecological mitigation measures, the residual ecological impacts of the development proposals are not expected to be significant and are expected to be localised to the development site and immediate environs. Local populations of bats, badgers and birds may suffer some disruption and habitat loss in the short term but, as the greater part of the development site is of low ecological value, habitat losses to development are not significant. Some minor beneficial effects are expected and some opportunities for enhancement measures are presented. Provided ecological mitigation measures are implemented correctly no cumulative impacts are expected.

6. Conclusions

The proposed Sea Gardens Block A development will result in the loss of small areas of grassland and 4 no. trees. The proposed development will not affect designated conservation sites, watercourses or any areas of high ecological value.

Impacts to flora and fauna have mitigated for by the landscape design plan and provide for enhancement to local biodiversity. The inclusion of a detailed landscape design which is developed under the 'No Net Loss' principle has been developed as part of the planning pack for this development. The proposed development will not result in significant impacts to any protected species.

Provided ecological mitigation measures are implemented correctly no significant ecological impacts are expected.

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