Ecological Impact Assessment

Proposed residential development at Shangan Road, Ballymun, Dublin 9

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Executive Summary

This Ecological Impact Assessment has been prepared by NM Ecology Ltd on behalf of Dublin City Council (the applicant), as part of a planning application for a site to the south of Shangan Road in Ballymun, Dublin 9. The proposed development will involve the clearance of the site and the construction of up to 93 new residential units. The aim of this report is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna.

The Site is not within or adjacent to any designated sites. Potential indirect impacts on designated sites were considered within a 5 km radius, but no potential pathways for indirect impacts were identified. A *Screening for Appropriate Assessment* report accompanies this application.

The main habitat within the Site is amenity grassland, with small areas of artificial surfaces (asphalt footpaths and a basketball court). These habitats are of Negligible ecological importance. No protected plants or problematic invasive species (e.g. Japanese knotweed) were recorded.

The Site may be used by common bird species, but it is highly unlikely to be used by any rare species, or to be used by nesting birds. It is also highly unlikely to be used by terrestrial mammals or bats due to the lack of vegetation cover and the high levels of artificial lighting in the area.

Therefore, no important ecological features were identified within the Site, and there is no risk of negative ecological impacts. Some potential ecological enhancements are proposed, including the planting of native plant species (to benefit pollinators and birds) and the provision of bird boxes. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

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1 Introduction

1.1 Assessment brief

The aim of this Ecological Impact Assessment (EcIA) is to identify, quantify and evaluate the impacts of the proposed development on ecosystems and their components, including designated sites, habitats, flora and fauna. It has been prepared in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (2018), which is the primary resources used by members of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The purpose of this document is to:

- Provide an objective and transparent assessment of the potential ecological impacts of the proposed development for all interested parties, including planning authorities and the general public
- Facilitate objective and transparent determination of the consequences of the development in terms of national, regional and local policies relevant to ecology
- Propose the steps will be taken to adhere to legal requirements relating to designated sites and legally protected species (CIEEM 2018).

Although the above guidelines provide a framework for EcIA, many processes rely on the professional judgement of an ecologist, including survey design, the valuation of ecological features, and the characterisation of impacts. An outline of the author's experience, training and accreditation is provided in the following section, which support his competency to make such judgements.

1.2 Statement of authority

All surveying and reporting was carried out by Nick Marchant, the principal ecologist of NM Ecology Ltd. He has thirteen years of professional experience, including ten years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO in Indonesia. He provides ecological assessments for developments throughout Ireland and Northern Ireland, including wind farms, infrastructural projects (water pipelines, greenways, etc.), and a range of residential and commercial developments.

He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

2 Methods

2.1 Scoping

The objective of this assessment is to identify any ecological features that may pose a constraint to the proposed development. It involves the following steps:

- Identification of designated sites within an appropriate zone of influence
- A walkover survey incorporating the following elements:
  - Classification and mapping of habitats
  - A search for rare / protected flora, and for problematic non-native plant species (e.g. Japanese Knotweed)
  - A search for field signs of rare or protected fauna (e.g. badgers), and habitat suitability assessments for species that are secretive, nocturnal or seasonal
- Valuation of ecological features, review of legal considerations, and selection of important ecological features
- Assessment of impacts on important ecological features and development of appropriate mitigation strategies

2.2 Data collection and walkover survey

A desk-based scoping study was carried out using data from the following sources:

- Plans and specifications for the proposed development
- Bedrock, soil, subsoil, ground water and surface water maps from the Geological Survey of Ireland webmapping service (www.gsi.ie/mapping.htm), the National Biodiversity Data Centre (http://maps.biodiversityireland.ie/), and the Environmental Protection Agency web viewer (http://gis.epa.ie/Envision/)
- Maps and details of designated sites from www.npws.ie
- Biological records from the National Biodiversity Data Centre online mapping service
- The *Dublin City Development Plan* 2016 - 2022, and details of permitted or proposed developments from the local authority's online planning records

The following resources were used for the walkover surveys:

- Habitat surveys were carried out in accordance with the *Best Practice Guidance for Habitat Survey and Mapping* (Smith et al 2011), and using the classification system of *A Guide to the Habitats of Ireland* (Fossitt 2000)
- Flora were identified using *Webb's An Irish Flora* (8th edition, Parnell & Curtis 2012), *Grasses, Sedges Rushes and Ferns of the British Isles and northwestern Europe* (Rose 1989) and *The Vegetation Key to the British Flora* (Poland & Clement 2009). Nomenclature follows the plant crib of the Botanical Society of the British Isles (BSBI 2007). The abundance and extent of species is described using the DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare)

- Fauna surveys followed the methods outlined in the *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes* (NRA 2006), with reference to other species-specific methods as appropriate.

Desktop data from internet resources was accessed in May 2021, and a site inspection was carried out on 12 May 2021. The survey was carried out within the boundaries of the Site, and adjacent lands were inspected visually within a 10-20m buffer.

2.3 Valuation of ecological features

Based on the information collected during desktop and walkover surveys, the ecologist assigns an ecological importance to each feature based on its conservation status at different geographical scales (Table 1). For example, a site may be of national ecological importance for a given species if it supports a significant proportion (e.g. 5%) of the total national population of that species.

Table 1: The six-level ecological valuation scheme used in the CIEEM guidelines (2019)

Ecological value	Geographical scale of importance
International	International or European scale
National	The Republic of Ireland or the island of Ireland
Regional	Leinster, and/or the east of Ireland
County	County Dublin or Dublin City
Local	Dublin 9
Negligible	None, the feature is common and widespread

It is accepted that any development will have an impact on the receiving environment, but the significance of the impact will depend on the importance of the ecological features that would be affected. The following is outlined in the CIEEM guidelines: "*one of the key challenges in an EcIA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from the development, and that will remain viable and sustainable.*"

For the purposes of this report we have only assessed impacts on ecological features that are of local importance or higher (refer to Table 1), or those that receive legal protection. These features are termed 'important ecological features' and are listed in Section 4.6. Impacts on features of negligible ecological importance (e.g. amenity grasslands) are not considered to be significant, so they are not included in the impact assessment.

2.4 Ecological Impact Assessment

Potential direct, indirect or cumulative impacts on ecological features can be described in relation to their magnitude, extent, duration, reversibility and timing/frequency, as outlined in the CIEEM (2019) guidelines. Depending on the type of impact and the sensitivities of the important ecological feature, the ecologist may determine that the impact would have a 'significant effect'. The following definitions are provided in the CIEEM guidelines: "*A significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project*". "*For the purpose of EcIA, a 'significant negative effect' is an effect that undermines biodiversity conservation objectives for 'important ecological features', or for biodiversity in general.*". Where significant impacts are identified, measures will be taken to avoid, minimise or compensate for impacts (where possible). Based on these measures, any residual impacts are then described.

3 Development proposals

3.1 Characteristics of the proposed development

The proposed development will consist of up to 93 no. residential units, predominantly one-bedroom and two-bedroom apartments, but also including some dwelling houses with up to four bedrooms. Primary road access will be from Shangan Road in the north and east of the Site, but a new access road will also connect to Shangan Rd on the western boundary of the Site (by Gateway Student Village). Roadside parking spaces will be provided throughout the Site. A play area and shared outdoor space will be provided in the west of the Site, and in the courtyard of the apartments. The dwellings will have private gardens.

Foul water will be discharged to a local authority foul sewer on Shangan Road and conveyed to the Ringsend Waste Water Treatment Works. Surface water runoff from roofs and paved surfaces will be attenuated and discharged to a local authority storm sewer on Shangan Road.

3.2 Other developments in the area (potential in-combination effects)

The Site is in an urban setting in Dublin city centre. It is included in zone Z1 of the *Dublin City Council Development Plan* 2016 – 2022, for which the planning objective is "*to protect, provide and improve residential amenities*".

Live and recently approved planning applications in the vicinity of the Site were reviewed on the online planning records of Dublin City Council (DCC). All were for small-scale works such as residential modifications / extensions, or changes of use. None of these developments were considered likely to cause in-combination effects.

4 The Receiving Environment

4.1 Environmental setting

Site location and surroundings

The proposed development site (referred to as 'the Site' throughout this document) is located in a suburban setting in Ballymun, Dublin 9. It currently consists of amenity grassland and some asphalt paths.

The northern boundary is formed by Shangan Road, the western boundary by the Ballymun Civic Centre, the southern boundary by Trinity Comprehensive School and the Oldtown housing estate, and the eastern boundary by the Shangan housing estates. The broader surroundings consist mainly of low-density housing, schools and some commercial units.

History of the site

The Site formerly contained three apartment buildings, which are visible on Google Earth historical aerial photography from 2009 (Figure 1). Two buildings were demolished between 2009 and 2013, and the third was demolished in 2013. The Site was subsequently reinstated to grassland, and has been in its current state since 2013/2014. An aerial photograph from 2020 is provided in Figure 1.

Geology and soils

The Site is underlain by dark limestone and shale, which is a locally-important aquifer. Subsoils and soils are made ground.

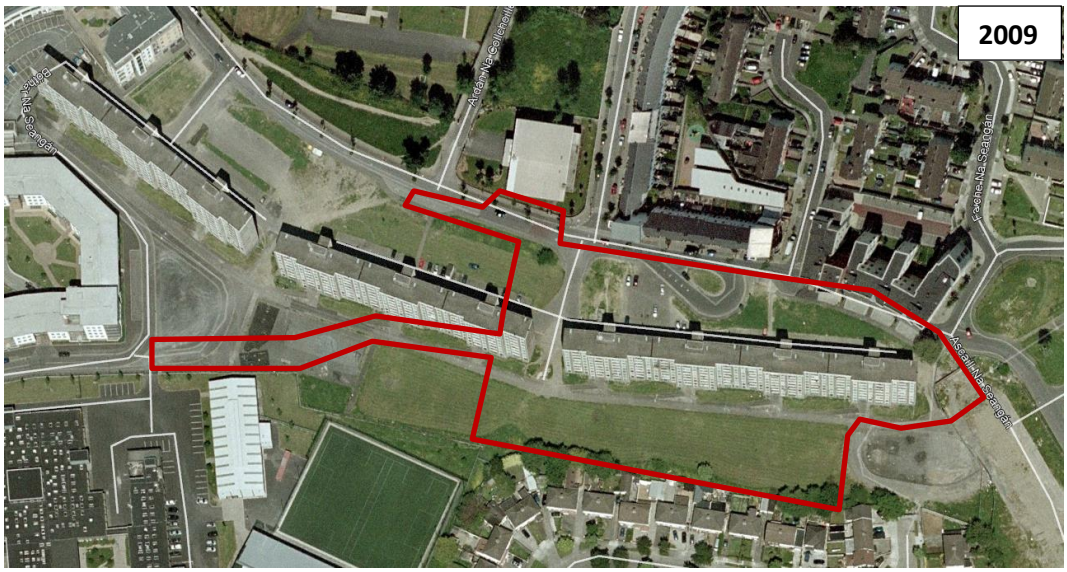
Hydrology

There are no rivers, streams or drainage ditches in the vicinity of the Site.

The closest major watercourse is the Santry River, which is located 1.3km northeast of the Site. The river flows east and meets the coast near Bull Island, approx. 7.4km downstream. The EPA Maps online mapping system shows a tributary of the Santry River approx. 0.7km north of the Site at the closest point, but it appears to have been culverted under Gulliver's Retail Park and the Northwood Business Campus, so it is no longer considered an active watercourse.

Under the Water Framework Directive status assessments 2013 – 2018, the Santry River is of Poor status, and the coastal waters of Dublin Bay are of Good status.

Figure 1: Aerial photograph of the Site in 2009 and 2020



4.2 Designated sites

The proposed development is not located within or adjacent to any designated sites. Potential indirect impacts were considered within a potential zone of influence of 5km[1]. Their locations are shown in Figure 2, and details are provided in Table 2.

[1] For the purposes of this assessment we considered indirect impacts on designated sites within a potential zone of influence of 5km. This distance is considered to be proportionate to the moderate scale of the proposed development and its suburban setting.

Figure 2	Designated sites
Location	Shangan Road, Ballymun
Applicant	NTMA
Date	17 May 2021

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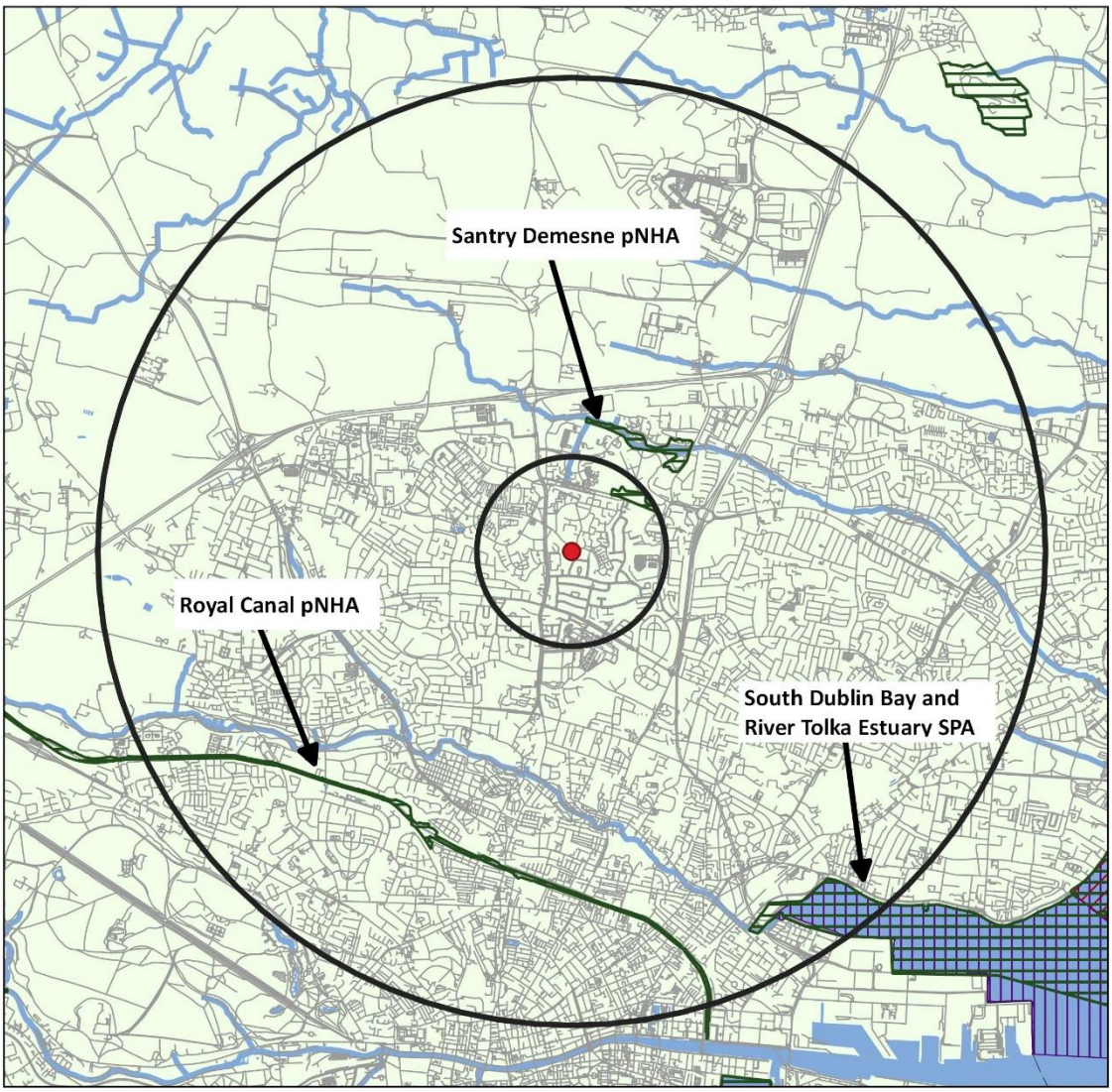
Site location
- Site location
- Buffer zones (1km, 5km)
- Roads
- Watercourses

Designated sites
- Special Areas of Conservation
- Special Protection Areas
- Natural Heritage Areas



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0 1 2 3 4 5 km

Table 2: Designated sites within 5 km of the Site

Site Name	Distance	Reasons for designation
Santry Demesne pNHA (178)	0.7 km north-east	Former demesne woodland which contains a protected plant species: Hairy St-John's Wort
Royal Canal pNHA (site code 2103)	3.3 km south-west	Extensive freshwater feature of value to a range of biodiversity, and with value as an ecological corridor
South Dublin Bay and River Tolka Estuary SPA (4024)	4.2 km south-east	**Habitats:** tidal / coastal wetlands **Special conservation interests:** light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, black-headed gull (over-wintering populations), arctic tern, roseate tern (passage migrants), and common tern (breeding populations)

Potential pathways for indirect impacts on designated sites

Indirect impacts can occur if there is a viable pathway between the source (the Site) and the receptor (the habitats and species for which a site has been designated). The most common pathway for impacts is surface water, e.g. if a pollutant is washed into a river and carried downstream into a designated site. Other potential pathways are groundwater, air (e.g. airborne dust or sound waves), or land (e.g. flow of liquids, vibration). The zone of effect for hydrological impacts can be several kilometres, but for air and land it is rarely more than one hundred metres. An appraisal of potential pathways for impacts on the designated sites in Table 2 is provided below.

The *Santry Demesne* pNHA is located approx. 0.7 km north-east of the Site. It has been designated for long-established woodland and a protected terrestrial plant species. There is no hydrological connection between the Site and the River Santry (which passes through the pNHA), so a pathway via surface water can be ruled out. Pathways via groundwater, land and air can be ruled out due to distance.

The *Royal Canal* pNHA is located 3.3 km south-west of the Site. When considering potential pathways for indirect impacts, it is important to note that the canal is a self-contained hydrological unit (i.e. not fed by surrounding rivers or drains). This means that there are no surface water or groundwater pathways linking the Site and the canal. Air and land pathways can be ruled out due to the distances involved.

The *South Dublin Bay and River Tolka Estuary* SPA is located 4.2 km south-east of the Site. The SPA was designated to protect a range of over-wintering bird species that feed on invertebrates and / or algae in intertidal habitats, as well as some tern species that breed on pontoons in the River Liffey estuary. The Site is not part of the River Tolka catchment, so a

pathway via surface water can be ruled out. Pathways via groundwater, land and air can be ruled out due to distance.

In summary, no potential pathways were identified to any designated sites.

4.3 Phase 1 Habitat Survey

Habitats within the Site were classified using *A Guide to Habitats in Ireland* (Fossitt 2000). The distribution of habitats is visible on the aerial photograph in Figure 1.

Amenity grassland (GA2)

The majority of the Site consists of amenity grassland, which was seeded in 2013/2014 following the demolition of the former apartment buildings. The dominant species are perennial rye-grass *Lolium perenne* and white clover *Trifolium repens*, with abundant common bent *Agrostis capillaris*, and frequent daisy *Bellis perennis* and greater plantain *Plantago major*. Occasional species include dandelion *Taraxacum officinale*, annual meadow-grass *Poa annua* and ribwort plantain *Plantago lanceolata*, and rare species (in the context of the DAFOR scale) include common mouse-ear *Cerastium fontanum* and broadleaved dock *Rumex obtusifolius*. There are three semi-mature sycamore *Acer pseudoplatanus* trees within the grassland.

Unmown areas around the margins of the field support ruderal or meadow species, including nettle *Urtica dioica*, false oat-grass *Arrhenatherum elatius*, creeping buttercup *Ranunculus repens*, cleavers *Galium aparine*, smooth sow-thistle *Sonchus oleraceus*, hedge bindweed *Calystegia sepium*, shepherd's-purse *Capsella bursa-pastoris*, sun spurge *Euphorbia helioscopia*, hedge mustard *Sisymbrium officinale*, wall barley *Hordeum murinum*, common vetch *Vicia sativa* and oil-seed rape *Brassica napus*.

Amenity grasslands are common in urban areas, and all species listed above are common and widespread in Ireland. Therefore, the habitat is considered to be of Negligible ecological importance.

Buildings and artificial surfaces (BL3)

Some asphalt paths cross the grassland, and there is a square asphalt surface in the south of the Site that was formerly a basket court. Some surfaces have scattered ruderal vegetation (from the species list above), but there are no significant areas of vegetation. Therefore, the habitat is of Negligible importance.

Rare or protected flora

No rare or protected plants were encountered during field surveys.

Invasive plant species

No Japanese knotweed or any other restricted invasive species (as listed on the third schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011*) were recorded during the site inspection.

4.4 Protected fauna

Birds

Common urban and garden birds

The following bird species were observed during the survey: blue tit, goldfinch, jackdaw and hooded crow. It is likely that some other common urban birds will use the Site, including corvids, finches, tits and other common passerines. However, urban areas rarely support significant populations of endangered birds. No nests were observed during the site inspection, and it is considered highly unlikely that any birds would nest in the semi-mature sycamore trees, as they are small in size and quite isolated. Therefore, the Site is considered to be of Negligible importance for common bird species.

Birds associated with SPAs

Some amenity grasslands in Dublin city are used as feeding areas by brent geese *Branta bernicla hrota* and other overwintering birds associated with SPAs in Dublin Bay. Geese typically favour sites that have a good field of view (i.e. large and open), and that have low levels of human activity. The grassland within the Site is not considered to be suitable for geese, because: it contained apartment buildings until 2013/14, it is a narrow site with poor fields of view, and because there is a high level of human activity in the area, including dog walkers. No goose droppings were observed during the site inspection. On this basis, the Site is considered to be of Negligible importance for any of the bird species associated with SPAs in Dublin Bay.

Terrestrial mammals

No terrestrial mammals were observed during field surveys, nor any characteristic field signs of protected species (e.g. badger setts). Due to the lack of tree / shrub cover, there is no suitable habitat for badgers, hedgehogs or other common protected mammals. It is unsuitable for otters due to the lack of watercourses. On this basis, the Site and its surroundings are considered to be of Negligible value for terrestrial mammals.

Bats

There are no potential bat roosts (old buildings, mature trees or stone bridges) within or adjacent to the Site.

Common bat species such as common pipistrelles and soprano pipistrelles may occasionally forage within the Site. However, there are streetlights along Shangan Road to the north, east and west of the Site, and along a footpath through the centre of the Site. Artificial lighting is also widespread in the surrounding area. Bats typically avoid brightly-lit areas, so the extensive lighting substantially reduces the suitability of the Site for foraging bats.

On this basis, the Site is considered to have Negligible importance for roosting, foraging or commuting bats.

Reptiles and amphibians

No reptiles or amphibians were observed during the site inspection. Considering the lack of wetland breeding sites for amphibians, and that all habitats within the Site boundary are well-represented in the surrounding landscape, the Site is considered to be of Negligible importance for these taxa.

Terrestrial invertebrates

The habitats within the Site are common in urban landscapes in Ireland, so it is considered to be of Negligible importance for invertebrates.

4.5 Potential limitations and information gaps

The site inspection was carried out in the ideal survey season for most flora and fauna, so this assessment is not considered to have any information gaps.

4.6 Identification of important ecological features

Table 3 provides a summary of all ecological features identified on the Site, including their importance and legal / conservation status. For the purposes of this impact assessment, any features that are of Local ecological importance, or that receive legal protection, are considered to be 'important ecological features', and will be addressed in the impact assessment.

Table 3: Important ecological features within the Site

Ecological feature	Valuation	Legal status*	Important feature?
Designated sites	International	HR / WA	No
Amenity grassland (GA2)	Negligible	-	No
Buildings and artificial surfaces (BL3)	Negligible	-	No
Rare and protected flora	Negligible	-	No
Invasive species	Negligible	-	No
Birds	Negligible	WA	No
Terrestrial mammals	Negligible	WA	No
Bats	Negligible	HR, WA	No
Reptiles and amphibians	Negligible	-	No
Invertebrates	Negligible	-	No

** HR – EC (Birds and Natural Habitats) Regulations 2011; WA – Wildlife Act 1976*

In summary, no important ecological features were identified at the Site.

5 Predicted Impacts of the Proposed Development

As there are no important ecological features at the Site, there is no risk of negative ecological impacts. However, there are some opportunities to improve the ecological value of the Site, as outlined in the following section.

6 Opportunities for Ecological Enhancement

6.1 Planting native vegetation

The proposed development will have some landscaped areas, including in public areas and private enclosed space. If these areas can be planted with a diverse mixture of predominantly native plants, there will be an opportunity to increase the number of plant species on the Site, and thus to increase its ecological value. The planting of native vegetation is also likely to increase the value of the Site for fauna, particularly pollinators and birds.

Comprehensive guidance on landscaping schemes of greatest value for native invertebrates is outlined in the *All-Ireland Pollinator Plan* 2015-2020. The plan includes a 'Pollinator-friendly Planting Code'[2], with recommendations for trees, shrubs, climbers and herbaceous

[2] Pollinator-friendly Planting Code, available online at pollinators.ie/app/uploads/2018/04/Planting-Code-2018-WEB.pdf

plants that are of greatest value to Irish pollinators. Most species are native to Ireland, but selected non-native flowering plants of value to pollinators are also included. Appropriate species could be selected from this list by the landscape architects for the development, with advice from the project ecologist as required.

If the landscaping scheme resulted in an increase in the number of species at the Site, it may be possible to achieve a net positive effect on the value of the Site for habitats and flora. To achieve maximum value, the species composition should include a significant proportion of native Irish plant species, and species from the 'Pollinator-friendly Planting Code'.

6.2 Installation of nesting boxes

At present the Site has negligible value for nesting birds. If some nesting boxes are installed in landscaped areas, some birds may start to nest on the Site. Nest boxes for common urban birds such as robins, finches and tits are widely available. Nest boxes for swallows and house martins could also be attached to the exterior of new buildings.

One innovative option for this development would be to provide nesting boxes for Swifts. Swift populations have declined by more than 40% in Ireland in the last twenty years, and they are included on the amber list of *Birds of Conservation Concern in Ireland*. They nest in urban areas, typically in the eaves of old buildings; the main reason for their decline is the lack of suitable nesting sites in modern buildings. Swift nesting boxes can be purchased in a range of designs, which can be incorporated into brickwork, or bolted to the exterior of a structure. Swifts produce little waste, and the boxes do not need to be maintained. Swifts have been recorded at Santry Park in recent years, so it is likely that they would be attracted to the new development if nest boxes were provided.

In either case, the installation of nesting boxes provides opportunities to attract new fauna to the Site, and to increase the overall number of species above the baseline levels.

7 Residual Impacts

No important ecological features were identified at the Site, so there is no risk of negative ecological impacts. However, there are some opportunities to improve the ecological value of the Site, including the planting of negative plant species and the provision of nesting boxes for birds. If the ecological enhancement measures can be implemented, it may be possible to have a positive effect on local biodiversity.

8 References

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