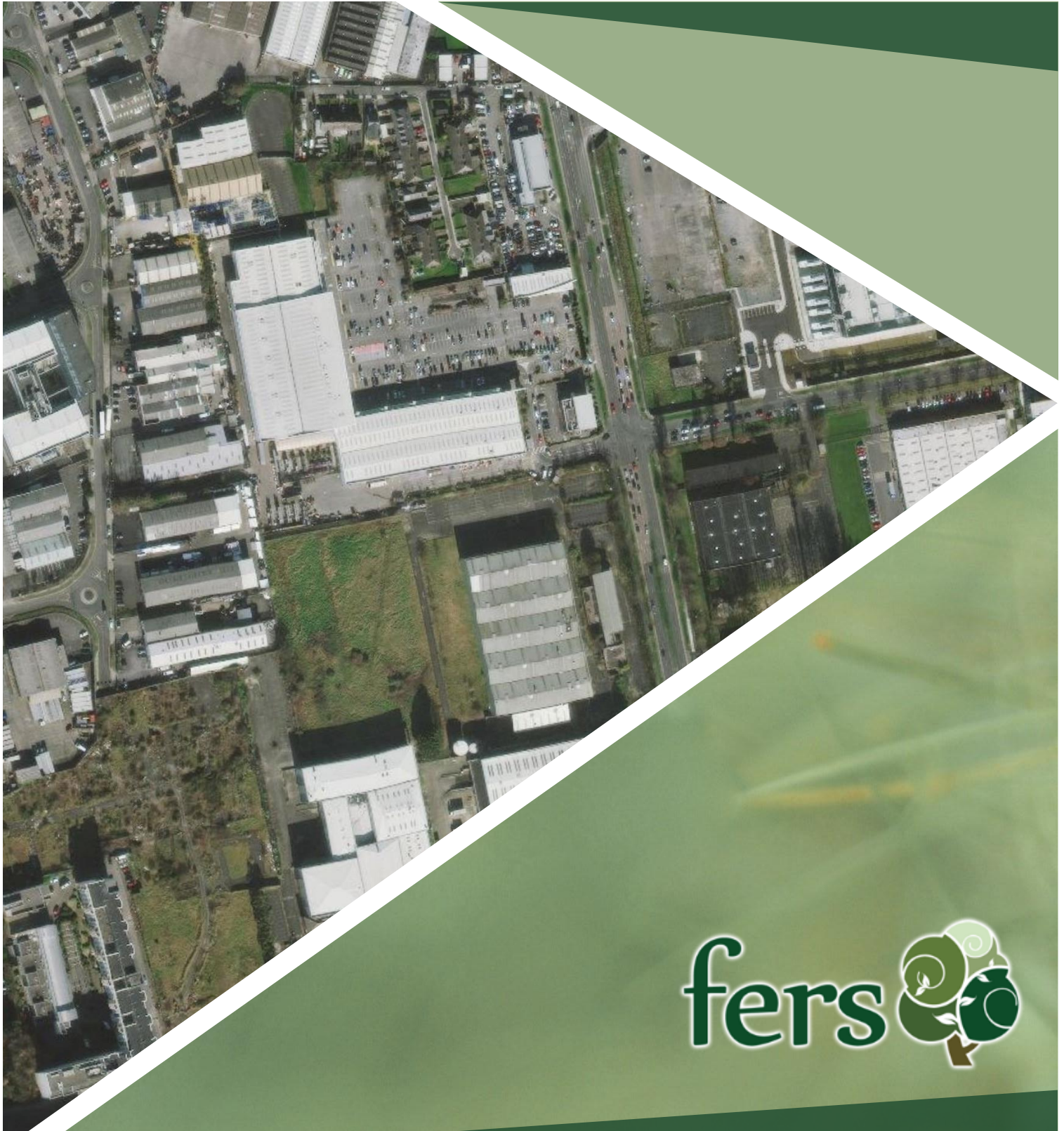


ECOLOGICAL ASSESSMENT OF A PROPOSED ROAD BETWEEN COOKSTOWN ESTATE ROAD AND BELGARD ROAD



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EXECUTIVE SUMMARY

South Dublin Co. Council is preparing a Part 8 for the construction of a road between Cookstown Estate Road and the Belgard Road. FERS Ltd won a competitive tender to undertake an Ecological Assessment regarding the proposed works.

The overall objective of this assessment was to identify key habitats and species and to assess and prioritise these on the site through:

- *Establishing species of flora and fauna present within the study area;*
- *Identification and assessment of the presence and status of protected species on site.*

Based on the habitats occurring and species observed within the proposed development footprint, the proposed development will have no significant impact on the local ecological resource.

1 Introduction

1.1 FERS Ltd. Company background

Forest, Environmental Research and Services have been conducting ecological surveys and research since the company's formation in 2005 by Dr Patrick Moran and Dr Kevin Black. Dr Moran, the principal ecologist with FERS, holds a 1st class honours degree in Environmental Biology (UCD), a Ph.D. in Ecology (UCD), a Diploma in EIA and SEA management (UCD) a Diploma in Environmental and Planning Law (King's Inn) and a M.Sc. in Geographical Information Systems and Remote Sensing (University of Ulster, Coleraine). Patrick has in excess of 20 years of experience in carrying out ecological surveys on both an academic and a professional basis. Dr Emma Reeves, senior ecologist with FERS holds a 1st class honours degree in Botany and a Ph.D. in Botany. Emma has in excess of 10 years of experience in undertaking ecological surveys on an academic and professional basis. Ciarán Byrne, a senior ecologist with FERS holds a 1st class honours degree in Environmental Management (DIT) and a M.Sc. in Applied Science/Ecological Assessment (UCC). Ciarán has in excess of 5 years in undertaking ecological surveys on both an academic and a professional basis.

FERS client list includes National Parks and Wildlife Service, An Bord Pleanála, various County Councils, the Heritage Council, Teagasc, University College Dublin, the Environmental Protection Agency, Inland Waterways Association of Ireland, the Department of Agriculture, the Office of Public Works and Coillte in addition to numerous private individuals and companies.

1.2 Description of proposed development

SDCC are currently preparing a Part 8 for the construction of a new link road between Cookstown Estate Road and Belgard Road. The approximate location of the proposed development site is illustrated in Figure 1, Figure 2, Figure 3 and Figure 4. Please note that the approximate area related to the survey area as opposed the development footprint. An excerpt from the Engineers' drawings illustrating the existing and proposed layout of the development are shown in Figure 5.

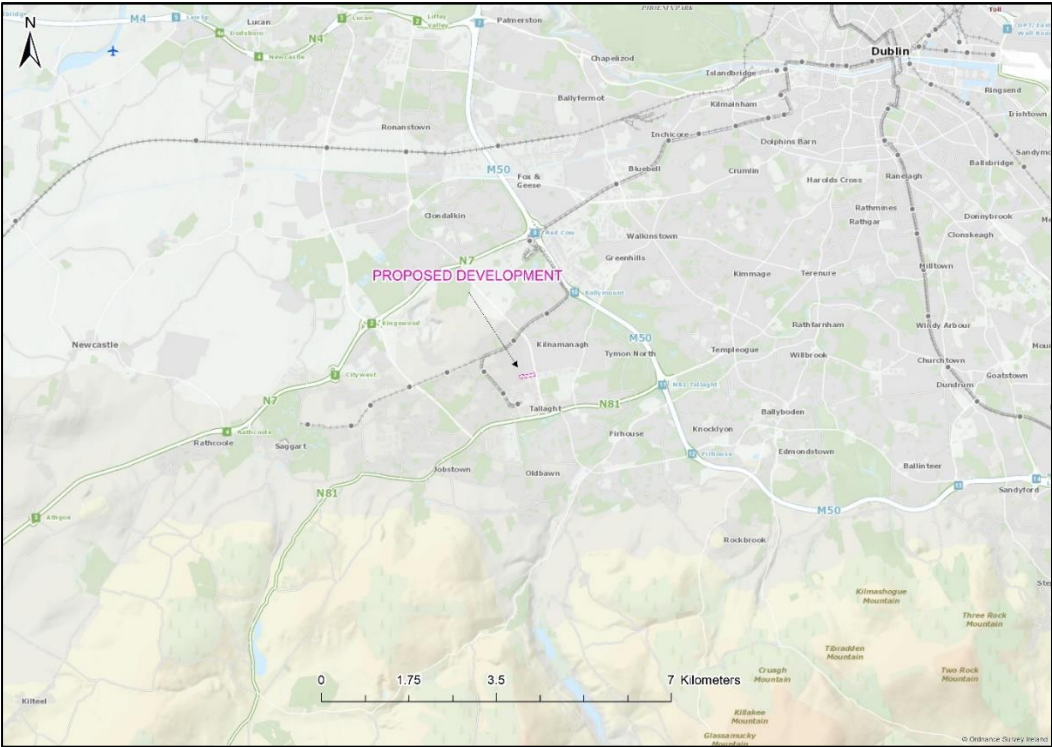


Figure 1: Approximate location of proposed development site (1:50,000)

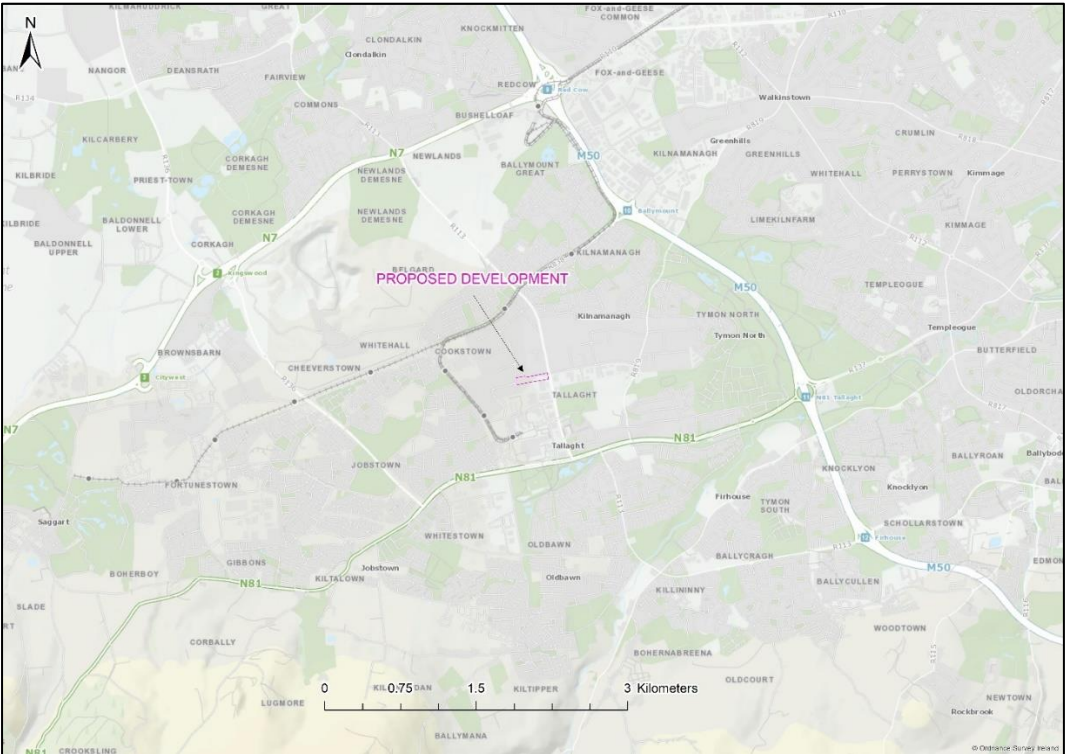


Figure 2: Approximate location of proposed development site (1:25,000)

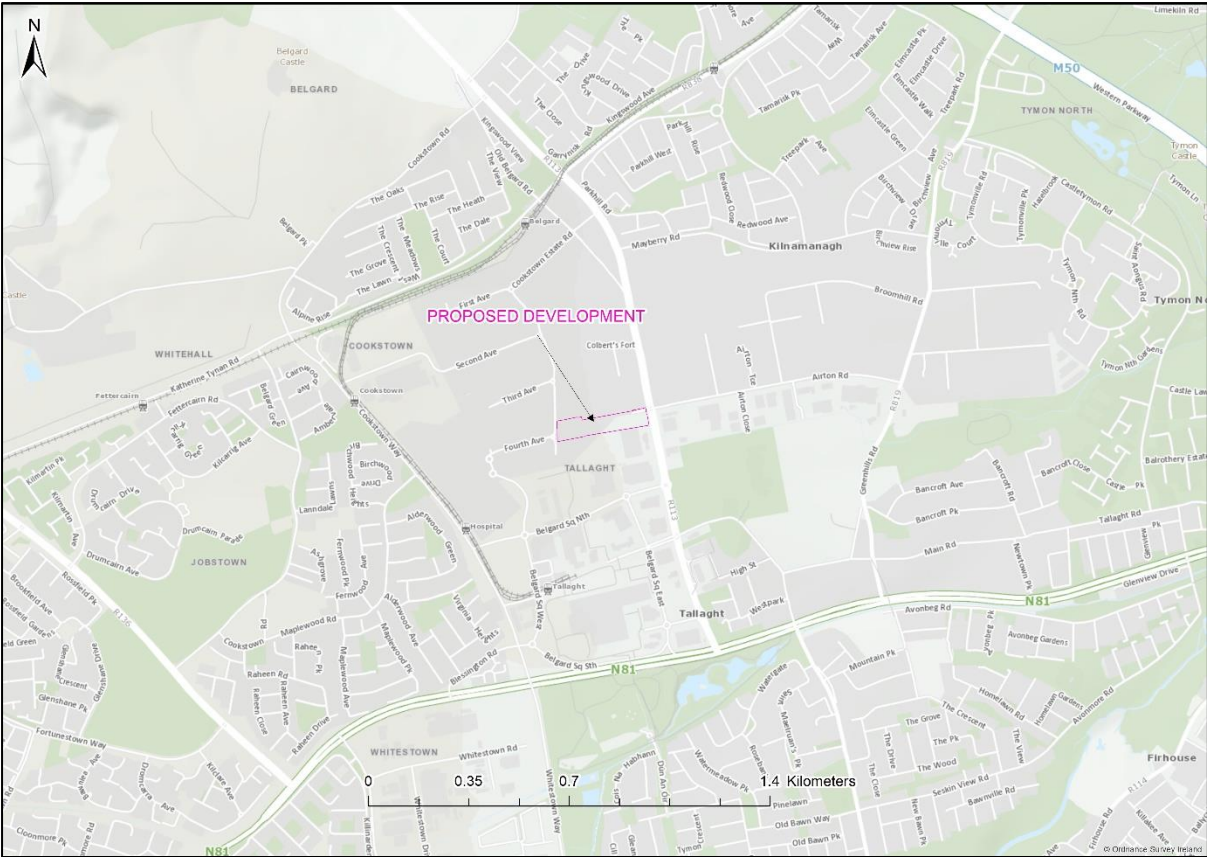


Figure 3: Approximate location of proposed development (1:10,000)

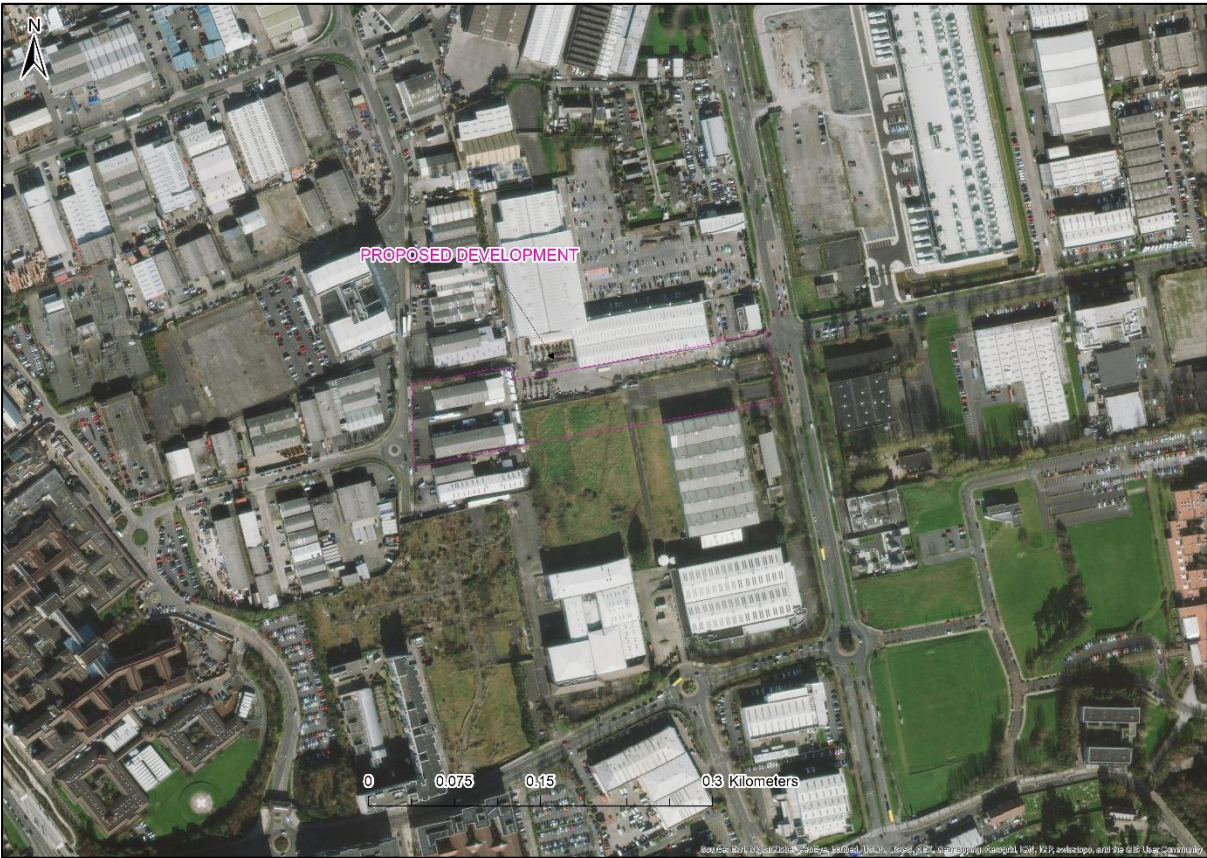


Figure 4: Approximate location of proposed development relative to surrounding habitats

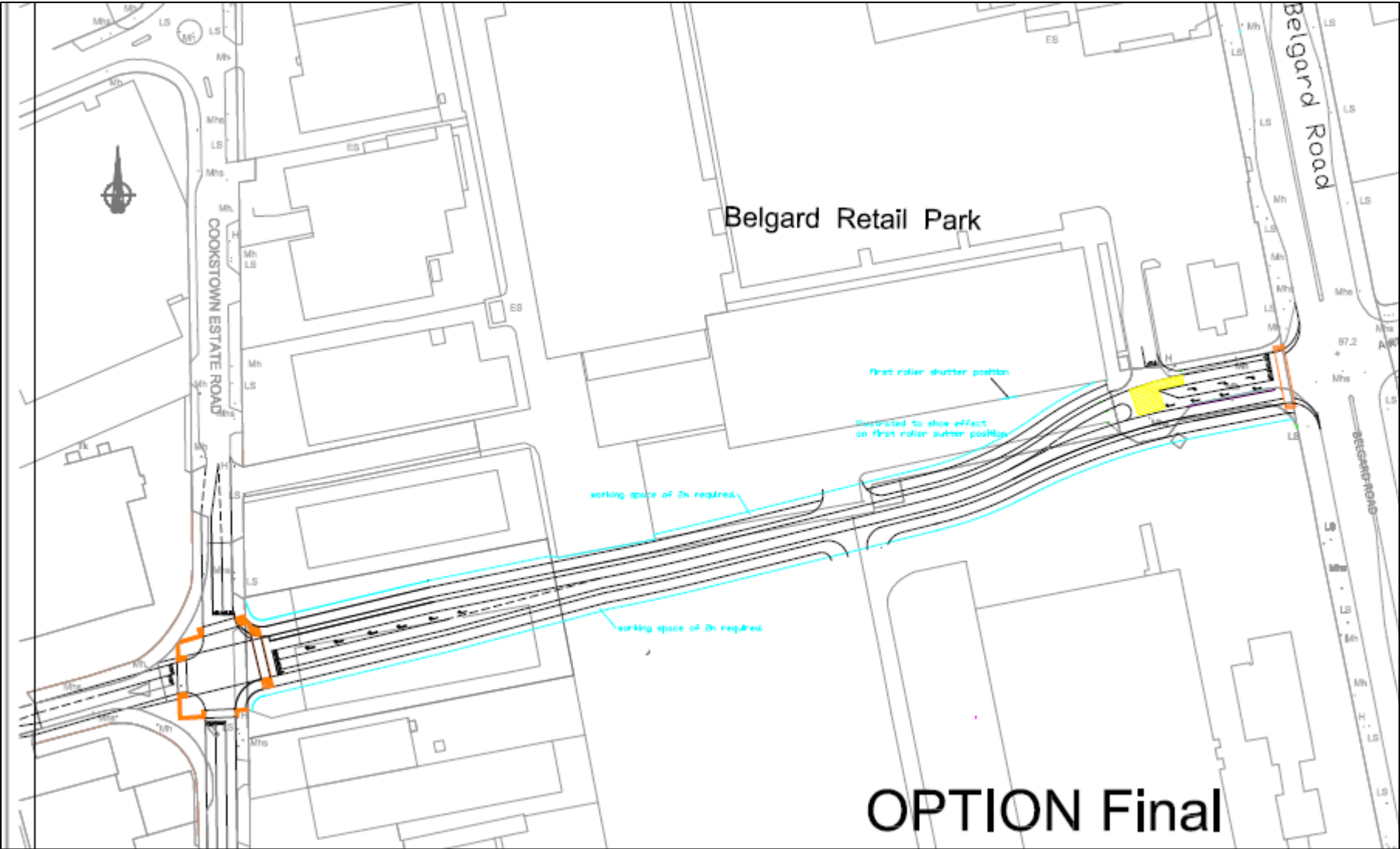


Figure 5: Excerpt from Engineer’s drawing illustrating layout and exact site boundaries

2 Methodology

2.1 Consultations/Desk study

2.1.1 National Parks and Wildlife Service

The primary body consulted with regard to matters involving Natura 2000 sites is the National Parks and Wildlife Service (NPWS). The role of the NPWS is:

- To secure the conservation of a representative range of ecosystems and maintain and enhance populations of flora and fauna in Ireland.
- To implement the EU Habitats and Birds Directives.
- To designate and advise on the protection of Natural Heritage Areas (NHA) having particular regard to the need to consult with interested parties.
- To make the necessary arrangements for the implementation of National and EU legislation and policies and for the ratification and implementation of the range of international Conventions and Agreements relating to the natural heritage.
- To manage, maintain and develop State-owned National Parks and Nature Reserves.

Information pertaining to sites designated for conservation purposes within the Republic of Ireland is typically held by NPWS and is publicly accessible through their on-line database at www.npws.ie . Consultations carried out involved querying the NPWS database for information pertaining to sites designated for conservation occurring within 5 km of the proposed development.

2.1.2 NBDC Database

The National Biodiversity Database Centre database was queried for records of species of conservation concern present within the immediate vicinity of the proposed development.

2.1.3 Other Data sources as relevant

2.2 Field Survey

A site visit was carried out on the 18th of May by Dr Emma Reeves in order to survey the flora, fauna and habitats present within the survey area. The entire site (Plot 3) was not accessible, but the nature of habitats in general could be ascertained. The surveys carried out included:

- Establishing baseline habitat details regarding the natural, semi-natural, and modified habitats in the study area;
- Establishing the presence and/or use of the area by habitats/species that are projected under the Habitats and Birds Directives, and invasive species of flora and fauna;
- Establishing if any species protected under the 2015 Flora Protection Order occur on site;
- Preparation of a general habitat map, presenting the distribution of habitat types within the study area to Level 3 habitat category (See Appendix);
- Identification and highlighting of specific areas of high potential biodiversity or conservation interest; and
- Establishing if the survey area is suitable for use by roosting bats.

The field surveys of vegetation were undertaken within the most suitable timeframe for such vegetation surveys.

The flora, fauna and habitat survey consisted of a walk-over survey through the survey area and *environs*. The survey recorded all species of flora and fauna observed occurring within the study area. It must be noted that the majority of the survey area comprises buildings and artificial surfaces. The botanical survey placed particular emphasis on rare, protected or annexed habitats/species by reference to -

- a) Irish Plant Red Data Book;
- b) Habitats listed on Annex I of the EU Habitats Directive;
- c) Species listed on Annex II of the EU Habitats Directive; and

An evaluation of the ecological significance of flora and habitats occurring within the site relative to surrounding habitats was also undertaken.

2.2.1 Habitat Mapping

Field maps were prepared utilising ESRI Digital Globe Satellite Imagery. Field maps were prepared prior to surveys, allowing the surveyor to mark pertinent information (habitat type, location of unusual species, etc.) on field maps. These field maps were then utilised to generate a habitat map in ArcGIS 10.2. Habitat mapping was carried out based on “Best Practice Guidance for Habitat Survey and Mapping” (Smith *et al* 2011).

2.2.2 General Bird Survey

Bird Watch Ireland and the RSPB NI have agreed a list of priority bird species for conservation action on the island of Ireland. These Birds of Conservation Concern in Ireland are published in a list known as the BoCCI List. In this BoCCI List, birds are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. The Red List birds are of high conservation concern, the Amber List birds are of medium conservation concern and the Green List birds are not considered threatened. Bird surveys were carried on 18th May following a modified common bird census or Brown & Shepherd survey, with all species observed noted.

The purpose of bird survey was to:

- Record any priority species (Annex I, Red or Amber listed) occurring within or adjacent to the proposed development site during the survey period, which were assumed to be breeding populations; and
- Identify any areas of habitat of particular interest with regard to avian biodiversity.

2.2.3 General Mammal Survey (including Badger)

A general mammal survey was carried out on the 18th of May 2020. This survey was carried out based on direct observations (seeing the animal), observation of faeces, prey remains, shelters, hair, etc.

2.2.4 Evaluation of the potential for bat roosts on site

All Irish bat species are listed on Annex IV of the EU Habitats Directive and as such must be afforded protection wherever they occur. In the cooler climate of Ireland and many other temperate countries, bats eat exclusively invertebrates (insects, spiders, etc.), which they actively hunt, catching them in flight or plucking them from foliage or off the ground/water. Different species of bat specialise in catching different types of invertebrates (for example the relatively large Leisler's bat (*Nyctalus leisleri*) feeds on larger invertebrates, whilst the Common Pipistrelle (*Pipistrellus pipistrellus*) concentrates on smaller prey, such as midges). Bats gather to feed wherever there are large invertebrate populations. During the winter in Ireland, when there are few invertebrates available for feeding bats, they hibernate. Under Irish law (the Wildlife Act 1976 and Wildlife (amendment) Act 2000), it is a criminal offence to harm or disturb a bat in its place of rest. Bats are at their most vulnerable when roosting, and form different roost types at different times of the year as outlined in Figure 6 (from Irish Wildlife Manuals No. 25, Bat Mitigation Guidelines for Ireland) for the "Bat year".

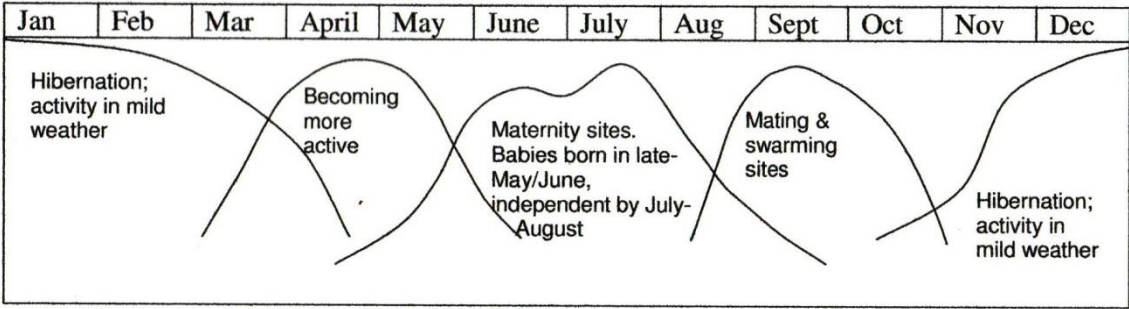


Figure 6: The “Bat Year”, outlining the major phases of life.

Owing to their metabolic and social requirements, which vary throughout the year, most bats will utilise a variety of roost types depending on the time of year. For instance, the Brown long eared bat (*Plecotus auritus*) has a high affinity for utilising trees as both maternity and hibernation roosts, while the Common Pipistrelle (*P. pipistrellus*) is more likely to seek out buildings for both maternity and hibernation roosts. Most of the bat species occurring in Ireland, however, will utilise trees as maternity roosts.

During the site visit on May 18th, 2020 a visual inspection was carried out in order to determine the general suitability of habitat present within the site for use by roosting bats.

3 Results

3.1 Desk Study

Several desk-based resources were queried.

3.1.1 NPWS

The NPWS database was queried regarding any sites designated for conservation within 5 km of the proposed development. There are four proposed Natural Heritage Areas (pNHA) and one Special Area of Conservation (SAC) within 5 km of the proposed development (see Table 1, Figure 7 and Figure 8).

Table 1: Sites designated for conservation within 5 km of the proposed development

Site Number	Designation	Site Name
000991	pNHA	Dodder Valley
001209	pNHA	Glenasmole Valley
001212	pNHA	Lugmore Glen
002104	pNHA	Grand Canal
001209	SAC	Glenasmole Valley

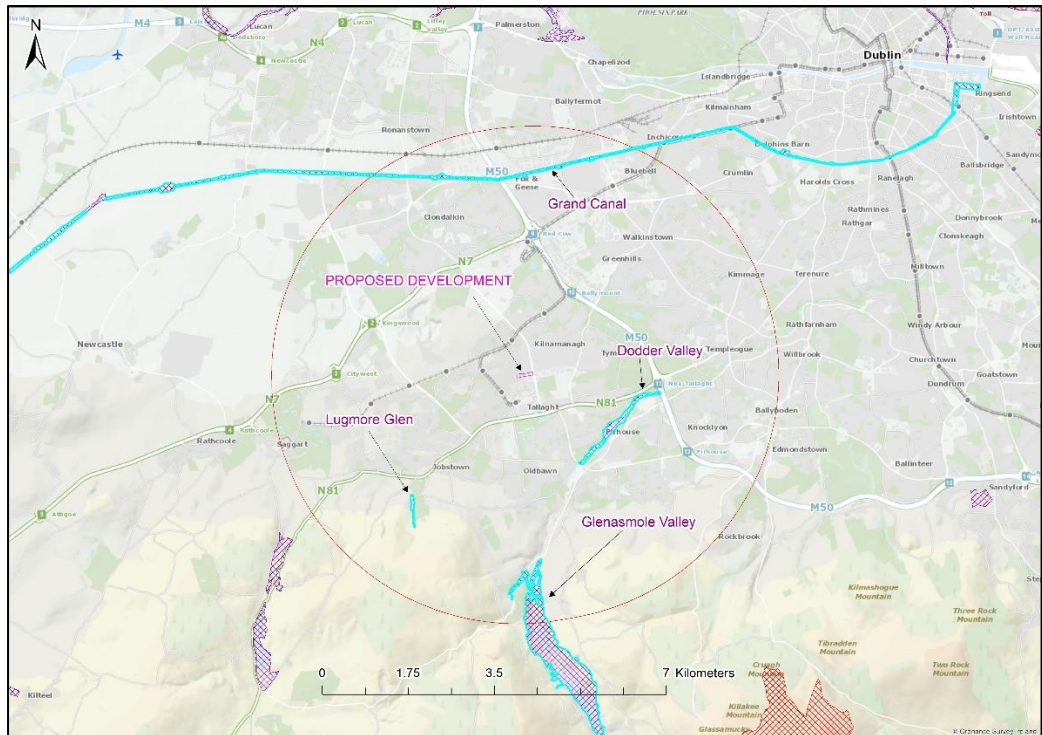


Figure 7: pNHAs occurring within 5 km of proposed development



Figure 8: SACs occurring within 5 km of the proposed development

3.1.2 National Biodiversity Data Centre database

The NBDC database was accessed on 12/05/20 to query records occurring within the vicinity of the proposed development area (2 km square in which proposed development site is located (see Figure 9). The species of conservation concern as recorded within this 2 km square are illustrated in Table 2).

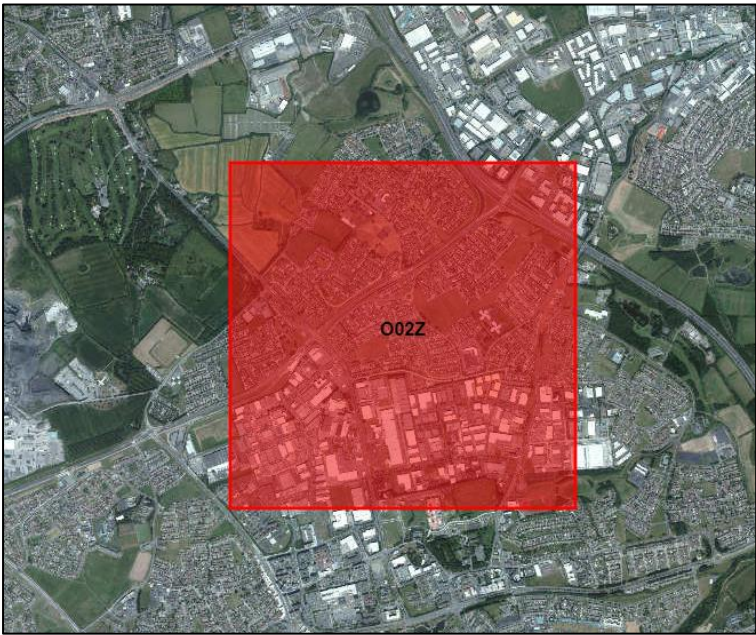


Figure 9: Location of polygon queried (National Biodiversity Data Centre)

Table 2: Species of conservation concern recorded within O02Z

Scientific name	Common name	Date of last record
<i>Hirundo rustica</i>	Barn Swallow	15/09/2017
<i>Larus ridibundus</i>	Black-headed Gull	30/07/2017
<i>Fulica atra</i>	Common Coot	31/12/2001
<i>Falco tinnunculus</i>	Common Kestrel	31/12/2011
<i>Alcedo atthis</i>	Common Kingfisher	31/12/2001
<i>Carduelis cannabina</i>	Common Linnet	31/12/2011
<i>Phasianus colchicus</i>	Common Pheasant	31/12/2011
<i>Aythya ferina</i>	Common Pochard	31/12/2001
<i>Gallinago gallinago</i>	Common Snipe	31/12/2011
<i>Sturnus vulgaris</i>	Common Starling	28/11/2016
<i>Columba palumbus</i>	Common Wood Pigeon	31/12/2011
<i>Passer montanus</i>	Eurasian Tree Sparrow	31/12/2011
<i>Anas penelope</i>	Eurasian Wigeon	31/12/2001
<i>Larus marinus</i>	Great Black-backed Gull	31/12/2001
<i>Phalacrocorax carbo</i>	Great Cormorant	31/12/2001
<i>Larus argentatus</i>	Herring Gull	31/12/2001
<i>Delichon urbicum</i>	House Martin	15/09/2017
<i>Passer domesticus</i>	House Sparrow	31/12/2011
<i>Larus fuscus</i>	Lesser Black-backed Gull	31/12/2001
<i>Tachybaptus ruficollis</i>	Little Grebe	31/12/2001
<i>Anas platyrhynchos</i>	Mallard	10/02/2016
<i>Larus canus</i>	Mew Gull	31/12/2001
<i>Cygnus olor</i>	Mute Swan	31/12/2001
<i>Vanellus vanellus</i>	Northern Lapwing	31/12/2001
<i>Falco peregrinus</i>	Peregrine Falcon	31/12/2011
<i>Columba livia</i>	Rock Pigeon	31/12/2011
<i>Alauda arvensis</i>	Sky Lark	31/12/2011
<i>Aythya fuligula</i>	Tufted Duck	31/12/2001
<i>Cygnus cygnus</i>	Whooper Swan	31/12/2001
<i>Emberiza citrinella</i>	Yellowhammer	31/12/2011
<i>Pastinaca sativa</i>	Wild Parsnip	11/07/2015
<i>Bombus (Melanobombus) lapidarius</i>	Large Red-Tailed Bumble Bee	07/06/2019
<i>Meles meles</i>	Eurasian Badger	24/01/2015
<i>Oryctolagus cuniculus</i>	European Rabbit	19/10/2018
<i>Martes martes</i>	Pine Marten	31/12/2012
<i>Erinaceus europaeus</i>	West European Hedgehog	14/07/2018

Of the species of conservation concern recorded, few if any are likely to utilise the habitats present owing to habitat isolation and disturbance. The area of rough grassland may be utilised by various invertebrates and bird species. Of note there do not appear to be any records of bats occurring within the immediate vicinity.

3.1.3 Map of Irish Wetlands

The Map of Irish Wetlands online resource (<http://www.wetlandsurveysireland.com/>) was queried in order to ascertain if any wetland sites are recorded within the vicinity of the proposed development. As can be seen from Figure 10, no such sites are recorded.

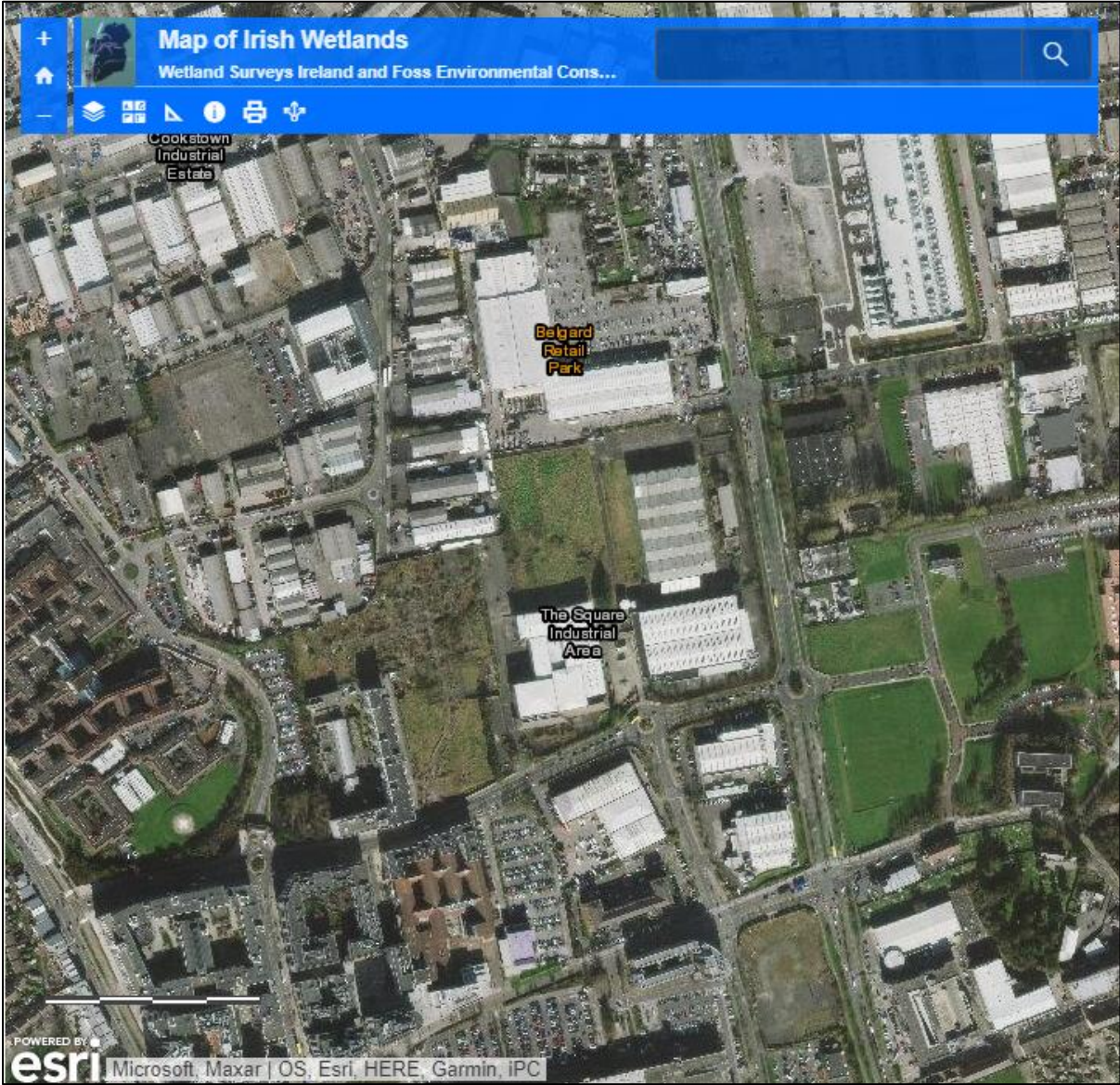


Figure 10: Excerpt from "Map of Irish Wetlands" website indicating no wetland sites in the immediate vicinity of the proposed development site.

3.2 Field Survey – flora and fauna occurring at the proposed development site

A site visit was carried out on the 18th May 2020 by Dr Emma Reeves. The field work was carried out during the optimal time window for undertaking ecological assessments. The primary purpose of the site visit was to identify the potential presence of Annex I Habitats or Annex II/IV species (habitats directive), Annex I Bird Species (EU Birds Directive) or species of conservation concern present at the site.

The location of the proposed development extends from the Belgard Road to the Cookstown Estate Road. For the most part, the survey area comprises habitat of the type “Buildings and Artificial; Surfaces” with a small proportion of habitats including boundary hedge, semi-improved dry grassland and scrub. It should be noted that buildings will require removal.

The area of hedgerow on site is better described as an assemblage of ornamental species that have been planted in a straight line, these includes species such as like Butterfly Bush (*Buddleia japonica*), New Zealand Flax (*Phormium sp*), Daisy Bush (*Oleria sp.*) and *Cotoneaster spp.*, alongside native species such as Elderberry (*Sambucus nigra*), and Dog rose (*Rosa canina*). This ‘hedgerow’ from an ecological point of view, is floristically poor but may support nesting birds such as sparrow, wren, Dunnock and blackbird. Dunnock was observed nesting in similar vegetation nearby. The hedge is quite narrow in most parts, except where ornamentals have become unruly and have spread along the tarmac, producing dense, low growing, mats of vegetation. The hedgerow merges gradually into an area of bramble (*Rubus fruticosus*), accompanied by palisade fencing across from B&Q’s garden centre.

Two grassland habitats are present onsite both of which would be best categorised as semi-improved dry meadow and grassy verge (GSi2) with some (too small scale to map) scrub encroachment. Many typical species of this habitat type are present including Hogweed (*Heracleum sphondylium*), Vetches, Common, Bush and Tufted (*Vicia spp*), Yarrow (*Achillea millefolium*), and Oxeye daisy (*Leucanthemum vulgare*). The two grassland types differ in the grass species present, one being quite rank with tall tufted grasses species such as Meadow foxtail (*Alopecurus pratensis*) and Cocksfoot (*Dactylis glomerata*). The other grassland type being of finer shorter grasses such as Red fescue (*Festuca rubra*) and Sweet vernal grass (*Anthoxanthum odoratum*) with a greater frequency of herbs.

No ground nesting birds, or species of conservation concern were noted during the survey. Peregrine Falcon has been seen by the author in lands adjacent to the site in recent times.

There was evidence for Rabbit and Fox in the vicinity of the site, but no evidence of active Badger Sett. Although there are various buildings present, these are unlikely to be suitable for roosting bats.



Figure 11: Ornamental hedgerow located opposite the B&Q buildings



Figure 12: Entrance to the industrial estate, area in the foreground falls into the footprint of the proposed works.



Figure 13: Scrub alongside palisade fencing , adjacent to the B&Q garden centre, site works would require removal of the fencing and significant area of scrub.



Figure 14: Scrub along site boundary, B&Q in middle ground, Illustrates the more rank GSi2 habitat type in foreground.

4 Assessment of ecological value of sites

The assessment of the ecological value of the site comprised:

- Identification and highlighting of specific areas of high potential biodiversity or conservation interest; and
- Identification of those areas which could act as important ecological corridors both within and outside of the study area.

The survey area is comprised largely of anthropogenic habitats, consisting primarily of the habitat “Buildings and Artificial Surfaces” (BL3). The small area of grassland present within the development footprint requires management in the form of mowing once or twice a year in order to maintain the grassland habitat. The scrub habitat is by its nature transitory and successional. If left unmanaged, this habitat will revert to climax vegetation, which is woodland.

Given the isolated location, nature and scale of the area of habitats concerned, in conjunction with the level of disturbance, the site is unlikely to ever be of high potential biodiversity or conservation interest.

5 Assessment of conservation priorities and ecosystem services

While some minor aspects of the habitats present within the survey area in general do provide a “stepping stone” (for example birds may utilise the buildings for nesting purposes) of habitat, they are of limited value as regards conservation and ecosystem services. The habitat is largely isolated, and while relatively easily accessed by invertebrates and birds, the habitat is not easily colonised by smaller terrestrial mammals.

6 Conclusions

The habitats present within the survey area are of limited ecological importance overall. The habitats present are largely anthropogenic and are also isolated. The habitats present may be of some conservation interest as regards nesting birds, which will almost certainly utilise habitat occurring (buildings primarily) for nesting and/or foraging. The proximity of a high number of human residences, likely associated with a relatively high cat population would likely limit any conservation value of the habitats present even from the point of view of nesting birds.

In conclusion:

- (1) There were no Annex I habitats observed occurring within the survey area;
- (2) There were no Flora Protection Order Species of plants observed occurring within the survey area;
- (3) There were no Red-listed species of flora observed present on the site;
- (4) There were no Annex II species (EU Habitats Directive) observed occurring within the survey area; and
- (5) There were no areas of habitat suitable for roosting bats (all of which are listed on Annex IV of the EU Habitats Directive)

In summary, the proposed development will have no significant impact on the local ecological resource.

7 Appendix – Indicative Habitat Map – survey area larger than actual development footprint



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www.sdcc.ie – official website of South Dublin Co. Council

www.npws.ie – website of the National Parks and Wildlife Service, source of information for data regarding Natura 2000 sites and Article 17 Conservation Assessments.

www.europa.eu – official website of the European Union, source of information on EU Directives.