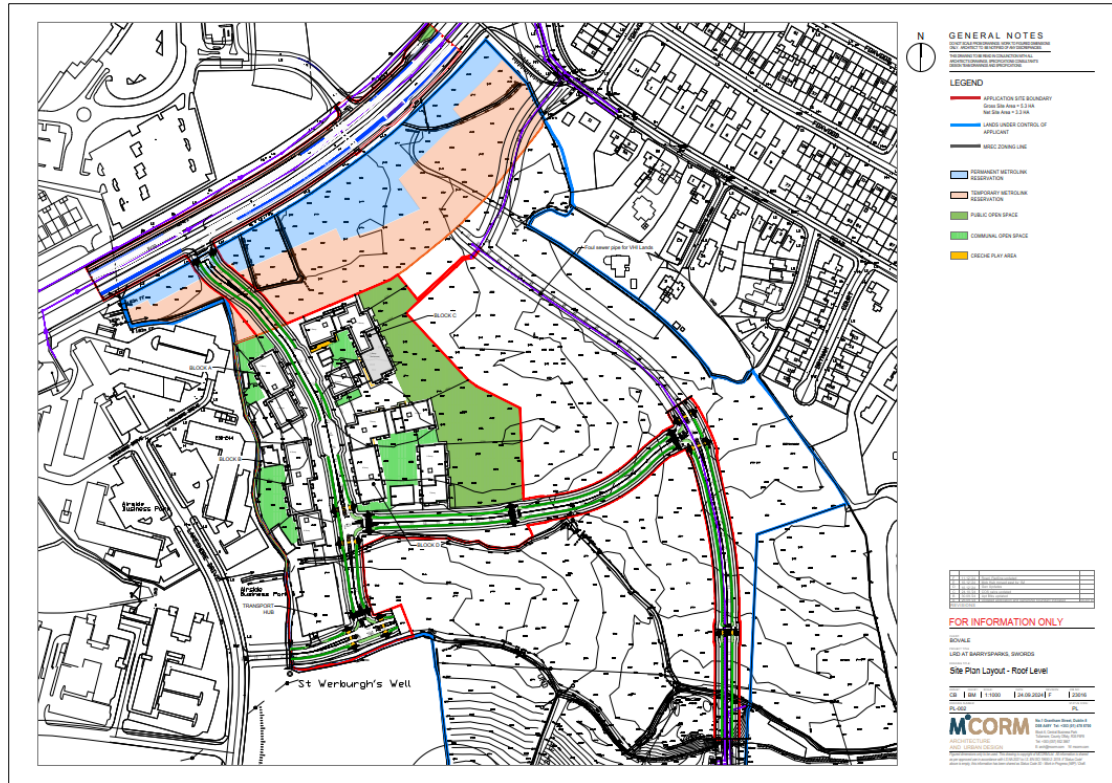


Large-scale Residential Development (LRD) and Creche

Barrysparks and Crowscastle, Swords, Co. Dublin

Bovale Developments Unlimited Company (Applicant)

Natura Impact Statement



FINAL REPORT

5th September 2025



Faith Wilson
ECOLOGICAL CONSULTANT

*Faith Wilson Ecological Consultant BSc (Hons) CEnv MCIEEM
Kestrel Ridge, Tigroney West, Vale of Avoca, Co. Wicklow*

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Table of Contents

1. INTRODUCTION.....	4
1.1 Background.....	4
1.2 Legislative Background.....	5
1.3 Methodology.....	7
1.3.1 Desktop Study	7
1.3.2 Ecological Field Surveys	8
1.3.3 Terrestrial Field Surveys	8
1.3.4 Ornithological Field Surveys – 2022/ 2023.....	8
1.3.5 Ornithological Field Surveys – 2023/ 2024.....	11
1.3.6 Ornithological Field Surveys – 2024/ 2025.....	12
1.4 Guidance and Data Sources.....	13
1.5 Stages of Appropriate Assessment	14
1.6 Statement of Authority	15
2. SCREENING FOR APPROPRIATE ASSESSMENT.....	16
2.1 Project Description.....	16
2.2 Desk Study	18
2.3 Identification of Sites	18
2.4 Assessment of Significance	42
2.5 Screening Assessment Conclusion	43
3. NATURA IMPACT STATEMENT	45
3.1 Description of the Receiving Environment	45
3.1.1 Habitats.....	47
3.1.2 Rare, Scarce or Threatened flora	51
3.1.3 Invasive Species.....	52
3.1.4 Mammalian Fauna	52
3.1.5 Amphibians.....	54
3.1.6 Birds	54
3.1.7 Assessment of Ecological Significance – Habitats – Application Site.....	63
3.1.8 Assessment of Ecological Significance – Terrestrial Fauna.....	64
3.1.9 Assessment of Ecological Significance – Wintering Birds – Species of Conservation Interest.....	64
3.1.10 Assessment of Ecological Significance – Wintering Birds – Birds of Conservation Concern	71
3.1.11 Spatial Usage of the FCC Barrysparks Master Plan lands by Wintering Birds	71
3.1.12 Spatial Usage of the Application Site by Wintering Birds	71
3.1.13 Hydrology of the FCC Barrysparks Master Plan lands and the application site.....	72
3.2 Project Description.....	74
3.3 Identification of Potential Impacts on European sites	75
4. POTENTIAL IMPACTS.....	83

4.1	Construction Phase	83
4.2	Operational Phase	97
5.	PROPOSED MITIGATION MEASURES FOR EUROPEAN SITES.....	98
5.1	Mitigation Measures for Water Quality in the European Sites – Groundwater	98
5.2	Mitigation Measures for Water Quality in the European Sites – Surface Waters	99
5.2.1	Sediment Control during Construction	100
5.2.2	Surface Water during Operation.....	101
5.3	Biosecurity Measures & Invasive Species.....	102
5.4	Wintering Birds	102
5.4.1	Delineation of the Working Area.....	102
5.4.2	Maintenance of Current Hydrological Regime within the wider northern Barrysparks FCC lands	103
5.4.3	Protection Measures for Surface Waters.....	103
5.4.4	Monitoring	103
5.4.5	Protection of the Riparian Corridor.....	103
5.5	General Biodiversity Protection Measures	103
6.	CUMULATIVE/IN COMBINATION EFFECTS.....	105
7.	NATURA IMPACT STATEMENT & CONCLUSION	116
8.	REFERENCES	118
9.	APPENDIX 1. ECOLOGICAL SURVEYS.....	122
10.	APPENDIX 2. BIRD DATA	128

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Bovale Developments Unlimited Company (Applicant)

Natura Impact Statement

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1. INTRODUCTION

1.1 Background

This Natura Impact Statement was prepared by Faith Wilson (an independent ecological consultant) on behalf of Bovale Developments Unlimited Company (Applicants) to accompany an application to Fingal County Council for development on lands at Barrysparks and Crowscastle, Swords, Co. Dublin.

The proposed development is a residential (Large-scale Residential Development (LRD)) and creche development.

This report contains the information required to assist the competent authority (in this case Fingal County Council or An Coimisiún Pleanála on appeal), to undertake the Appropriate Assessment for this development.

This report was carried out in accordance with the legal context outlined in **Section 1.2.**

1.2 Legislative Background

The aim of the European Habitats Directive (Council Directive 92/43/EEC on the conservation of wild habitats and of wild fauna and flora) is to create a network of protected wildlife sites across Europe, which are to be maintained at a favourable conservation status.

Each member state must designate their most important natural areas for habitats and species as Special Areas of Conservation (SAC). The Directive specifies the scientific criteria on the basis of which SAC sites must be selected and very strictly curtails the grounds that can be used as justification for impacting on a site.

The network of sites is referred to as the NATURA 2000 network and includes SACs (Special Areas of Conservation) for protected habitats and species and SPAs (Special Protection Areas) for birds, which are designated under the European Birds Directive (Council Directive 79/409/EEC as amended by Directive 2009/147/EC).

It is a requirement of the Habitats Directive ((92/43/EEC) that the competent authority must ensure that a proposal, which is likely to have a significant effect on an SAC or SPA, is authorised only where the competent authority is satisfied it will not adversely affect the integrity of the identified European site and that an appropriate assessment of the implications of the development for the conservation status of the site is undertaken.

The European Parliament, in a communication to the European Council in September 2000, states:

"The implementation of the European Habitats Directive and Birds Directive, both with respect to species conservation and with respect to the establishment of the Natura 2000 network, is one of the most important tools for achieving the objectives of the Convention on Biological Diversity in the European Union and member states (European Parliament 2000)".

Article 6 of the Habitats Directive provides a strict assessment procedure for any plan or project not directly connected with or necessary to the management of a European site but is likely to have a significant effect on the site in view of the site's conservation objectives. The proposed development of a large scale residential and creche are not directly connected with or necessary for the management of any European Site.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to have a significant effect on European sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject

to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

In Ireland, the requirements of Article 6(3) and (4) of the Habitats Directive have been broadly transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), which has been amended by:

- European Union (Birds and Natural Habitats) (Sea-fisheries) Regulations 2013 (S.I. No. 290 of 2013)
- European Communities (Birds and Natural Habitats) (Amendment) Regulations 2013 (S.I. No. 499 of 2013)
- European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015 (S.I. No. 355 of 2015)
- Planning and Development, Heritage and Broadcasting (Amendment) Act 2021 (Act No. 11 of 2021)
- European Union (Birds and Natural Habitats) (Amendment) Regulations 2021 (S.I. No. 293 of 2021)

This report has taken into consideration the relevant requirements of the Planning and Development Act, 2000 (as amended by the Planning and Development Act 2010).

1.3 Methodology

1.3.1 Desktop Study

A desk study was carried out to collate the available information on the ecological environment at Barrysparks and to determine the proximity of the proposed development to designated areas for conservation.

The National Parks and Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage database of designated conservation areas were checked with regard to the location of the lands at Barrysparks.

A review of the NPWS site synopses and conservation objectives for the relevant European Sites was completed. Information on habitats and species of fauna and flora listed for protection under Annex II of the EU Habitats Directive (92/43/EEC), Annex I of the Birds Directive (79/409/EEC) and the Wildlife (Amendment) Act (2000) was also sought from Fingal County Council Biodiversity Officer, NPWS, the National Biodiversity Data Centre and published sources.

Recent, high resolution, colour aerial photographs were used to identify habitats of conservation value. Other ecological sites and watercourses in the study area were identified by examining GIS datasets, maps and aerial photographs, and by drawing on existing information.

A review of other relevant reports and plans was also completed. These included:

- the Swords Masterplans Part A: Masterplans for Barrysparks & Crowscastle; Fosterstown; & Estuary West,
- the NIS produced for the Swords Masterplan - Part B: Barrysparks & Crowscastle,
- the NIS produced for the Barrysparks Healthcare Facility and associated enabling works, Barrysparks, Swords, Co. Dublin (Wilson, 2023),
- the Ecological Impact Assessment produced for the Barrysparks Healthcare Facility and associated enabling works, Barrysparks, Swords, Co. Dublin (Wilson, 2023),
- the biodiversity chapter and NIS produced for the Metrolink project (JACOBS IDOM (2022a, 2022b),
- the updated EIAR Biodiversity Chapter and Appropriate Assessment produced for the Metrolink project (JACOBS IDOM (2024a, 2024b),
- the Post Oral hearing AA Update produced for the Metrolink project (JACOBS IDOM (2024a),
- the biodiversity chapter and NIS produced for the Swords to City Centre Core Bus Corridor Scheme project (JACOBS ARUP SYSTRA 2023a, 2023b),
- the NIS produced for the Airside Link Road between the Holywell roundabout and Airside (Moore Group 2021), and
- a report for Screening for Appropriate Assessment for lands to the south east of the Holywell roundabout (Wilson, 2018).

1.3.2 Ecological Field Surveys

The FCC Barrysparks Master Plan lands and the Bovale LRD application site have been surveyed on many occasions by this author over several years for the purposes of ecology (as presented in **Table 1** in **Appendix 1**) and further detailed in **Section 1.3.3, 1.3.4** and **1.3.5**.

1.3.3 Terrestrial Field Surveys

The FCC Barrysparks Master Plan lands have been surveyed over many years between 2020 and 2025.

The site visits aimed to survey and map the habitats present using the habitat survey and mapping techniques described by Smith *et al.* (2011) and described using the Heritage Council Habitat Classification (Fossitt, 2000). Any affinity between the habitats present and a habitat type listed under Annex I of the EU Habitats Directive was also considered.

A survey for invasive and non-native terrestrial vascular plant species, which threaten biodiversity was completed over several years and any observations of invasive species have been documented during all site visits.

A dedicated large mammal survey was carried out during the site visits using the techniques as prescribed in Ecological Survey Techniques for Protected Flora and Fauna (NRA, 2009). This entailed searching for and identification of signs, tracks and droppings of various mammals (including otter, badger, pine marten, Irish stoat, Irish hare, red squirrel, hedgehog and pygmy shrew along with non-native species such as American mink, grey squirrel and rabbit) within the site. Badger setts, trails and foraging areas were looked for along earthen banks, hedgerows and treelines within the property. Otter and mink signs were looked for along the watercourse and ditches within the property.

Breeding birds were assessed over the course of the site visits completed in 2020, 2021, 2023 and 2024.

Bat surveys of the site were initially completed on the 28th August 2020, 29th September 2020 and 19th August 2021 and updated on the 24th September 2024.

The potential for water birds to utilise the site was first noted during a site visit in December 2020 when the site was flooded and a number of waterbirds were present. On foot of that a series of wintering waterbird surveys were completed on the FCC Barrysparks lands (including the site) over 2022/2023, 2023/2024 and 2024/2025 as detailed below in **Section 1.3.4, 1.3.5** and **1.3.6**.

1.3.4 Ornithological Field Surveys – 2022/2023

During the winter of 2022/23 Faith Wilson Ecological Consultant was commissioned to undertake an ornithological study of waterbird usage of the Barrysparks and Crowscastle Masterplan lands.

The ornithological study area included all of the FCC Barrysparks and Crowscastle Masterplan lands, which were divided into three study areas (A, B and C as shown on **Figure 1** below). The study was completed between

November 2022 and April 2023 when site visits were undertaken twice monthly, during which surveys and observations of bird usage of the study area were undertaken. A total of nine bird survey sessions were undertaken between November 2022 and April 2023 inclusive (see **Table 2** in **Appendix 1**).

All birds seen or heard were located and recorded onto maps. During each visit the lands were walked slowly for the duration of each survey period. The route walked focused primarily on existing hedgerows, areas of scrub, wet areas and areas with mature trees. Open areas were occasionally walked in an attempt to flush any unseen birds such as Snipe, Meadow Pipit, Skylark, finches, etc. Bird species that were heard or seen were recorded and their position noted on a map. All visits were undertaken when weather conditions were suitable for surveying (avoiding days with strong winds, heavy rain and/ or poor visibility). Binoculars (42x10) were used throughout each survey period to aid with identification of species and activities.



Figure 1. Ornithological study area in the Barrysparks and Crowscastle Masterplan lands in 2022/2023 illustrating the proposed LRD development area (within Area A), the permitted VHI development area (B) and additional area to the south (C) that were surveyed.

Data are presented in **Table 1** in **Appendix 2** for the FCC Barrysparks and Crowscastle Masterplan lands and separately for each of the three survey areas and include summaries of records in terms of the species, their totals and their conservation status.

Specific focus was given to any waterbirds using the site given these are listed for nearby Malahide Estuary SPA (004025) and the North-West Irish Sea SPA (Site Code: 004236), as well as other nearby SPAs, namely Rogerstown Estuary

(004015) to the north and Baldoyle Bay (004016), North Bull Island (004006) and South Dublin Bay and River Tolka Estuary (004024) to the south.

All of these SPAs list 'waterbirds and wetlands' as a qualifying feature, recognising the importance of these sites for a diversity of species.

They also list species that occur in qualifying levels (further details about these sites and their qualifying interests are presented in **Table 5** in **Appendix 1**).

1.3.5 Ornithological Field Surveys – 2023/2024

During the winter of 2023/24 Bovale and VHI DAC, commissioned Faith Wilson, Ecological Consultant, to continue the ornithological study of waterbird usage of the FCC Barrysparks Masterplan lands. The study area is shown on **Figure 2** below.

Survey effort was increased in 2023/2024 and the surveys were undertaken over 36 dates between 13/09/23 and 24/04/24 as shown on **Table 3** in **Appendix 1**.



Figure 2. Overview of site illustrating the section of the FCC Barrysparks Masterplan lands that were surveyed between September 2023 and April 2024.

Most of the visits were undertaken close to high tide (18 sessions, **Table 3** in **Appendix 1**), as this was anticipated as the most likely time for waders to be present, and visits were completed more frequently when waterbirds were recorded at the site.

During each visit, the area was scanned from locations along the road to the north of the site with binoculars and a telescope, and all waterbirds present were counted and their locations plotted onto maps.

All visits were undertaken when weather conditions were suitable for surveying (avoiding days with strong winds, heavy rain and/ or poor visibility).

1.3.6 Ornithological Field Surveys – 2024/2025

The ornithological wintering bird surveys continued in 2024/2025 using the same approach as detailed above. Surveys commenced in October 2024 and concluded in April 2025 as shown **Table 4** in **Appendix 1**.

1.4 Guidance and Data Sources

This report has been prepared with regard to the following guidance documents where relevant:

- *OPR Practice Note PN01. Appropriate Assessment Screening for Development Management.* (Office of the Planning Regulator, 2021).
- *Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC 2021/C 437/01.* (Commission notice C/2021/6913. Dated 28.10.2021).
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate General, 2001)
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (Commission Notice C(2018) 7621 final, Brussels, 21.11.2018)
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate General, 2000)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities Circular NPW 1/10 & PSSP 2/10.* (Department of Environment, Heritage and Local Government, 2010).
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government, 2010 revision)
- *Guidelines for Good Practice, Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011)
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Over-riding Public Interest, Compensatory Measures, Overall Coherence.* Opinion of the European Commission (European Commission, January 2007)

1.5 Stages of Appropriate Assessment

The competent authority is required to carry out appropriate assessment, as required by Article 6(3) and 6(4) of the Habitats Directive, as follows:

• Stage 1: Screening for Appropriate Assessment

The first step to establishing if an appropriate assessment is required is referred to as 'screening' and its purpose is to determine, in view of best scientific knowledge, on the basis of a preliminary assessment and objective criteria if the plan or project, alone or in combination with other plans or projects, could have a significant effect on a European site in view of the sites conservation objectives. The process identifies any likely impacts upon a European Site, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

• Stage 2: Appropriate Assessment

This is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a European site.

The appropriate assessment must include a final determination by the competent authority as to whether or not a proposed development would adversely affect the integrity of a European site. In order to reach a final determination, the consenting authority must undertake examination, analysis and evaluation, followed by findings, conclusions and a final determination. The appropriate assessment must contain complete, precise and definitive findings and conclusions, and may not have lacunae or gaps.

Additionally, where there are deemed to be adverse impacts, an assessment of the potential mitigation of those impacts is considered.

• Stage 3: Assessment of Alternative Solutions

This stage examines alternative means of achieving the objectives of the project or plan that aim to avoid adverse impacts on the integrity of the European site.

• Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain

This stage is the main derogation process outlined in Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project, which will have adverse effects on the integrity of a European site, to proceed.

1.6 Statement of Authority

This report has been completed by Faith Wilson BSc CEnv MCIEEM. Faith is a highly experienced and qualified ecologist, with over thirty years of experience in ecological and environmental surveys and consultancy, across a wide range of sectors.

Faith is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

The ornithological field survey work and bird counts were completed by John Fox who has over thirty years of ornithological field survey experience and the data analysis for same was completed by Dr Olivia Crowe who has worked for over twenty five years in the field of ornithological data analysis and GIS.

2. SCREENING FOR APPROPRIATE ASSESSMENT

2.1 Project Description

The lands owned by Bovale at Barrysparks (c.18ha) are located c.700m to the south of Swords and the Pavilions Shopping Centre, north east of Airside Retail and Business Parks and north of the Holywell residential estate as shown on **Figure 3** below. These lands are herewith described as the '**FCC Barrysparks Master Plan lands**' in this report.

The extent of the planning application is shown by the red line boundary on **Figure 3** below. These lands are herewith described as the '**Application Site**' or the '**Site**' in this report.

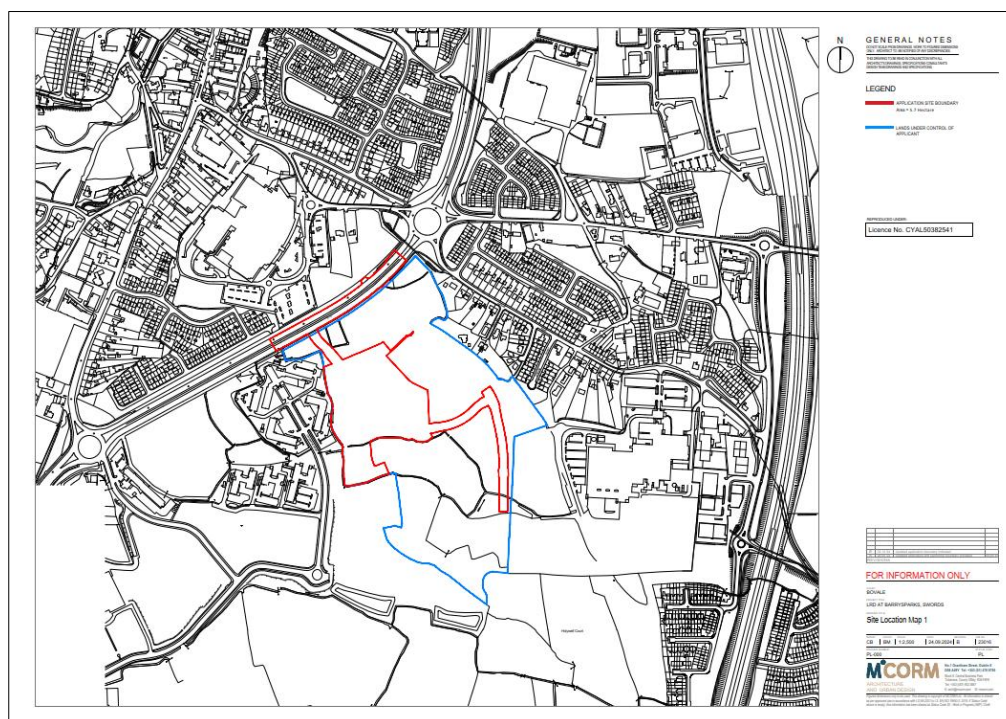


Figure 3. The lands owned by Bovale at Barrysparks (shown in blue). These lands are herewith described as the FCC Barrysparks Master Plan lands in this report. The Application Site within these lands is shown in red.

The application site is located in Swords. Co. Dublin, c.600m south of Swords Main Street and within the townlands of Barrysparks and Crowscastle.

There are no existing structures on the lands. The site comprises an area of undeveloped urban fringe incorporating undulating grassland, scrub and hedgerows. The Gaybrook Stream enters the FCC Barrysparks Master Plan lands at the western boundary from Airside Business Park. The stream turns south along the western boundary and then turns east across the site to divide the site into north and south. The southern section of the site slopes to the north towards the water course. The northern section of the site is relatively flat with a slight slope to the stream. There is an unnamed watercourse on the western boundary of the site and a field ditch running west to east and then south east through the centre of the FCC Barrysparks Master Plan lands.

The site is bound to the north by the R132, with the Pavilions Shopping Centre, Longlands residential neighbourhood and Swords Main Street further to the north. The Drynam Road residential neighbourhood, Feltrim Business Park and MSD Biotech Campus are located to the east of the site with the M1 motorway further to the east. The Holywell residential estate and Tesco supermarket are located to the south. Airside Business Park is located to the west of the site with Airside Retail Park and Airside Motor Park further to the west.

The adjoining road network includes the Holywell Distributor Road with a roundabout at the southeast of the lands, Lakeshore Drive at the southwestern boundary of the site, Drynam Road at the northeast of the site and the R132 which forms the northern boundary of the lands. Access to the lands is currently provided via an existing entrance from Drynam Road at the north eastern corner.

The applicant's overall landholding at Barrysparks and Crowcastle comprises c.18ha.

A MetroLink Station, known as Swords Central, is proposed within the FCC Barrysparks Master Plan lands situated south of the R132. The MetroLink project is the subject of a current Railway Order application to An Coimisiún Pleanála.

Permission (Reg. Ref. F23A/0727) for a healthcare facility by VHI Group DAC relating to a c.1.1ha site at the southern end of the applicant's landholding, including access from the Holywell Distributor Road, was granted in January 2024.

The applicant's design team has developed a masterplan with c.5no. phases for the remainder of the lands within the applicant's ownership, c. 16.9ha. The applicant's masterplan follows the structure and framework established by the *Barrysparks & Crowcastle Masterplan 2019*.

The lands the subject of this application, comprise the first phase of the applicant's Masterplan incorporating c.6ha of the applicant's overall landholding and are located within the northern half of the FCC Barrysparks Master Plan lands, to the south of the R132. The net developable area of the lands comprises c.3.3ha.

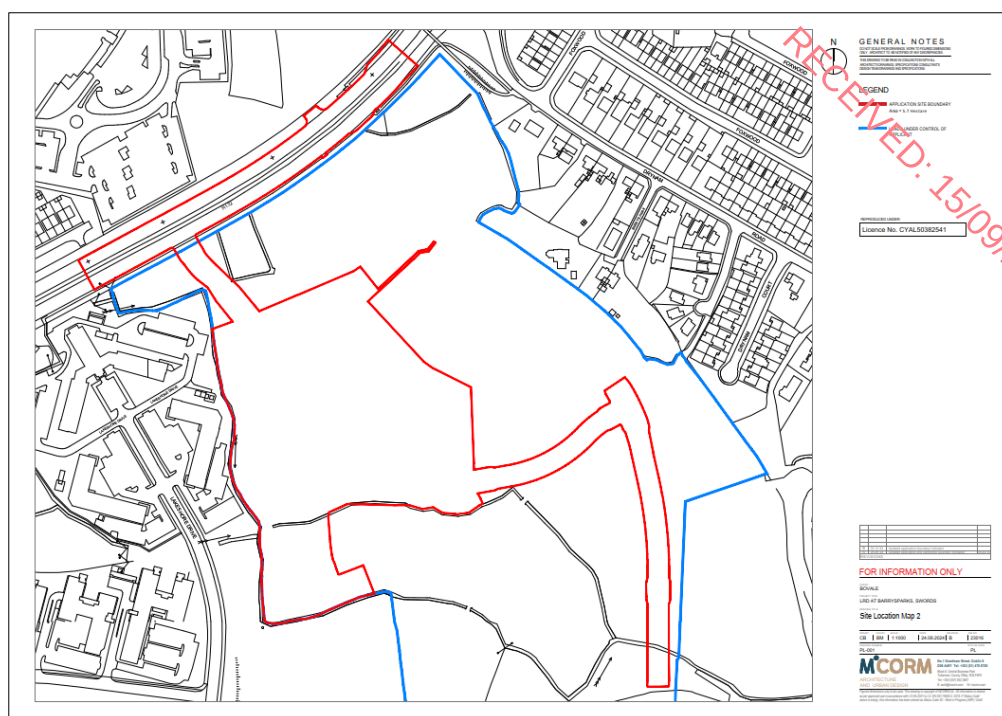


Figure 4. The application site (shown in red) is located within the northern and western portion of the FCC Barrysparks Master Plan lands.

2.2 Desk Study

As presented in **Section 1.3** above a detailed desk study was completed on the terrestrial ecological value of the FCC Barrysparks Master Plan lands coupled with a series of site surveys which were conducted between 2020 and 2025. The results of these surveys are presented in the Biodiversity Chapter in the EIAR prepared for the development, which accompanies the planning application.

2.3 Identification of Sites

In line with the guidance documents listed above in **Section 1.4** a review of all European Sites that could be potentially affected by the proposed project was made using the NPWS online map viewer. These included any European Sites within or adjacent to the FCC Barrysparks Master Plan lands and any European Sites within the zone of impact of the proposed development (using the source – pathway – receptor model) including any downstream.

The source-pathway-receptor model, dictates that, for an effect to occur, there must be a 'source' (such as a construction site); a 'receptor' (such as a designated site for nature conservation); and a 'pathway' between the two (such as a watercourse). If there is a possibility of ecological or environmental impacts occurring this is identified as a potential effect. The level and significance of that effect depends upon the nature and exposure to the potential effect and the characteristics of the receptor. Although there may be a risk of an effect, it may not necessarily occur, and if it does occur, it may not be significant.

There are no set recommended distances for projects to consider European Sites as being relevant for assessment. DoEHLG (2010, pp. 31 – 32) states that:

"The approach to screening is likely to differ somewhat for plans and projects, depending on scale and on the likely effects, but the following should be included:

1. Any Natura 2000 sites within or adjacent to the plan or project area
2. Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects
3. Natura 2000 sites that are more than 15km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the cases of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment."

It is common practice to include all European Sites within 15 km when conducting a screening for appropriate assessment. In some situations a whole river catchment or a groundwater aquifer may need to be included if there are hydrological connections. In some situations such as where bird flight paths are involved and potential barriers such as wind turbines are proposed, there may be the potential for impacts on SPAs more than 15 km away. In this assessment both sites within a 15km radius of the FCC Barrysparks Master Plan lands and those identified using the source-pathway-receptor model have been considered.

The lands within the FCC Barrysparks Master Plan lands and the proposed LRD site (henceforth referred to as the application site) are not currently designated for any nature conservation purposes under international conservation legislation as shown on **Figure 5** below.

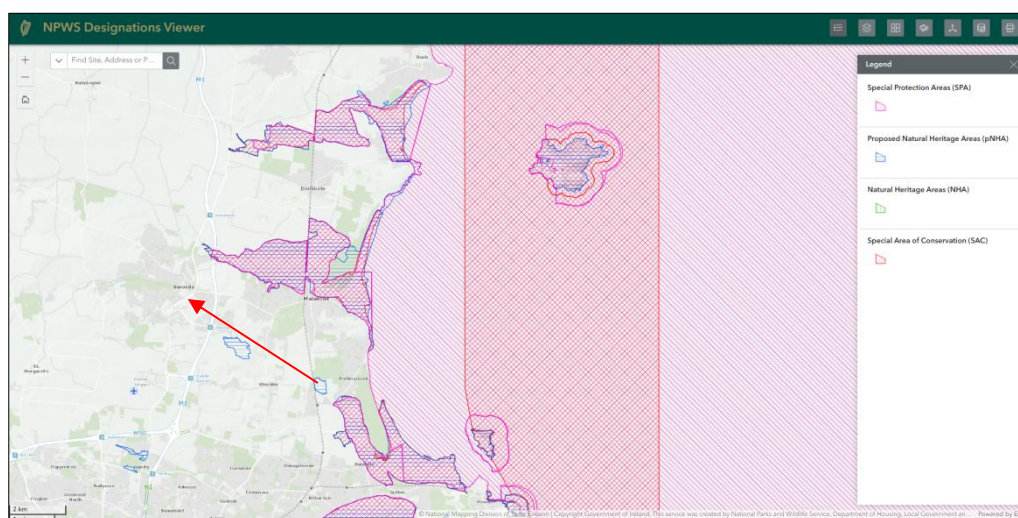


Figure 5. Site location at Barrysparks, Swords indicated by the red arrow. (Source: National Parks and Wildlife Service online map viewer).

There are eighteen identified European Sites within the zone of impact of the lands at Barrysparks as follows:

- Baldoyle Bay SAC 000199
- Baldoyle Bay SPA 004016
- Howth Head SAC 000202
- Howth Head Coast SPA 004113
- Ireland's Eye SAC 002193
- Ireland's Eye SPA 004117
- Lambay Island SAC 000204
- Lambay Island SPA 004069
- Malahide Estuary SAC 000205
- Broadmeadow/Swords Estuary SPA 004025
- North Dublin Bay 000206
- North Bull Island SPA 004006
- North-West Irish Sea SPA 004236
- Rockabill to Dalkey Island SAC 003000
- Rogerstown Estuary SAC 000208
- Rogerstown Estuary SPA 004015
- South Dublin Bay SAC 000210
- South Dublin Bay and River Tolka Estuary SPA 004024

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The location of these European Sites are shown on **Figure 6** below and they are summarised in **Table 1** below.

Special Areas of Conservation (SACs) are habitats of international significance that have been identified by NPWS and submitted for designation to the EU. SAC is a statutory designation, which has a legal basis under the EU Habitats Directive (92/43/EEC) as transposed into Irish law through the European Communities (Natural Habitats) Regulations, 1997, which were amended in 1998, 2005 and 2011. The European Communities (Birds and Natural Habitats) Regulations 2011 consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats)(Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the Court of Justice of the European Union (CJEU) judgements.

A Special Protection Area (SPA) is a statutory designation, which has a legal basis under the EU Birds Directive (79/409/EEC). The primary objective of SPAs is to maintain or enhance the favourable conservation status of the birds for which the SPAs have been designated.

The previous wintering bird studies prepared for the permitted VHI Application (Reg. Ref. F23A/0727) showed that some of the bird species of the Malahide Estuary SPA, the North-West Irish Sea SPA (Site Code: 004236), the Rogerstown Estuary SPA, the Baldoyle Bay SPA, the North Bull Island SPA, the North-West Irish Sea SPA and the South Dublin Bay and River Tolka Estuary SPA (i.e. SPAs located within the Zone of Influence of the FCC Barrysparks Master Plan lands) used the FCC Barrysparks Master Plan lands as an *ex-situ* inland feeding and/or roosting site in 2022/2023.

The SCI bird species that were shown to use the FCC Barrysparks Master Plan lands as an *ex-situ* inland feeding/roosting site in 2022/2023 are:

- Light-bellied Brent goose *Branta bernicla hrota*,
- Golden Plover *Pluvialis apricaria*,
- Black-tailed Godwit *Limosa limosa*,
- Greylag Goose *Anser anser*,
- Oystercatcher *Haematopus ostralegus*,
- Curlew *Numenius arquata*,
- Black-headed Gull *Chroicocephalus ridibundus*,
- Herring Gull *Larus argentatus*, and
- Common Gull *Larus carnus*.

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The Gaybrook Stream provides a hydrological link (using the source – pathway – receptor model) from the FCC Barrysparks Master Plan lands to the European sites downstream (the most pertinent of these are the Malahide Estuary SAC (Site Code: 000205) and the Malahide Estuary SPA (Site Code: 004025)), the boundaries of which are shown on **Figure 7** and **8** below, and the North-West Irish Sea SPA (Site Code: 004236), which is shown on **Figure 9** below.

Therefore silt, oils, etc. released during construction could reach the European Sites if mitigation measures are not implemented.

Non-native plant species, in particular those listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, could also be introduced to the European site via the existing hydrological linkage.

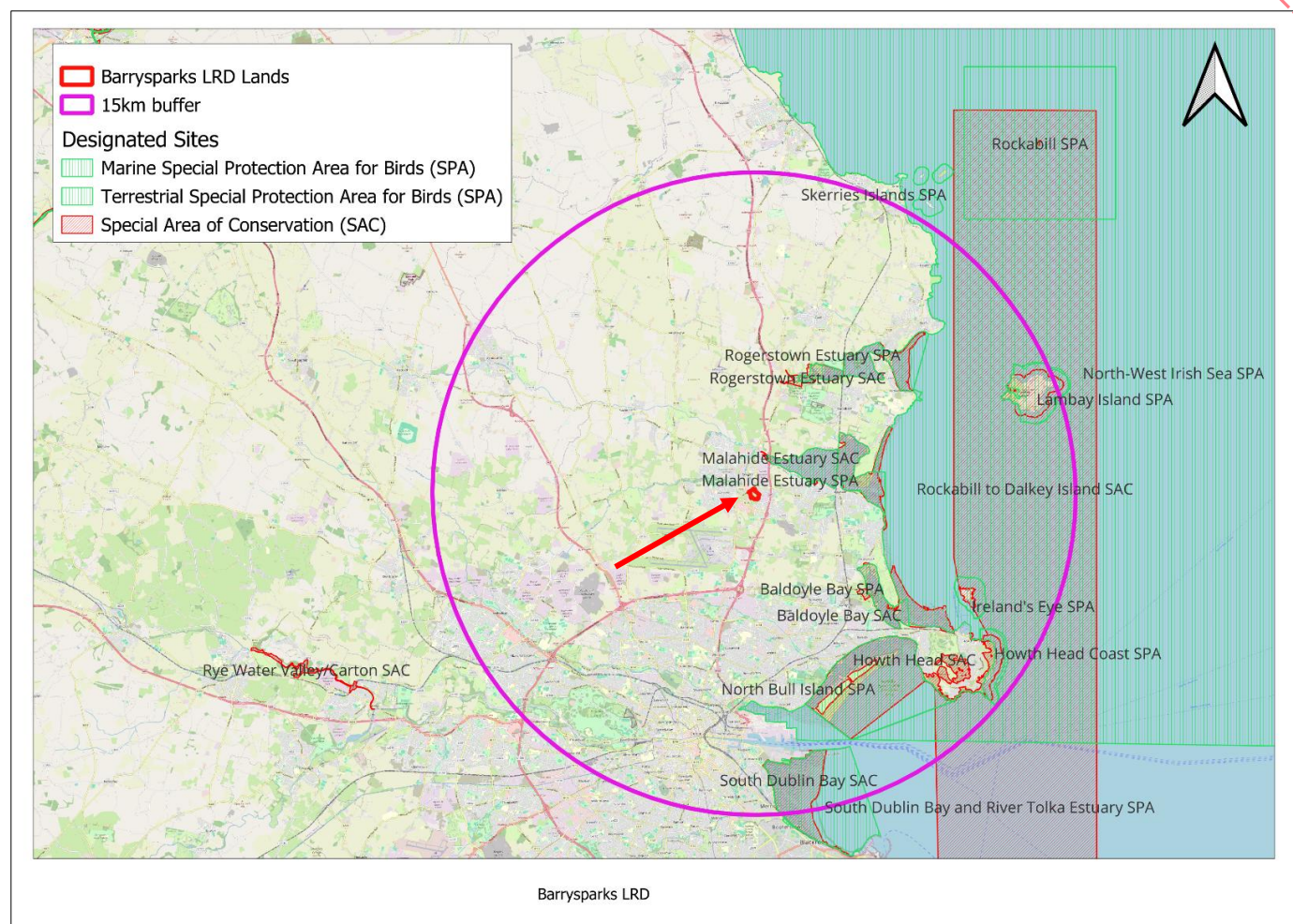


Figure 6. European sites within the zone of influence (sites within a 15km radius of the Barrysparks LRD application site and those identified using the source-pathway-receptor model) of the application site. The indicative location of the FCC Barrysparks Master Plan lands is indicated by the red arrow.



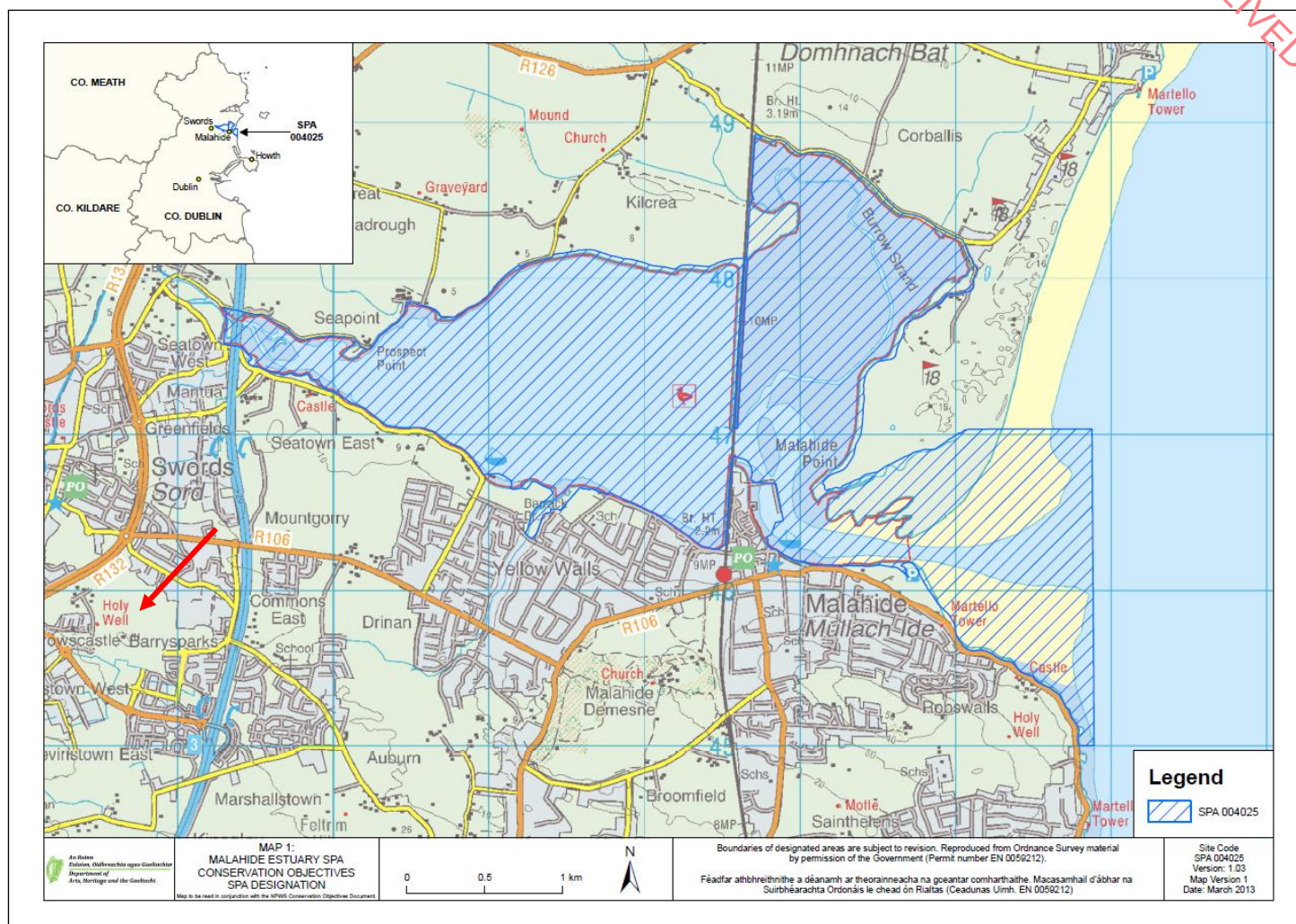


Figure 8. Malahide Estuary SPA (Site Code: 004025). (Source: NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025.) The indicative location of the Barrysparks LRD application site is indicated by the red arrow.

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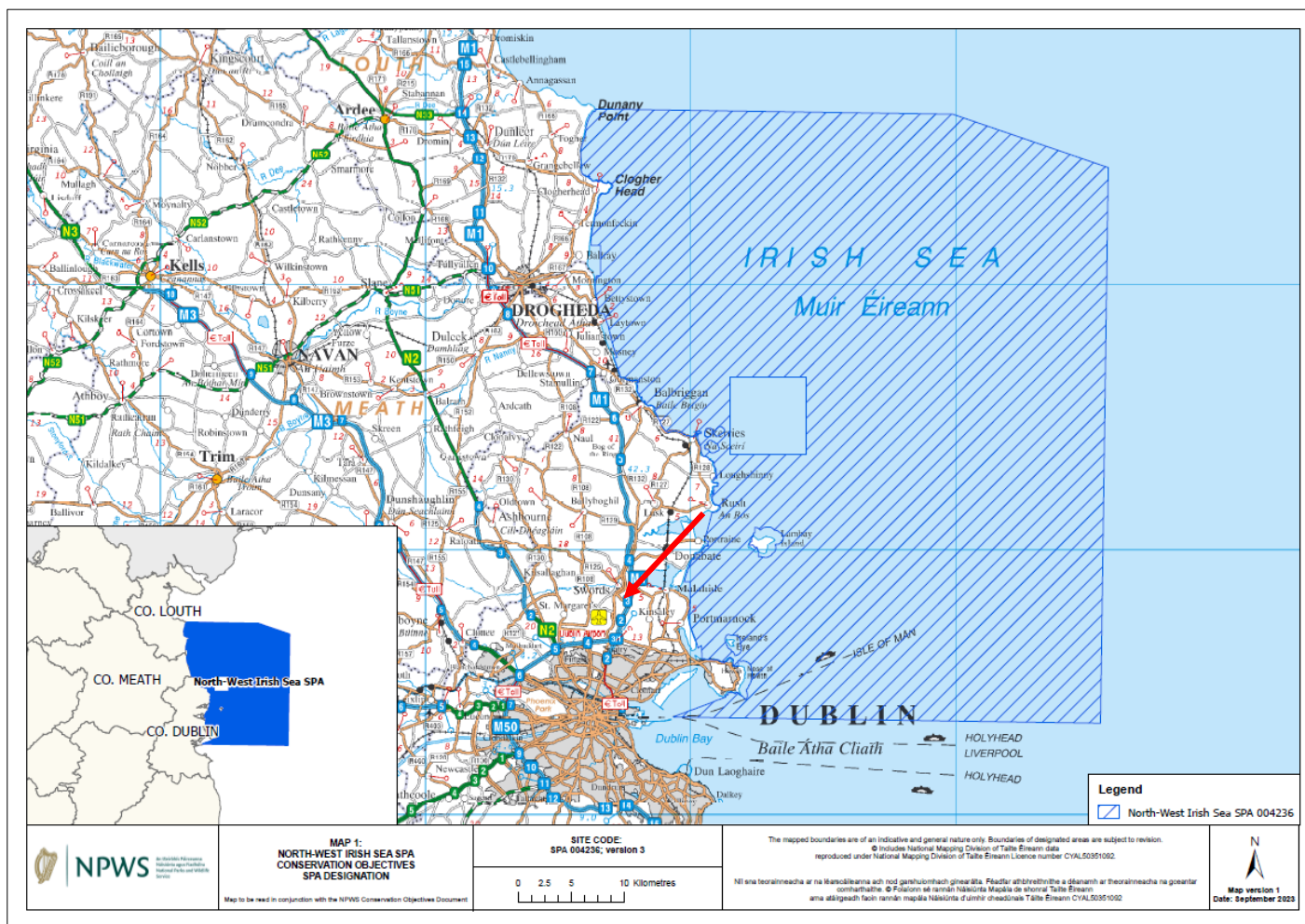


Figure 9. The North West Irish Sea SPA (Site Code: 004236). (Source: NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236). The indicative location of the Barrysparks LRD application site is indicated by the red arrow.

European Site Conservation Objectives:

Detailed site management plans and site conservation objectives are available for many of the European sites identified as outlined in the reference list. The conservation objectives for each of the European sites outlined above were examined on the 25th June 2025 and are summarised below in **Table 1**.

Hydrological Links to European sites:

There are no European sites located either within or directly adjacent to the FCC Barrysparks Master Plan lands and the proposed Bovale LRD application site.

A tributary of the Gaybrook Stream and a drainage ditch, drain the FCC Barrysparks Master Plan lands (the drainage ditch is incorrectly marked as the Gaybrook Stream North on **Figure 10** below). The Gaybrook Stream enters the FCC Barrysparks Master Plan lands at the western boundary from Airside Business Park. The stream turns south along the western boundary and then turns east across the site to divide the site into north and south. This stream is best described as a lowland depositing river (FW2). There is an unnamed watercourse on the western boundary of the site and a field ditch running west to east and then south east through the centre of the FCC Barrysparks Master Plan lands. A field ditch runs west to east and then south east through the centre of the FCC Barrysparks Master Plan lands.

These tributaries are culverted after leaving the FCC Barrysparks Master Plan lands but ultimately drain to the main channel of the Gaybrook Stream, which is located south of Holywell as shown on **Figure 10** below. The Gaybrook Stream (IE_EA_08G080700) has not been assigned to any category under the Water Framework Directive. The Gaybrook Stream drains to the Malahide Estuary thereby providing a hydrological link between the FCC Barrysparks Master Plan lands and the European sites downstream. The most relevant of the protected sites is the Malahide Estuary SAC/SPA, which is hydrologically connected to the FCC Barrysparks Master Plan lands via the Gaybrook Stream and the North-West Irish Sea SPA further offshore.

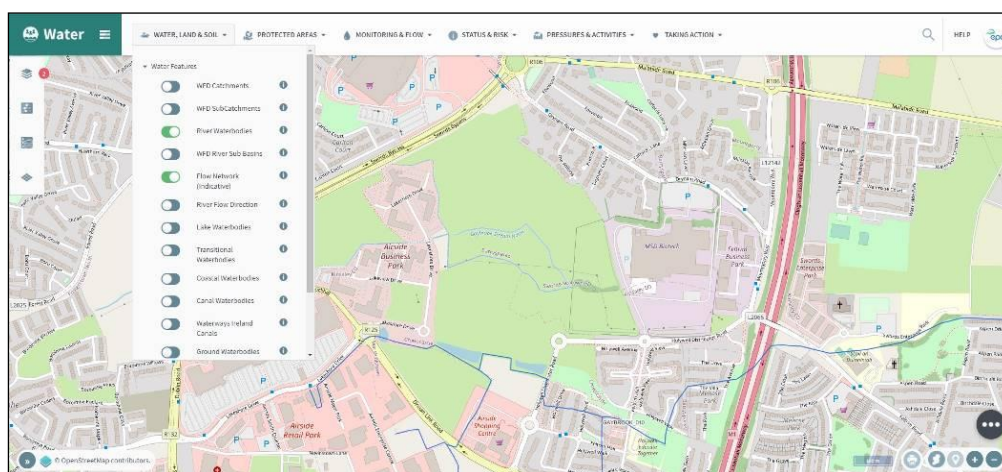


Figure 10. Watercourses within the FCC Barrysparks Master Plan lands (Source: www.catchments.ie).

Table 1. European sites of relevance to the proposed Bovale LRD development of the FCC Barrysparks Master Plan lands.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
000205	Malahide Estuary SAC	1.4km N and hydrologically connected via the Gaybrook Stream	Source: NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritimae</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)* • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Yes. Pathway identified for potential significant effects. This site is hydrologically connected via the Gaybrook Stream to the Malahide Estuary so there is a hydrological connection between the proposed development and the European sites in Malahide Estuary via the surface water network. Treated effluent from the site will be discharged to and treated in the Swords WWTP, which discharges to Malahide Estuary and therefore there is also a hydrological connection between the proposed development and the European sites in Malahide Estuary via the foul water network.
004025	Malahide Estuary SPA	1.4km N and hydrologically connected via the Gaybrook Stream	Source: NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]	Yes. Pathway identified for potential significant effects. This site is hydrologically connected via the Gaybrook Stream to the Malahide Estuary so there is a hydrological connection between the

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
			• Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Pintail (<i>Anas acuta</i>) [A054] • Goldeneye (<i>Bucephala clangula</i>) [A067] • Red-breasted Merganser (<i>Mergus serrator</i>) [A069] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Redshank (<i>Tringa totanus</i>) [A162] • Wetland and Waterbirds [A999] To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and • there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. This is achieved through the conservation of the populations of the listed waterbird Special Conservation Interests from the SPA. In order to achieve this the long term population trend is stable or increasing and there is no significant decrease in the range, timing	proposed development and the European sites in Malahide Estuary via the surface water network. Treated effluent from the site will be discharged to and treated in the Swords WWTP, which discharges to Malahide Estuary and therefore there is also a hydrological connection between the proposed development and the European sites in Malahide Estuary via the foul water network. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ populations of waterbirds listed as Special Conservation Interests of Malahide Estuary SPA.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
			or intensity of use of areas by the listed waterbird Special Conservation Interests from the SPA, other than that occurring from natural patterns of variation.	
004236	North-West Irish Sea SPA	6km east	Source: NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Common Scoter (<i>Melanitta nigra</i>) [A065] • Red-throated Diver (<i>Gavia stellata</i>) [A001] • Great Northern Diver (<i>Gavia immer</i>) [A003] • Fulmar (<i>Fulmarus glacialis</i>) [A009] • Manx Shearwater (<i>Puffinus puffinus</i>) [A013] • Shag (<i>Phalacrocorax aristotelis</i>) [A018] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Little Gull (<i>Larus minutus</i>) [A177] • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] • Common Gull (<i>Larus canus</i>) [A182] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] • Herring Gull (<i>Larus argentatus</i>) [A184] • Great Black-backed Gull (<i>Larus marinus</i>) [A187] • Little Tern (<i>Sterna albifrons</i>) [A195] • Roseate Tern (<i>Sterna dougallii</i>) [A192] • Common Tern (<i>Sterna hirundo</i>) [A193] • Arctic Tern (<i>Sterna paradisaea</i>) [A194] • Puffin (<i>Fratercula arctica</i>) [A204] • Razorbill (<i>Alca torda</i>) [A200]	Yes. Pathway identified for potential significant effects. This site is hydrologically connected via the Gaybrook Stream to the Malahide Estuary so there is a hydrological connection between the proposed development and the European sites in Malahide Estuary via the surface water network. Treated effluent from the site will be discharged to and treated in the Swords WWTP, which discharges to Malahide Estuary and therefore there is also a hydrological connection between the proposed development and the European sites in Malahide Estuary via the foul water network. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ gull populations of Special Conservation Interests of the North-West Irish Sea SPA.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
000208	Rogerstown Estuary SAC	5.4km N	Source: NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • (1130) Estuaries • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes)*	No, as no pathway for likely significant effects.

004015	Rogerstown Estuary SPA	5.7km N	Source: NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Greylag Goose (<i>Anser anser</i>) [A043] • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Shoveler (<i>Anas clypeata</i>) [A056] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Redshank (<i>Tringa totanus</i>) [A162] • Wetland and Waterbirds [A999] To maintain the favourable conservation condition of wetland habitat in Rogerstown Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and • there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. This is achieved through the conservation of the populations of the listed waterbird Special Conservation Interests from the SPA. In	Yes. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ populations of waterbirds listed as Special Conservation Interests of Rogerstown Estuary SPA.
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Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
			order to achieve this the long term population trend is stable or increasing and there is no significant decrease in the range, timing or intensity of use of areas by the listed waterbird Special Conservation Interests from the SPA, other than that occurring from natural patterns of variation.	
000199	Baldoyle Bay SAC	5.9km SE	Source: NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • (1140) Mudflats and sandflats not covered by seawater at low tide • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	No, as no pathway for likely significant effects.

004016	Baldoyle Bay SPA	5.9km SE	Source: NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Wetland and Waterbirds [A999] To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and • there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. This is achieved through the conservation of the populations of the listed waterbird Special Conservation Interests from the SPA. In order to achieve this the long term population trend is stable or increasing and there is no significant decrease in the range, timing or intensity of use of areas by the listed waterbird Special Conservation Interests from the SPA, other than that occurring from natural patterns of variation.	Yes. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ populations of waterbirds listed as Special Conservation Interests of Baldoyle Bay SPA.
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Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
000206	North Dublin Bay SAC	8.3km SE	Source: NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected: • (1140) Mudflats and sandflats not covered by seawater at low tide • (1210) Annual vegetation of drift lines • (1310) <i>Salicornia</i> and other annuals colonizing mud and sand • (1320) <i>Spartina</i> swards (<i>Spartinion maritimae</i>) • (1330) Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • (1395) Petalwort (<i>Petalophyllum ralfsii</i>) • (1410) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • (2110) Embryonic shifting dunes • (2120) Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • (2130) Fixed coastal dunes with herbaceous vegetation (grey dunes) • (2190) Humid dune slacks	No, as no pathway for likely significant effects.

004006	North Bull Island SPA	8.3km S	Source: NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Teal (<i>Anas crecca</i>) [A052] • Pintail (<i>Anas acuta</i>) [A054] • Shoveler (<i>Anas clypeata</i>) [A056] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Sanderling (<i>Calidris alba</i>) [A144] • Dunlin (<i>Calidris alpina</i>) [A149] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Curlew (<i>Numenius arquata</i>) [A160] • Redshank (<i>Tringa totanus</i>) [A162] • Turnstone (<i>Arenaria interpres</i>) [A169] • Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] • Wetland and Waterbirds [A999] To maintain the favourable conservation condition of the wetland habitat in North Bull Island SPA. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and	Yes. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ populations of waterbirds listed as Special Conservation Interests of North Bull Island SPA.
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Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
			• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. This is achieved through the conservation of the populations of the listed waterbird Special Conservation Interests from the SPA. In order to achieve this the long term population trend is stable or increasing and there is no significant decrease in the range, timing or intensity of use of areas by the listed waterbird Special Conservation Interests from the SPA, other than that occurring from natural patterns of variation.	
003000	Rockabill to Dalkey Islands SAC	9.3km E	Source: NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitat and the Annex II species for which the SAC has been selected: • (1170) Reefs • (1351) Harbour Porpoise (<i>Phocoena phocoena</i>)	No, as no pathway for likely significant effects.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
004117	Ireland's Eye SPA	10.5km SE	Source: NPWS (2024) Conservation Objectives: Ireland's Eye SPA 004117. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Accessed 25th June 2025. To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Herring Gull (<i>Larus argentatus</i>) [A184] • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200]	No, as no pathway for likely significant effects. There is no suitable habitat for breeding seabirds within the site.
002193	Ireland's Eye SAC	10.9km SE	Source: NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	No, as no pathway for likely significant effects.

004024	South Dublin Bay and River Tolka Estuary SPA	10.6km S	Source: NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Knot (<i>Calidris canutus</i>) [A143] • Sanderling (<i>Calidris alba</i>) [A144] • Dunlin (<i>Calidris alpina</i>) [A149] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Redshank (<i>Tringa totanus</i>) [A162] • Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] • Roseate Tern (<i>Sterna dougallii</i>) [A192] • Common Tern (<i>Sterna hirundo</i>) [A193] • Arctic Tern (<i>Sterna paradisaea</i>) [A194] • Wetland and Waterbirds [A999] To maintain the favourable conservation condition of wetland habitat in South Dublin and the River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. The favourable conservation status of a species is achieved when: • population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and • the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and • there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.	Yes. The FCC Barrysparks Master Plan lands were shown in the past to support ex situ populations of waterbirds listed as Special Conservation Interests of South Dublin Bay and River Tolka Estuary SPA.
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Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
			This is achieved through the conservation of the populations of the listed waterbird Special Conservation Interests from the SPA. In order to achieve this the long term population trend is stable or increasing and there is no significant decrease in the range, timing or intensity of use of areas by the listed waterbird Special Conservation Interests from the SPA, other than that occurring from natural patterns of variation.	
000202	Howth Head SAC	11.7km SE	Source: NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Accessed 25th June 2025. To maintain or restore the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • European dry heaths [4030]	No, as no pathway for likely significant effects.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
004069	Lambay Island SPA	12.6km NE	Source: NPWS (2024) Conservation Objectives: Lambay Island SPA 004069. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Accessed 25th June 2025. To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Fulmar (<i>Fulmarus glacialis</i>) [A009] • Cormorant (<i>Phalacrocorax carbo</i>) [A017] • Shag (<i>Phalacrocorax aristotelis</i>) [A018] • Greylag Goose (<i>Anser anser</i>) [A043] • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] • Herring Gull (<i>Larus argentatus</i>) [A184] • Kittiwake (<i>Rissa tridactyla</i>) [A188] • Guillemot (<i>Uria aalge</i>) [A199] • Razorbill (<i>Alca torda</i>) [A200] • Puffin (<i>Fratercula arctica</i>) [A204]	No, as no pathway for likely significant effects. There is no suitable habitat for breeding seabirds within the site.
000210	South Dublin Bay SAC	12.7km S	Source: NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain or restore the favourable conservation condition of the Annex I habitats for which the SAC has been selected: • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]	No, as no pathway for likely significant effects.

Site Code	Site Name and Designation	Approximate distance from the proposed development	Qualifying Interests and Conservation Objectives	Discussion of Source-Pathway-Receptor Link/Potential for Likely Significant Effects
004113	Howth Head Coast SPA	12.9km SE	Source: NPWS (2024) Conservation Objectives: Howth Head Coast SPA 004113. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Accessed 25th June 2025. To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • Kittiwake (<i>Rissa tridactyla</i>) [A188]	No, as no pathway for likely significant effects. There is no suitable habitat for breeding seabirds within the site.
000204	Lambay Island SAC	13km NE	Source: NPWS (2013) Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Accessed 25th June 2025. To maintain the favourable conservation condition of the Annex I habitat and the Annex II species for which the SAC has been selected: • (1230) Vegetated sea cliffs of the Atlantic and Baltic coasts • (1170) Reefs • (1364) <i>Halichoerus grypus</i> • (1265) <i>Phoca vitulina</i>	No, as no pathway for likely significant effects.

2.4 Assessment of Significance

This section considers the list of European sites detailed in **Table 1** and their qualifying habitats and species under the EU Habitats and Birds Directives.

All of the sites with the exception of the Malahide Estuary SAC (Site Code: 000205), the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were excluded from further assessment on the basis that potential impacts from the proposed development of the Barrysparks LRD will have no adverse effects on the integrity of these sites as defined by their status and conservation objectives as no pathway for likely significant effects was determined for these sites.

It was confirmed that wintering waterbirds or Species of Conservation Interest (SCIs) from the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) utilised the northern FCC Barrysparks lands as an ex-situ inland feeding/roosting site in 2022/2023 and 2023/2024. There were only two species of waterbird on the site in 2024/2025 neither of which form part of the qualifying interests of the identified European Sites.

The Gaybrook Stream (and a drainage ditch) drain the wider FCC Barrysparks Master Plan lands and are found adjoining and within the LRD application site. These watercourses drain the FCC Barrysparks Master Plan lands via the Gaybrook Stream to the Malahide Estuary thereby forming a direct hydrological connection between the lands and the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236).

2.5 Screening Assessment Conclusion

In order to determine the potential impacts, if any, of the proposed development of the Barrysparks LRD on nearby European sites a screening process was completed. This identified eighteen European sites, which are designated as either an SAC or an SPA.

It was determined that seven of these sites are potentially impacted by the development of the Barrysparks LRD. These are the Malahide Estuary SAC (Site Code: 000205), the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024).

The Malahide Estuary SAC (Site Code: 000205), the North-West Irish Sea SPA (Site Code: 004236), and the Malahide Estuary SPA (Site Code: 004025) are hydrologically connected to the site and the FCC Barrysparks Master Plan lands by the Gaybrook Stream. This watercourse forms a direct Source-Pathway-Receptor link between the applicant site and the European Sites downstream.

Wintering waterbirds or Species of Conservation Interest (SCIs) from the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were recorded using the lands at Barrysparks as an ex-situ inland feeding/roosting site in 2022/2023 and 2023/2024. They were not present during the 2024/2025 wintering bird season.

Waterbird numbers recorded during the survey sessions were generally quite low. The exceptions were that on the 6th January 2023 a flock of 420 black tailed godwits was recorded utilising the northern Barrysparks FCC Masterplan Lands and on three occasions in January and February 2024 large numbers of black tailed godwits (279, 420 and 272) were also recorded. These counts all exceed the national 1% threshold for the species (200 birds, Burke *et al.* 2018).

The proposed development will result in the permanent loss of feeding habitat for these birds. At this point significant impacts cannot be ruled out, particularly when considering the in-combination effect of this development alongside the other plans in the locality.

It cannot be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect primarily on the Special Conservation Interest; principally A156 Black-tailed Godwit *Limosa limosa* and other waterbird species of seven European sites; the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024)).

Thus, in line with Departmental Guidance and having regard to ECJ and Irish case law and the 'Precautionary Principle', Stage 2 Appropriate Assessment is required.

A Stage 2 Appropriate Assessment (Natura Impact Statement) has therefore been completed – see **Section 3**.

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3. NATURA IMPACT STATEMENT

Wintering bird surveys completed in 2022/2023 and 2023/2024 confirmed that populations of wintering waterbirds or Species of Conservation Interest (SCIs) from the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) utilised the lands at Barrysparks as an ex-situ inland feeding/roosting site. These waterbirds were no longer present in 2024/2025.

The ecological impact assessment also identified a number of risks to the ecological integrity of the Gaybrook watercourse from the development of the FCC Barrysparks Master Plan lands including loss of ecological connectivity and function, siltation and the introduction of invasive species.

This watercourse forms a direct Source-Pathway-Receptor link between the applicant site and the European Sites downstream – the Malahide Estuary SAC (Site Code: 000205), the North-West Irish Sea SPA (Site Code: 004236), and the Malahide Estuary SPA (Site Code: 004025).

In light of the above a full appropriate assessment has therefore been conducted.

3.1 Description of the Receiving Environment

The lands associated with the proposed Barrysparks LRD application and the wider FCC Barrysparks Master Plan lands have been the subject of a number of ecological surveys over many years as detailed above in **Section 1.3.2**.

These included wintering bird surveys which were completed in 2022/2023 as part of the planning application for the permitted VHI Healthcare Facility (Reg. Ref. F23A/0727).

These wintering bird surveys were continued in 2023/2024 and 2024/2025.

According to the GSI's Online Map Viewer, the underlying bedrock of the FCC Barrysparks Master Plan lands is "*Argillaceous bioclastic limestone, shale*" known as the Malahide Formation as shown on **Figure 11** below.

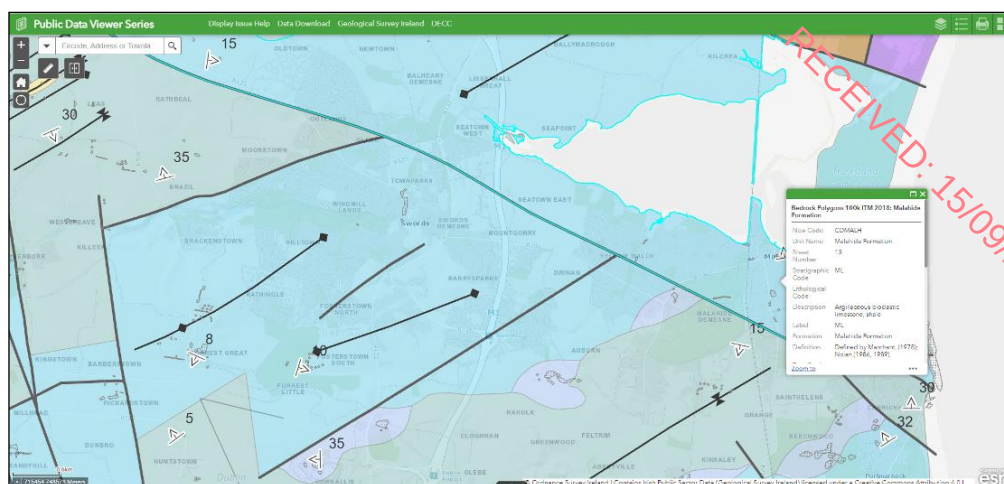


Figure 11. The underlying bedrock of the FCC Barrysparks Master Plan lands is “Argillaceous bioclastic limestone, shale” (Source: GSI).

The soils are described by the EPA as ‘Fine loamy drift with limestones’, and are known as the Elton Formation as shown on **Figure 12** below.

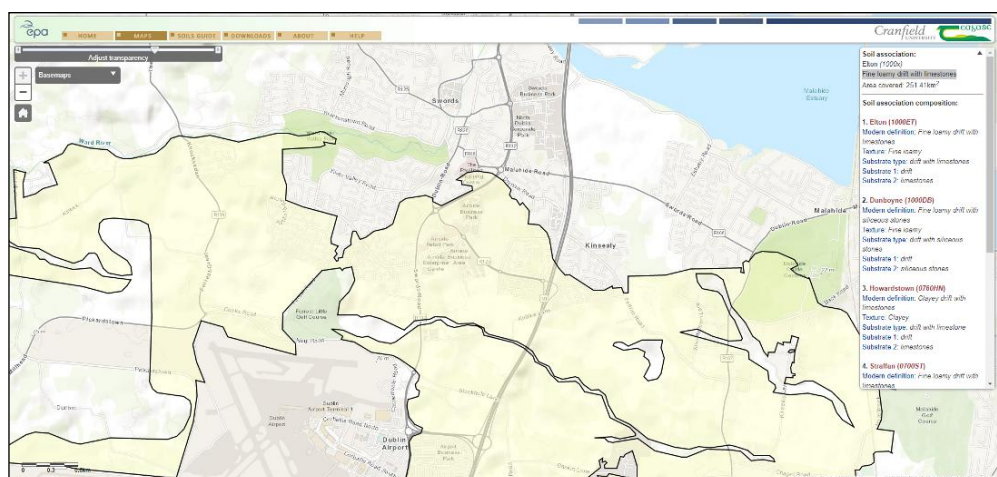


Figure 12. The underlying soils are described as ‘Fine loamy drift with limestones’ (Source: EPA).

There are two groundwater bodies located within the masterplan lands - “Swords” and “Dublin”. The ‘Swords’ groundwater body is considered to be of “Good” status under the Water Framework Directive’s monitoring requirements and “Not at risk” of failing the WFD groundwater quality objectives, whereas the ‘Dublin’ one although considered to be of “Good” status under the Water Framework Directive’s monitoring requirements is currently under review.

The groundwater vulnerability of the area is “Low”. The aquifer in the area is described as “a locally important aquifer- bedrock which is moderately productive only in local zones”.

3.1.1 Habitats

Within the LRD application site the majority of the grassland is described as **Dry meadows and grassy verge grassland (GS2)**. In 2025 the dominant species included the grasses sweet vernal grass (*Anthoxanthum odoratum*), common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*), perennial rye-grass (*Lolium perenne*), Timothy grass (*Phleum pratense*), Yorkshire fog (*Holcus lanatus*), cock's-foot grass (*Dactylis glomerata*), and creeping bent (*Agrostis stolonifera*) with herbaceous species such as white clover (*Trifolium repens*), red clover (*Trifolium pratense*), meadow buttercup (*Ranunculus acris*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), silverweed (*Potentilla anserina*), and dandelion (*Taraxacum* agg.). Species such as docks (*Rumex crispus*, *Rumex obtusifolius*, *Rumex conglomeratus*), ragwort (*Senecio jacobaea*), daisy (*Bellis perennis*), nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), dove's-foot crane's-bill (*Geranium molle*), spear thistle (*Cirsium vulgare*), greater plantain (*Plantago major*), red bartsia (*Odontites vernus*), smooth hawkbeard (*Crepis capillaris*), cat's-ear (*Hypochaeris radicata*), yellow clover (*Trifolium dubium*), selfheal (*Prunella vulgaris*), yarrow (*Achillea millefolium*), and creeping cinquefoil (*Potentilla reptans*) were also recorded.

Small examples of the Annex I habitat **Lowland hay meadows [6510]** were previously in the LRD application lands. The extent and quality of this grassland has varied in response to management within the site. When these lands were first surveyed much of the grassland was overgrazed but then recovered and had an affinity to the habitat **Lowland hay meadow (6510)** as listed under Annex I of the EU Habitats Directive. A total of 9 positive (+ve) indicator species for the Annex I habitat 'Lowland hay meadows' 6510 were recorded. Following the removal of grazing stock from the lands the quality of these areas of grassland has again declined.

Small pockets of grassland correspond to the habitat **dry calcareous and neutral grassland (GS1)**. Species recorded here include: common knapweed (*Centaurea nigra*), bird's foot trefoil (*Lotus corniculatus*), ox eye daisy (*Leucanthemum vulgare*), glaucous sedge (*Carex flacca*), germander speedwell (*Veronica chamaedrys*), meadow vetchling (*Lathyrus pratensis*), yellow rattle (*Rhinanthus minor*), tufted vetch (*Vicia cracca*), bulbous buttercup (*Ranunculus bulbosus*), wild carrot (*Daucus carota*), sheep's sorrel (*Rumex acetosella*), ladies bedstraw (*Galium verum*), field wood-rush (*Luzula campestris*), soft brome (*Bromus hordeaceus*), common fleabane (*Pulicaria dysenterica*), crested dog's tail grass (*Cynosurus cristatus*), hoary ragwort (*Jacobaea erucifolia*), common centaury (*Centaureum erythraea*) and cowslip (*Primula veris*).

What appeared to be a **freshwater spring (FP1)** in the northern portion of the FCC Barrysparks Master Plan lands was observed during the site visit on the 13th December 2020 when much of the lands were flooded. The origins of the spring and the areas of standing water in the site were the subject of further detailed botanical and hydrogeological investigations in 2023 (AWN, 2023), which further informed this NIS. The areas of the FCC Barrysparks Master Plan lands that have contained standing water in the winter months can be seen on **Figure 13** below.

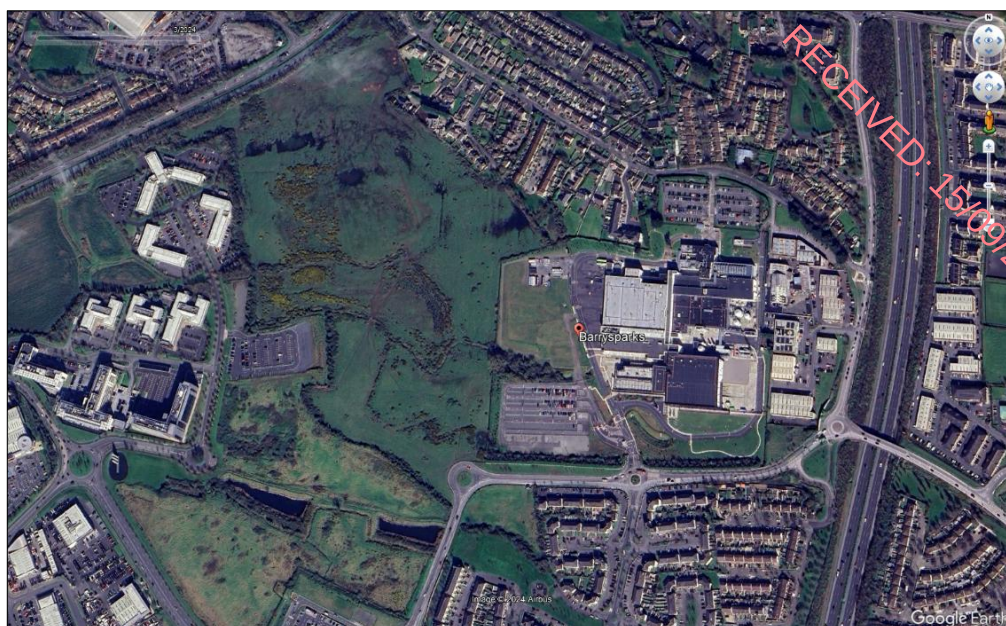


Figure 13. Areas of standing water on the FCC Barrysparks Master Plan lands during the winter months – are evident on the imagery dated March 2024 (Source: Google Earth imagery).

Areas of ground which previously supported standing water are wetter and here species typical of **wet grassland (GS4)** such as creeping bent (*Agrostis stolonifera*), Yorkshire fog (*Holcus lanatus*), common bent (*Agrostis capillaris*), silverweed (*Potentilla anserina*), ragwort (*Senecio jacobaea*), creeping buttercup (*Ranunculus repens*), and hogweed (*Heracleum sphondylium*) become more frequent.

The areas which held standing water are dominated by bryophytes - the main species present are the mosses *Cratoneuron filicinum* and *Calliergonella cuspidata*. A stonewort *Chara vulgaris* was present in May 2023 when water levels were higher. Areas dominated by silverweed and the moss *Calliergonella cuspidata* indicate the extent of the influence of the standing water and can extend for some distance outside the flooded areas. Willow (*Salix cinerea*) is beginning to invade in the absence of grazing.

Following significant poaching by the grazing horses these areas became dominated by marsh cudweed (*Gnaphalium uliginosum*) in 2024 and hence were classified as **recolonising bare ground (ED2)**.

In July 2025 the flora of these formerly flooded areas had again changed on account of the lack of grazing animals and are now best described as a mosaic of **recolonising bare ground (ED2)** and **wet grassland (GS4)**. Vegetation recorded in the formerly flooded areas included; purple loosestrife (*Lythrum salicaria*), jointed rush (*Juncus articulatus*), thyme leaved speedwell (*Veronica serpyllifolia*), brookweed (*Samolus valerandi*), greater plantain (*Plantago major*), common fleabane (*Pulicaria dysenterica*), marsh foxtail (*Alopecurus geniculatus*), redshank (*Persicaria maculosa*), silverweed (*Potentilla anserina*), and abundant marsh cudweed (*Gnaphalium uliginosum*).

There are also localised areas of grassland on higher ground near the wet areas which contain a greater diversity of species including glaucous sedge, red clover, yellow clover, yellow rattle, creeping cinquefoil, knapweed, bird's-foot trefoil, ribwort plantain, crested dog's-tail, and selfheal - these areas may be underlain by gravels and hence are more free draining.

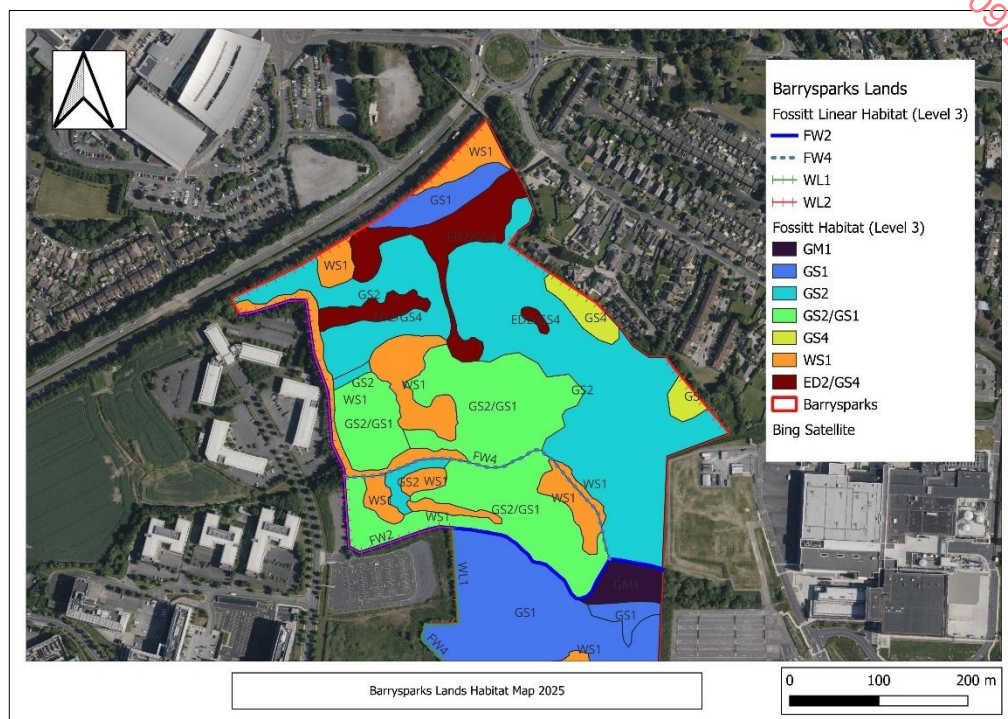


Figure 14. Habitat Map of the FCC Barrysparks Master Plan lands.

The north-eastern boundary of the FCC Barrysparks Master Plan lands consists of a short length of **treeline (WL2)** with mature sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*) and Wych elm (*Ulmus glabra*), with an understorey of dense bramble (*Rubus fruticosus* agg.) and blackthorn (*Prunus spinosa*) which is spreading into the field.

A small area of mature **scrub (WS1)** is found at the eastern end of Commons East. This is dominated by blackthorn (*Prunus spinosa*) and bramble (*Rubus fruticosus* agg.), with immature sycamore (*Acer pseudoplatanus*) at the rear.

A block wall forms the shared boundary of the FCC Barrysparks Master Plan lands with the houses on Commons East with some scattered patches of low bramble scrub in this area.

Remnants of a mature **treeline (WL2)** of mature ash (*Fraxinus excelsior*) with mature hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and bramble (*Rubus fruticosus* agg.) at the base are found along the shared boundary of the wider FCC Barrysparks Master Plan lands with the properties on Drynam Road. A small section of immature beech hedging is also present here.

The north-western boundary of the FCC Barrysparks Master Plan lands adjoins the Swords bypass-road along which mature screening planting of sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*) and birch

(*Betula pendula*) is present. Extending from this in the northern corner of the FCC Barrysparks Master Plan lands is an extensive area of **scrub (WS1)** dominated by blackthorn (*Prunus spinosa*) and bramble (*Rubus fruticosus* agg.).

A small 'finger' of land extends west from here adjoining the R132 and the business park with **treelines (WL2)** of semi-mature sycamore (*Acer pseudoplatanus*) and ash (*Fraxinus excelsior*) enveloped in extending **scrub (WS1)** of hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*) and bramble (*Rubus fruticosus* agg.). These treelines are former planting associated with the development of the business park and extend south to form the western boundary of the wider FCC Barrysparks Master Plan lands adjoining Lakeshore Drive.

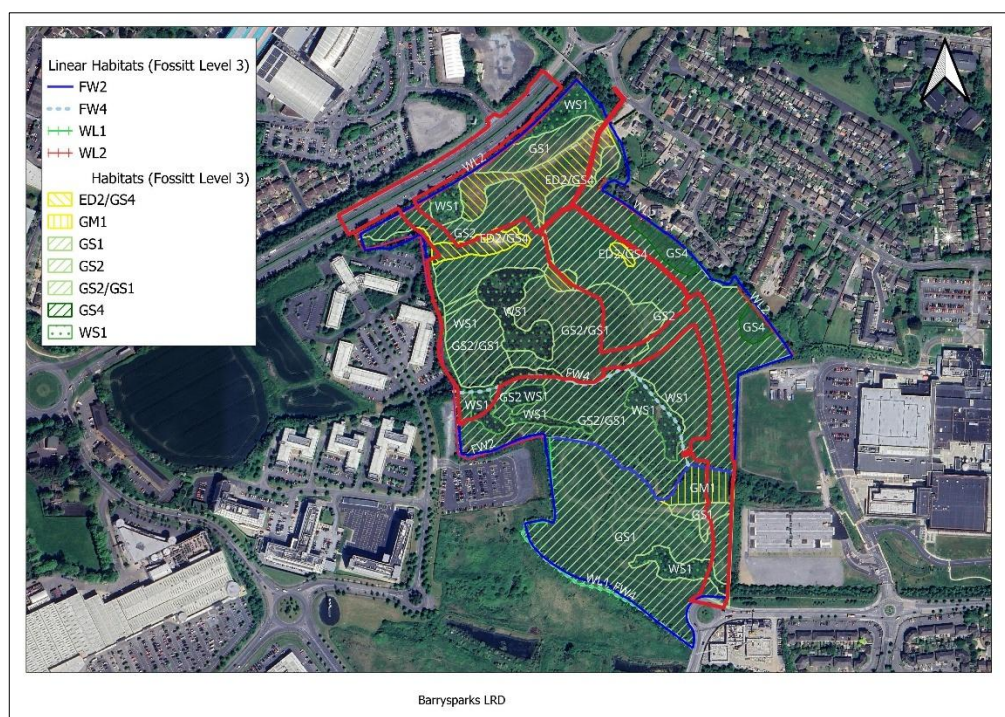


Figure 15. Habitat Map of the Application Site lands.

The Gaybrook Stream (and a drainage ditch incorrectly marked as the Gaybrook Stream North on **Figure 10** above) drain the wider FCC Barrysparks Master Plan lands. This watercourse is culverted after leaving the FCC Barrysparks Master Plan lands but ultimately drain to the main channel of the Gaybrook Stream, which is located south of Holywell as shown on **Figure 10** above. The Gaybrook Stream (IE_EA_08G080700) has not been assigned to any category under the Water Framework Directive. The Gaybrook Stream drains to the Malahide Estuary thereby providing a hydrological link between the FCC Barrysparks Master Plan lands and the European sites downstream. Gaybrook Stream is best described as a **lowland depositing river (FW2)**.

The Gaybrook Stream enters the FCC Barrysparks Master Plan lands at the western boundary from Airside Business Park. The stream turns south along the western boundary and then turns east across the site to divide the site into north and south. There is an unnamed watercourse on the western boundary of the site. This watercourse has been subjected to drainage (coupled with

infilling of land on the adjoining banks) as it is c.3m below ground level of the adjoining field/car parking area associated with Lakeshore Drive. Winter heliotrope (*Petasites fragrans*) was noted on one of the banks here. There is also a field ditch running west to east and then south east through the centre of the FCC Barrysparks Master Plan lands where it joins the Gaybrook Stream just before it enters the large culvert at the boundary of the MSD Biotech site. Water level in this ditch is c.1-2m below the adjoining field levels.

In 2021, following heavy rain, the ground adjoining much of the Gaybrook Stream on the southern side (adjacent to the VHI healthcare facility application site) was flooded and the stream had broken its banks.

Within the Gaybrook Stream the watercourse and bank margins support fool's water cress (*Apium nodiflorum*), flag iris (*Iris pseudacorus*), greater reedmace (*Typha latifolia*), hoary willow herb (*Epilobium hirsutum*), wild angelica (*Angelica sylvestris*), reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), and grey willow (*Salix cinerea*). Other species recorded include: watercress (*Nasturtium officinale*), lesser pondweed (*Potamogeton pusillus*), broad-leaved pondweed (*Potamogeton natans*), water horsetail (*Equisetum fluviatile*), water starwort (*Callitriche* cf. *platycarpa*) and the bryophytes *Calliergonella cuspidata* and *Cratoneuron filicinum*. The stream had a pH of 7.57 and has consistently retained high water levels even during dry weather and the water is generally very clear. The species present suggest relatively low levels of nutrients, despite the fact that the general environs are surrounded by development and it is possible that this stream receives some groundwater input.

Scrub (WS1) composed of European gorse (*Ulex europaeus*), scattered hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*), clumps of bramble (*Rubus fruticosus* agg.) and blackthorn (*Prunus spinosa*), are frequent along the banks of the stream, the drainage ditch and within the northern portion of the FCC Barrysparks Masterplan lands. Field rose (*Rosa arvensis*) was also recorded. In 2025 following a long dry spell these areas of scrub had been burnt during fires set by trespassers.

The invasive species butterfly bush (*Buddleia davidii*) and pheasantberry (*Leycesteria formosa*) were noted along the Gaybrook Stream.

The results of the habitat surveys completed on site are also reflected in the surveys completed as part of the MetroLink project in the northern part of the FCC Barrysparks Master Plan lands. The MetroLink study also recorded areas of dry calcareous grassland GS1 and wet grassland GS4 along with areas of recolonising bare ground ED2 in the northern lands. The MetroLink project surveys here also recorded bee orchid (*Ophrys apifera*) in 2018.

3.1.2 Rare, Scarce or Threatened flora

A review of the NPWS database of historical records of rare and protected flora revealed that there are several records of rare, scarce or threatened flora within the 10km grid square in which the FCC Barrysparks Master Plan lands are located (namely grid square reference O14). Several of these are legally protected under the Flora (Protection) Order (2022) as summarised below in **Table 2**. Suitable habitat for these species does not occur within the site and

none of these species were recorded within the FCC Barrysparks Master Plan lands.

Table 2. Records of rare, scarce or threatened flora from the 10km square in which the FCC Barrysparks Master Plan lands are located (O14) (data provided by NPWS).

Common Name	Scientific Name	FPO 2022	Location
Red Hemp-Nettle	<i>Galeopsis angustifolia</i>	+	Feltrim
Hairy St John's-wort	<i>Hypericum hirsutum</i>	+	Santry
Yellow Archangel	<i>Lamium galeobdolon</i>		Santry
Hairy Violet	<i>Viola hirta</i>	+	Santry
Meadow Barley	<i>Hordeum secalinum</i>	+	Saucerstown
Meadow Barley	<i>Hordeum secalinum</i>	+	Brackenstown

3.1.3 Invasive Species

No invasive species listed under the Third Schedule: Part 1 Plants of S.I. No. 374 of 2024 European Union (Invasive Alien Species) Regulations 2024 and on the Birds and Natural Habitats Regulations (2011) were recorded on the FCC Barrysparks Master Plan lands.

The non-native invasive species recorded include some of those listed under the TII guidelines. They include:

- Winter heliotrope (*Petasites fragrans*)
- Buddleia (*Buddleia davidii*)
- Pheasant berry (*Leycesteria formosa*)
- Canadian fleabane (*Conyza canadensis*)

3.1.4 Mammalian Fauna

The terrestrial mammalian fauna consists of relatively few species. The surveys confirmed the presence of hedgehog (*Erinaceus europaeus*), brown rat (*Rattus norvegicus*), rabbit (*Oryctolagus cuniculus*), and fox (*Vulpes vulpes*) while pygmy shrew (*Sorex minutus*) and wood mouse (*Apodemus sylvaticus*) would also be expected.

Badgers

There were no badger (*Meles meles*) setts recorded and no signs of badger activity were noted within the FCC Barrysparks Master Plan lands.

Otter

There was no evidence of otter (*Lutra lutra*) usage of the Gaybrook Stream or the drainage ditch in the FCC Barrysparks Master Plan lands. Given the culverted nature of large sections of the Gaybrook Stream east of here, it's value to larger mammals such as otter, which might move from the Malahide Estuary along the watercourse, would be reduced on account of lack of connectivity.

Bats

The Bat Conservation Ireland Database of bat records was searched for records of bats from the Swords/Malahide area. The database contains records of roosts, ad hoc observations and the results of surveys such as the BATLAS 2010 and 2020 projects and the All Ireland Daubenton's Monitoring Project.

Bat species recorded from within a 10km radius of the FCC Barrysparks Master Plan lands include:

- Common pipistrelle (*Pipistrellus pipistrellus*),
- Soprano pipistrelle (*Pipistrellus pygmaeus*),
- Daubenton's bat (*Myotis daubentonii*),
- Leisler's bat (*Nyctalus leisleri*),
- Brown long-eared bat (*Plecotus auritus*),
- Several unidentified *Myotis* species, and
- an unidentified pipistrelle species (*Pipistrellus* sp.).

A number of bat surveys of the FCC Barrysparks Master Plan lands have been completed in 2021 and 2024 as detailed above.

All of these surveys have recorded three species of bats utilising the FCC Barrysparks Master Plan lands for foraging purposes. These are soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*) and Leisler's bat (*Nyctalus leisleri*) as shown below on **Figure 16**.

Light pollution from the surrounding lands was noted including from the Swords Bypass.

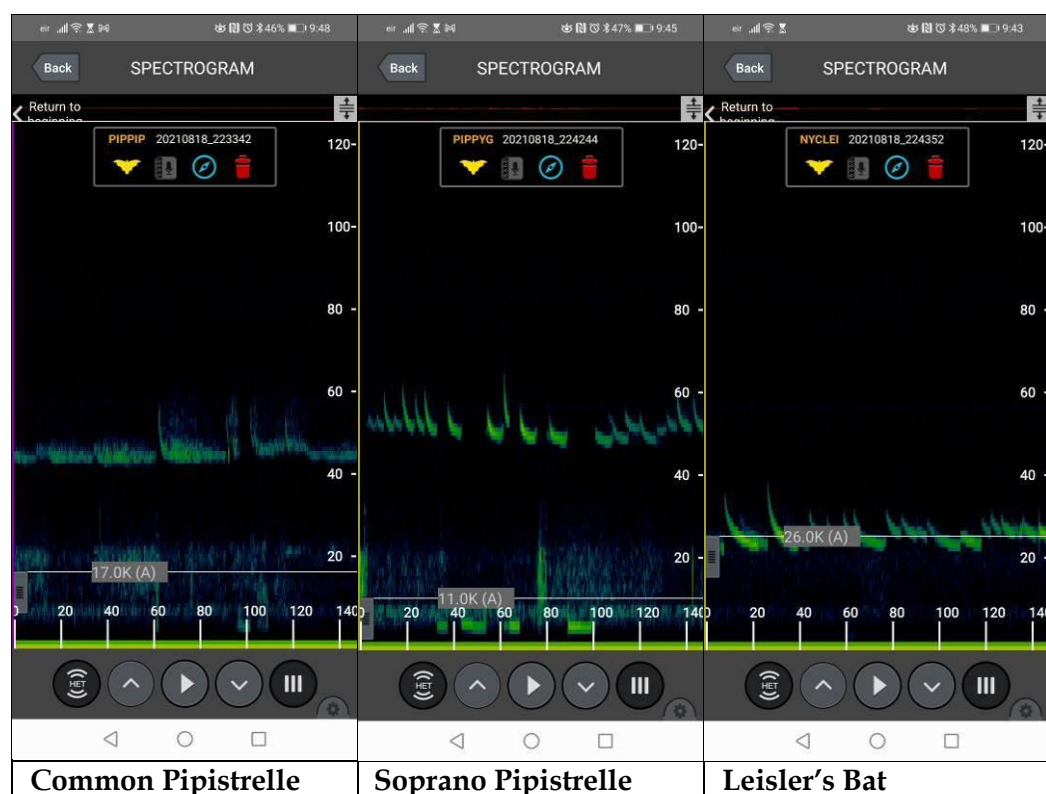


Figure 16. Spectrograms of bat species recorded within the Barrysparks lands.

MetroLink 2018 - 2021

The bat surveys originally conducted as part of the MetroLink project during 2018 – 2021 recorded Common pipistrelle, Soprano pipistrelle, an unidentified

Pipistrelle bat and Leisler's bat on the northern part of the FCC Barrysparks Master Plan lands.

MetroLink 2022

The MetroLink bat surveys were updated in 2022 but did not report any bat activity from the FCC Barrysparks Master Plan lands.

3.1.5 Amphibians

Frogs (*Rana temporaria*) would be expected to breed in areas of standing water, in drainage ditches and in the water attenuation ponds to the south of the FCC Barrysparks Master Plan lands.

3.1.6 Birds

Passerines - General Observations

The bird fauna utilising the FCC Barrysparks Master Plan lands is rich and a good variety of common countryside and urban bird species are associated with the boundary hedgerow, grasslands and areas of gorse and blackthorn scrub within the application site.

These include blackbird (*Turdus merula*), wren (*Troglodytes troglodytes*), robin (*Erithacus rubecula*), dunnoek (*Prunella modularis*), song thrush (*Turdus philomelos*), goldfinch (*Carduelis carduelis*), blackcap (*Sylvia atricapilla*), stonechat (*Saxicola rubicola*), greenfinch (*Chloris chloris*), goldcrest (*Regulus regulus*) and mistle thrush (*Turdus viscivorus*).

Swallows (*Hirundo rustica*), house martin (*Delichon urbicum*) and sand martin (*Riparia riparia*) have been recorded hunting over the FCC Barrysparks Master Plan lands during the summer.

Pied wagtail (*Motacilla alba yarrellii*) has been observed near the Drynam Road entrance.

Other species recorded include; great tit (*Parus major*), house sparrow (*Passer domesticus*), coal tit (*Parus ater*), chaffinch (*Fringilla coelebs*), rook (*Corvus frugilegus*), jackdaw (*Corvus monedula*), hooded crow (*Corvus cornix*) and magpie (*Pica pica*).

The grasslands were used by breeding skylark (*Alauda arvensis*) and meadow pipit (*Anthus pratensis*) in the summer of 2023 and 2024.

Both feral pigeon (*Columba columba domest.*) and woodpigeon (*Columba palumbus*) were recorded and starlings (*Sturnus vulgaris*) were also present. Yellowhammer (*Emberiza citrinella*) was recorded flying over the site.

Grey heron (*Ardea cinerea*) and Reed bunting (*Emberiza schoeniclus*) were recorded along the Gaybrook stream. were also recorded here. Snipe (*Gallinago gallinago*) was recorded in 2020 and have also been flushed during winter visits.

Buzzard (*Buteo buteo*) and sparrowhawk (*Accipiter nisus*) were recorded hunting over the site.

Winter passerine visitors included fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*). Pheasant (*Phasianus colchicus*), stock dove (*Columba oenas*) and collared dove (*Streptopelia decaocto*) was also recorded.

It was noted that the flooded grassland areas were used by a flock of 24 herring gull (*Larus argentatus*), when the FCC Barrysparks Master Plan lands were first visited during the winter months on the 13th December 2020.

MetroLink Wintering and Breeding Bird Surveys - 2018 - 2021

A review of the wintering and breeding bird surveys conducted by Scott Cawley as part of the MetroLink Project (JACOBS IDM 2022a) was completed. This study took place across a wide number of identified sites, including the FCC Barrysparks Master Plan lands (described in their reports as Site 115). Each site was surveyed during four visits across the wintering bird season in 2018, 2019, 2020 and 2021.

The MetroLink wintering bird surveys recorded a number of species listed under Annex I of the EU Birds Directive and BOCCI red listed birds from the FCC Barrysparks Master Plan lands. These included;

- Black-tailed godwits** (max count of 84 birds; species recorded during two of three visits),
- Meadow pipit (four individuals; species recorded during two visits of three visits),
- Snipe** (recorded during the second, third and fourth visit),
- Herring gull* (details not provided for Barrysparks), and
- Redwing.

Mallard*, Mute swan* and Moorhen* were recorded from the attenuation ponds in the Crowscastle Lands. The MetroLink surveys confirmed the FCC Barrysparks Master Plan lands as an ex-situ site for six waterbird species, two of which are listed as Species of Conservation Interest (SCIs) for the nearby SPAs. These are marked above with a double asterisk**, while the waterbirds are marked with a single asterisk*.

The breeding bird surveys recorded Starling, Meadow pipit, Swallow, Linnet, House sparrow, Greenfinch and Herring gull from the lands.

Wintering Bird Survey 2022/2023 - FCC Barrysparks and Crowscastle Master Plan Lands

A wintering bird survey was completed of the entire FCC Barrysparks and Crowscastle Master Plan lands as part of the VHI application. This survey recorded 49 species from the FCC Barrysparks and Crowscastle Master Plan lands, including 26 that were recorded on at least 50% of occasions (see **Table 5** in **Appendix 1**).

Forty-one species were recorded in Section A (north), 26 in B (VHI) and 32 in C (south) – see **Table 1** in **Appendix 2**. The application site is located in Section

A (north). A total of 14 waterbird species were recorded from the FCC Barrysparks and Crowscastle Master Plan lands, including five that are listed as qualifying in at least one of the nearby coastal SPAs. Ten species that are Red-listed species of conservation concern (including six waterbird species) and 12 Amber-listed species of conservation concern (5 waterbirds) were recorded.

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Usage by waterbirds of the FCC Barrysparks and Crowscastle Master Plan lands

Waterbirds were recorded during all survey sessions in 2022/2023 and were most abundant at the FCC Barrysparks and Crowscastle Master Plan lands during the early January count (**Table 3**). The peak count in January included a total of 509 waterbirds recorded during that count, which included a single large congregation of waterbirds in Section A (locations 14, 16, 17 and 20 on **Figure 17**). That count included 420 Black-tailed Godwits and 6 Redshank, together with three roosting gull species (total 33 birds).

Table 3. Total waterbirds and total number of waterbird species recorded during each survey session within the FCC Barrysparks and Crowscastle Master Plan lands.

Date	Total waterbirds	Total waterbird species
29/11/2022	28	10
12/12/2022	16	7
06/01/2023	509	11
20/01/2023	84	10
13/02/2023	112	10
22/02/2023	17	4
07/03/2023	15	6
20/03/2023	48	8
03/04/2023	46	6

Nothing unusual about the conditions on site was identified during this particular visit which may have influenced the presence of such large numbers, particularly of godwits. Other waterbird counts in late January and February were also relatively high.

A total of 27 locations were mapped illustrating usage by waterbirds of the FCC Barrysparks and Crowscastle Master Plan lands during all survey sessions (**Figure 17**). An area of grassland in the FCC Barrysparks and Crowscastle Master Plan lands (locations 14, 16, 17 and 20 on **Figure 17**) regularly supported waterbirds (six out of nine sessions) and which supported the above-mentioned largest aggregation.

Full details about usage of the mapped locations are given in **Table 2** in **Appendix 2**. Most of these locations were used once only.



Figure 17. Mapped locations of waterbirds using the FCC Barrysparks and Crowscastle Master Plan lands in 2022/2023. Refer to Appendix 2 for further details.

MetroLink Wintering and Breeding Bird Surveys – 2022

Updates to the previous surveys conducted for wintering and breeding birds for the MetroLink project were completed in 2022 (JACOBS, 2023a).

Breeding Birds

The breeding bird surveys for Metrolink were updated in 2022 and were conducted by ecologists from Scott Cawley Ltd. Surveys were carried out on 19 and 25 May and 1, 7, 15, 27 June 2022 using a methodology adapted from the Breeding Bird Survey (Gilbert *et al.*, 1998).

Birds recorded on the FCC Barrysparks Master Plan lands included Great tit, Swallow, Collared dove, Jackdaw, Magpie, Woodpigeon, Blackcap, Dunnock, House Sparrow, Starling, Sedge warbler, Wren, Blackbird, Stonechat, Blue tit, Chaffinch and Robin.

Wintering Birds

The winter bird field surveys for Metrolink were updated in 2022 and were conducted by ecologists from Scott Cawley Ltd. Each Metrolink site was surveyed during six visits across the wintering bird season. This study found the following:

'The 2022/23 wintering bird surveys recorded a total of 32 species across the study area, including; 20 species listed as SCIs for SPAs, 4 Birds Directive Annex I species, 10 Red listed species of conservation concern, 12 Amber listed species of conservation concern and 8 Green listed bird species of conservation concern. This represents 6 fewer species than originally recorded across the 2018-2021 wintering bird surveys.

An additional four species were recorded during the 2022/23 surveys that were not previously recorded across the 2018-2021 surveys: bar-tailed godwit *Limosa lapponica*, redshank *Tringa etanus*, fieldfare *Turdus pilaris*, grey plover *Pluvialis squatarola*'.

Birds recorded on the FCC Barrysparks Master Plan lands included Black tailed godwit, Herring gull, Black headed gull, Curlew and Redshank.

Wintering Bird Survey 2023/2024 – FCC Barrysparks Master Plan Lands

Wintering bird surveys continued on the FCC Barrysparks Master Plan lands during 2023 and 2024 as part of the current application.

Waterbirds were present on 26 (72%) of the 36 count sessions. Five species of gulls, mostly Herring Gull and Black-headed Gull, were the most regularly recorded waterbirds (**Table 4**), while waders (mostly Black-tailed Godwit and Redshank) were the most numerous when recorded and were present on seven dates during the mid-winter period (between 27/12/23 and 01/02/24). Other waterbirds recorded included Mallard (3 dates), Little Egret and Grey Heron (on 30/01/24 and 26/02/24 respectively).

A Black-tailed Godwit fitted with colour rings (green with two white lines (right), red over yellow (left)) was observed in the northern FCC Barrysparks Master Plan lands during the count on 25th January 2024. This bird was originally ringed as an adult at Bull Island in Dublin Bay in January 2020.

Subsequent sightings* of this Black-tailed Godwit have been made on the following dates:

- 16/02/20: Baldoyle Bay SPA (Site Code: 004016)
- 18/03/20: North Bull Island SPA (Site Code: 004006)
- 29/09/21: Malahide Estuary SPA (Site Code: 004025)

- 30/10/21: Corballis (Donabate) (Malahide Estuary SPA (Site Code: 004025))
- 28/08/22: Turvey Nature Reserve (Rogerstown Estuary SPA (Site Code: 004015))
- 14/02/23: North Bull Island SPA (Site Code: 004006)
- 02/09/23: Rogerstown Estuary SPA (Site Code: 004015)
- 07/11/23: Malahide Estuary SPA (Site Code: 004025)

*Data is presented courtesy of Pete Potts (who manages the Black-tailed Godwit resightings project in the UK and Ireland, facilitated with the support of Helen Boland from BirdWatch Ireland).

Table 4. Waterbird species recorded on the northern FCC Barrysparks Master Plan lands together with the frequency of records, peak counts and their Birds of Conservation Concern status (Gilbert *et al.* 2021). Species represented by asterisks are specifically listed as Special Conservation Interest (SCI) species of nearby SPAs.

Common name	Scientific name	Code	BoCCI 2020-26	No. of counts	Peak count
Mallard	<i>Anas platyrhynchos</i>	MA	A	3	2
Little Egret	<i>Egretta garzetta</i>	ET		1	1
Grey Heron	<i>Ardea cinerea</i>	H.		1	1
Lapwing	<i>Vanellus vanellus</i>	L.	R	1	4
Black-tailed Godwit*	<i>Limosa limosa</i>	BW	R	7	420
Ruff	<i>Calidris pugnax</i>	RU	A	1	1
Redshank*	<i>Tringa totanus</i>	RK	R	5	16
Black-headed Gull*	<i>Chroicocephalus ridibundus</i>	BH	A	13	36
Common Gull*	<i>Larus canus</i>	CM	A	6	25
Lesser Black-backed Gull*	<i>Larus fuscus</i>	LB	A	3	2
Herring Gull*	<i>Larus argentatus</i>	HG	A	19	31
Great Black-backed Gull*	<i>Larus marinus</i>	GB		3	1

Most of the wader flocks recorded were feeding on the grasslands (**Figure 18**). The gulls were recorded either interacting with the areas of standing water/pools or nearby grassland areas.

These areas are for the most part located outside the proposed development site as can be seen on **Figure 19**.



Figure 18. Distribution and location of wader flocks recorded between 15th January and 1st February 2024 (light yellow = 15/01, purple = 16/01, red = 25/01, blue = 30/01, green = 01/02). Grey shaded areas indicate the areas that were regularly flooded during the survey sessions.



Figure 19. An overview of the areas which previously supported standing water and were used by waterbirds in 2023/2024 and the footprint of the proposed LRD development and the Metrolink lands.

Wintering Waterbird Survey 2024/2025 – FCC Barrysparks Master Plan Lands

Wintering waterbird surveys continued in 2024/2025.

Conditions on site had changed significantly between 2023/2024 and 2024/2025 from the perspective of wintering waterbirds. The lands were no longer grazed resulting in tall rank grassland and only small areas of standing water were observed in contrast to the previous years.

The reason for this is unclear and may be reflective of a dry winter period.

As a result almost no waterbird activity was encountered.

There were only three sightings of two species (Snipe and Grey Heron) in 2024/25 as shown below on **Table 5**.

Table 5. Waterbird species recorded on the site during 2024/2025 together with the frequency of records, peak counts and their Birds of Conservation Concern status (Gilbert *et al.* 2021).

Common Name	Scientific Name	Code	BoCCI 2020-26	Number of Counts	Peak Count
Grey Heron	<i>Ardea cinerea</i>	H.		1	1
Snipe	<i>Gallinago gallinago</i>	SN	R	2	4

3.1.7 Assessment of Ecological Significance – Habitats – Application Site

The main floral/habitat interest in the application site are the grassland habitats, the Gaybrook Stream and drainage ditch, and the boundary hedgerows/treelines and areas of scrub.

The conservation value of the grassland habitats within the site has varied over the years depending on the grazing regime and management.

The ecological importance of the habitats within the application site was assessed using the criteria listed in the *Guidelines for Assessment of Ecological Impacts of National Roads Schemes* (NRA, 2009) and the *Guidelines for Ecological Impact Assessment in the UK and Ireland* (CIEEM, 2019).

Criteria used to evaluate habitats and sites include site designation, presence of rare and/ or protected species, local rarity, habitat functional role, naturalness, habitat diversity, size of habitat or species population and rich assemblages of plants and animals. The importance of an ecological feature is considered within a defined geographical context. Under this ecological evaluation scheme habitats are rated as being of either:

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

The areas of grassland, scrub, hedgerow, treelines and the watercourse within the application site are assessed as being habitats of high local value (C site) for biodiversity within the context of Swords and environs.

The Gaybrook Stream and drainage ditch is of local ecological importance and the Guidance from Inland Fisheries Ireland on the Treatment of Urban Watercourses has been considered in any development proposals for the lands and implemented to protect same during construction.

Furthermore the Gaybrook Stream, drains to the Malahide Estuary thereby providing a hydrological link between the Barrysparks Master Plan lands and the European sites.

3.1.8 Assessment of Ecological Significance – Terrestrial Fauna

The application site lands are used by a variety of fauna and provide a locally important habitat for fauna in terms of cover for hunting and foraging as well as breeding habitat. They support a number of legally protected mammals – namely three species of bat (Soprano pipistrelle, Common Pipistrelle and Leisler's bat) and Hedgehog.

3.1.9 Assessment of Ecological Significance – Wintering Birds – Species of Conservation Interest

Wintering bird surveys conducted during 2022/2023, which are summarised above demonstrated that the wider FCC Barrysparks Master Plan lands supported wintering waterbirds with 14 species recorded, seven on at least 50% of survey sessions.

Several of the species which were recorded during the surveys are listed as qualifying interests (Species of Conservation Interest) of one or more of the nearby coastal SPAs as presented in **Table 6** below. There is also an all-encompassing interest called 'Waterbirds and wetlands', acknowledging the importance of these sites for a diversity of waterbirds and the importance of the wetland habitats that these sites provide. Most of the waterbirds recorded are on Ireland's Red or Amber-list of conservation concern.

The 2022/2023 study noted that while waterbird numbers utilising the FCC Barrysparks and Crowscastle Master Plan lands were generally quite low, there was one count of Black-tailed Godwits (420) that exceeded the national 1% threshold (200 birds, Burke *et al.* 2018).

These birds were recorded feeding in the grasslands in the FCC Barrysparks and Crowscastle Master Plan lands alongside other waterbirds (location 14 on **Figure 17**). These lands adjoin the application site.

The NIS for the VHI application therefore concluded that further wintering bird surveys were required to inform the sustainable future development of the wider Barrysparks LAP lands.

2023/2024

The wintering bird surveys completed in 2023/2024 confirmed that the northern lands at Barrysparks supported waterbirds; 12 species were recorded

during the wintering bird surveys completed in 2023/24 (this compares with 14 species recorded across the wider Crowscastle/Barrysparks LAP lands in 2022/23 of which 11 were recorded in the northern FCC Barrysparks Master Plan lands).

Seven of the species recorded on the northern FCC Barrysparks Master Plan lands in 2023/2024 are listed as Species of Conservation Interest (SCI) for one or more of the nearby coastal SPAs or the marine SPA offshore, namely Black-tailed Godwit, Redshank, Herring Gull, Black-headed Gull, Lesser Black-backed Gull, Common Gull and Greater Black-backed Gull.

Gull species were recorded during most survey sessions throughout the survey period on the northern FCC Barrysparks Master Plan lands. Waders were recorded on the northern FCC Barrysparks Master Plan lands during the mid-winter period only (end December to early February). These trends reflect similar patterns of usage of the northern FCC Barrysparks Master Plan lands as was recorded during the 2022/23 wintering bird survey.

A colour-ringed Black-tailed Godwit individual recorded during the wintering bird surveys on 25/01/24 confirmed that the FCC Barrysparks Master Plan lands are an ex-situ site not only for the European Site where the bird was ringed (North Bull Island SPA (Site Code: 004006)) but the other European Estuary sites (Malahide Estuary SPA (Site Code: 004025), Rogerstown Estuary SPA (Site Code: 004015) and Baldoye Bay SPA (Site Code: 004016)), given the documented movement of this individual bird between it and the other SPAS.

While waterbird numbers were generally quite low, the exceptions were that on the 6th January 2023 a flock of 420 black tailed godwits was recorded utilising the northern Barrysparks FCC Masterplan Lands and on three occasions in January and February 2024 large numbers of black tailed godwits (279, 420 and 272) were also recorded. These counts all exceed the national 1% threshold for the species (200 birds, Burke *et al.* 2018).

Over two wintering bird survey seasons 2022/2023 and 2023/2024, the northern FCC Barrysparks Master Plan lands supported ex-situ populations of Black-tailed Godwit occurring in numbers of national importance in the mid-winter period.

2024/2025 Survey

Ornithological surveys continued in 2024/2025. Waterbirds were largely absent in 2024/25, with the exception of two sessions, because of limited availability of suitable habitat.

Only two waterbird species were present in 2024/25 on the northern FCC Barrysparks Master Plan lands – Snipe (which is Red listed) and Grey Heron – see **Appendix 2**. This was primarily because of the lack of large areas of standing water; which had been present to varying extents during all of the observation sessions in survey sessions in the previous winters, coupled with the condition of the grassland habitat.

It is unclear if anything occurred on the northern FCC Barrysparks Master Plan lands to alter the water regime previously recorded or if this simply reflected a dry winter. Met Eireann¹ in their climate statement for winter 2024/2025 reported that 'Provisional gridded rainfall data suggests winter 2024/25 was the 41st driest winter since 1940, with 95% of the 1991-2020 LTA or 102% of the 1981-2010 LTA'. Met Eireann similarly report² that 'Spring 2025 was also relatively dry, provisionally ranking as the 16th driest since records began in 1941, and the driest since 2020'.

Ground investigation works associated with the Metrolink project and for the VHI application may also have permeated the clay layer at the surface that held standing water. Archaeological investigations have also been completed on site which may have had similar impacts.

Furthermore, the northern FCC Barrysparks Master Plan lands had not been grazed so the grass was long and rank rendering it unsuitable, even for most invertebrate-feeding waders. However these conditions were suitable for Snipe which was recorded on two occasions in 2024/25, yet were absent in 2023/24.

The condition of the northern FCC Barrysparks Master Plan lands during the 2024/25 season for waterbirds was unfavourable (rank grass and lack of standing water/ wet grassland), resulting in a lack of waterbirds present during the survey sessions.

This demonstrates how local variations in land condition in relation to vegetation height, vegetation composition and hydrology and land use can change on an annual basis rendering a site favourable/unfavourable for ex-situ waterbirds.

Summary

Nationally important numbers of black tailed godwits were recorded from the northern Barrysparks FCC lands on four occasions over two wintering bird seasons during the months of January and February, with smaller flock numbers (which varied from a single bird to 133 as shown on **Table 6** below) recorded on other site visits.

The sighting of a ringed bird showed that the Black-tailed godwits recorded using the northern Barrysparks FCC lands may have originated from a number of European coastal sites. This bird has been recorded from both the Bull Island (Dublin Bay), Malahide Estuary, Rogerstown Estuary and Baldoyle Bay and has also been recorded from two ex-situ sites (Corballis and Turvey Nature Reserve).

¹ <https://www.met.ie/climate-statement-for-winter-2024-2025>

² <https://www.met.ie/climate-statement-for-spring-2025>

Table 6. Counts of Black-tailed Godwit (*Limosa limosa*) recorded from the northern Barrysparks FCC lands over three wintering waterbird seasons (2022/2023, 2023/2024 and 2024/2025). Nationally important numbers of waterbirds are shown in bold.

Date	Total No. of Birds Recorded
2022/2023 Wintering Waterbird Season	
29/11/2022	4
06/01/2023	420
20/01/2023	30
13/02/2023	55
2023/2024 Wintering Waterbird Season	
27/12/2023	1
06/01/2024	1
15/01/2024	133
16/01/2024	73
25/01/2024	279
30/01/2024	420
01/02/2024	272

A review of IWeBS site summary data for counts of Black-tailed Godwit for the identified European sites was completed and is summarised in **Table 7** below.

The 1% National population threshold for Black-tailed Godwit is 200 birds and the 1% International population threshold is 1100 birds.

IWeBS site summary data for Malahide Estuary SPA, which is the closest site to the Barrysparks lands shows flock numbers of Black-tailed Godwit utilising this site vary from 146 (recorded in 2016/17) to 699 (recorded in 2018/19) with an average of 376 birds recorded and a peak count month of February. This roughly coincides with the period when the peak numbers of Black-tailed Godwit were recorded on the Barrysparks lands.

Table 7. IWeBS site summary data for Black-tailed Godwit for the identified European Sites (courtesy of BirdWatch Ireland). Where peak counts were recorded outside the midwinter period (Nov, Dec, Jan) these are marked with an asterisk (*). This may indicate that higher numbers occurred during passage periods, or may be due to a lack of counts in the midwinter months.

Site	Minimum Count (Year)	Maximum Count (Year)	Mean	Peak Month
Malahide Estuary SPA	146* 2016/17	699* 2018/19	376	Feb
Baldoye Bay SPA	17* 2020/21	389 2013/14	172	Mar
Rogerstown Estuary SPA	191* 2015/16	2402* 2017/18	967	Mar, Oct, Nov
Dublin Bay (Bull Island)	873* 2014/15	3369* 2018/19	2121	Feb, Mar, Sep, Oct

It is likely that the northern Barrysparks FCC lands are one of several ex-situ sites in the vicinity of the identified coastal European sites that the Black-tailed godwit use and that birds can avail of.

The colour ringed Black-tailed godwit recorded on site has also been recorded from two ex-situ sites (Corballis and Turvey Nature Reserve) in addition to the identified European sites.

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Table 8: Qualifying interests (Species of Conservation Interest) of nearby SPAs. Species of Conservation Interest recorded on the FCC Barrysparks Master Plan lands during the wintering waterbird surveys are represented by an asterisk and are highlighted in bold.

Species of Conservation Interest (Qualifying Interest)	Scientific Name	Malahide Estuary SPA 004025	Rogerstown Estuary SPA 004015	Baldoyle Bay SPA 004016	North Bull Island SPA 004006	South Dublin Bay and River Tolka Estuary SPA 004024	North West Irish Sea SPA 004236
Red-throated Diver	<i>Gavia stellata</i>						Y
Great Northern Diver	<i>Gavia immer</i>						Y
Fulmar	<i>Fulmarus glacialis</i>						Y
Manx Shearwater	<i>Puffinus puffinus</i>						Y
Cormorant	<i>Phalacrocorax carbo</i>						Y
Shag	<i>Phalacrocorax aristotelis</i>						Y
Common Scoter	<i>Melanitta nigra</i>						Y
Great Crested Grebe	<i>Podiceps cristatus</i>	Y					
Greylag Goose	<i>Anser anser</i>		Y				
Light-bellied Brent Goose	<i>Branta bernicla hrota</i>	Y	Y	Y	Y	Y	
Shelduck	<i>Tadorna tadorna</i>	Y	Y	Y	Y		
Teal	<i>Anas crecca</i>				Y		
Pintail	<i>Anas acuta</i>	Y			Y		
Shoveler	<i>Anas clypeata</i>		Y		Y		
Goldeneye	<i>Bucephala clangula</i>	Y					
Red-breasted Merganser	<i>Mergus serrator</i>	Y					
Oystercatcher	<i>Haematopus ostralegus</i>	Y	Y		Y	Y	
Ringed Plover	<i>Charadrius hiaticula</i>		Y	Y		Y	
Golden Plover	<i>Pluvialis apricaria</i>	Y		Y	Y		
Grey Plover	<i>Pluvialis squatarola</i>	Y	Y	Y	Y	Y	
Knot	<i>Calidris canutus</i>	Y	Y		Y	Y	
Sanderling	<i>Calidris alba</i>				Y	Y	

Species of Conservation Interest (Qualifying Interest)	Scientific Name	Malahide Estuary SPA 004025	Rogerstown Estuary SPA 004015	Baldoyle Bay SPA 004016	North Bull Island SPA 004006	South Dublin Bay and River Tolka Estuary SPA 004024	North West Irish Sea SPA 004236
Dunlin	<i>Calidris alpina</i>	Y	Y		Y		
*Black-tailed Godwit	<i>Limosa limosa</i>	Y	Y		Y		
Bar-tailed Godwit	<i>Limosa lapponica</i>	Y		Y		Y	
Curlew	<i>Numenius arquata</i>				Y		
*Redshank	<i>Tringa totanus</i>	Y	Y		Y	Y	
Turnstone	<i>Arenaria interpres</i>				Y		
Little Gull	<i>Larus minutus</i>						Y
*Black-headed Gull	<i>Chroicocephalus ridibundus</i>				Y	Y	Y
*Common Gull	<i>Larus canus</i>						Y
*Lesser Black-backed Gull	<i>Larus fuscus</i>						Y
*Herring Gull	<i>Larus argentatus</i>						Y
*Great Black-backed Gull	<i>Larus marinus</i>						Y
Kittiwake	<i>Rissa tridactyla</i>						Y
Roseate Tern	<i>Sterna dougallii</i>					Y	Y
Common Tern	<i>Sterna hirundo</i>					Y	Y
Arctic Tern	<i>Sterna paradisaea</i>					Y	Y
Little Tern	<i>Sterna albifrons</i>						Y
Guillemot	<i>Uria aalge</i>						Y
Razorbill	<i>Alca torda</i>						Y
Puffin	<i>Fratercula arctica</i>						Y
*Wetland and Waterbirds		Y	Y	Y	Y	Y	

3.1.10 Assessment of Ecological Significance - Wintering Birds - Birds of Conservation Concern

A range of water bird species that are either Red or Amber-listed, have been recorded from the FCC Barrysparks Master Plan lands during the winter months.

In 2022/2023 these included Oystercatcher, Lapwing, Snipe, Black tailed godwit, Curlew, and Redshank (Red List Species), and Mallard, Black Headed Gull, Common Gull, and Herring Gull (Amber List Species).

Passerines included Stock dove, Meadow Pipit, and Redwing (Red List Species) and Goldcrest, Starling, House Sparrow, Greenfinch, Linnet and Bullfinch (Amber List Species).

In 2023/2024 waterbirds included Lapwing, Black tailed godwit and Redshank, (Red List Species), and Mallard, Ruff, Black Headed Gull, Common Gull, Lesser Black-backed Gull and Herring Gull, (Amber List Species).

All of these species have benefited from the diversity of habitats available to them in winter, especially the previously flooded areas, areas of rough grassland, the watercourse, areas of scrub and hedgerows/treelines within the FCC Barrysparks Master Plan lands.

In 2024/2025 only two waterbird species were recorded – Snipe which is red listed and Grey heron which is Amber listed.

3.1.11 Spatial Usage of the FCC Barrysparks Master Plan lands by Wintering Birds

Generally, the greatest usage by wintering birds in 2022/2023 were of the flooded areas in the FCC Barrysparks Master Plan lands as shown on the Google Imagery in **Figure 13** with the bird locations shown on **Figure 18**. These remained broadly similar in 2023/2024 as can be seen on **Figure 20** below. These areas mostly lie outside the application site.

In 2022/2023 and 2023/2024 these areas remained suitable for waterbird foraging, no doubt benefitting from the grazing horses which kept the sward relatively short.

These areas only supported smaller areas of standing water in 2024/2025 and were no longer grazed. As a result their value for wintering waterbirds was much diminished.

3.1.12 Spatial Usage of the Application Site by Wintering Birds

Only a small proportion of the northern FCC Barrysparks lands proposed for development for the LRD application are/were ever suitable for wintering waterbirds as shown below on **Figure 20**.

The majority of the lands are dominated by dry meadow and grassy verge grassland and scrub which are not habitats that support wintering waterbirds. The exception to this is at the eastern side and northern end of the application site where standing water has been recorded.

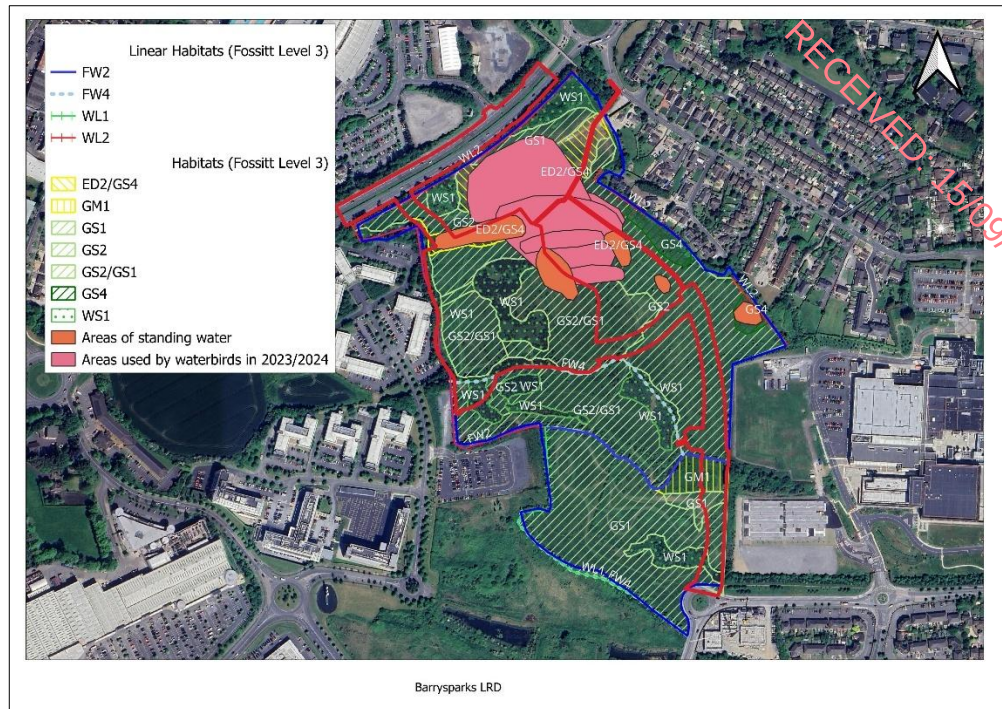


Figure 20. Wintering bird habitat within the application site in 2023/2024.

3.1.13 Hydrology of the FCC Barrysparks Master Plan lands and the application site

The flooded areas used by waterbirds in 2022/2023 and 2023/2024 were examined as part of a hydrological study of the FCC Barrysparks Master Plan lands (AWN, 2023).

This study has found that the surface water deposits are located in areas underlain by granular deposits possibly associated with man-made fill in the site and are confined by low permeable carboniferous tills (Clay). These flooded areas are believed to be associated with direct rainfall recharge over these granular deposits. As these deposits are confined by low permeable tills, it is believed that this recharge saturates these deposits and becomes perched/standing waters within these gravels.

AWN (2023) stated:

‘This perched water is confined to the extent of these deposits (i.e., it would not infiltrate vertically into the underlying bedrock aquifer) and outcrops at their lowest points. During dry weather periods, it is believed that this dynamic becomes stagnant and therefore no flow into these flooded areas is observed.

The bedrock underlying the study area would be located at depths c. 10 m below ground level, according to the existing GSI characterisation of the site. Therefore, the bedrock is not hydro-geologically connected to the surface water flooded areas.

It is therefore concluded that the observed seasonal flooded areas are fed by perched water associated with direct rainfall events and, in no case, from the underlying bedrock groundwater (i.e., similar to a

‘petrifying spring’). This is consistent with the surface water quality results obtained at different surface water points.

These results are not indicative of the presence of Tufa Springs and infer that there is no hydrological connection between surface water collected in these surface waters and water in contact with carboniferous tills/gravels (such as Holywell)’. RECEIVED 15/09/2025

The majority of the lands proposed for development as part of the current application are dominated by scrub and dry meadow and grassy verge grassland and do not flood or support wintering birds.

The locations of the flooded areas and the wader flocks recorded during the wintering bird survey season in 2023/2024 are shown alongside the proposed site layout in **Figure 19** above which also shows the extent of the proposed Metrolink development.

3.2 Project Description

The development will consist of a Large-scale Residential development (LRD) of 530 no. residential units and creche in 4 no. blocks (Blocks A to D) with associated ancillary accommodation, private balconies, communal amenity spaces, public open spaces and related services infrastructure all accessed from the Holywell Distributor Road and the R132.

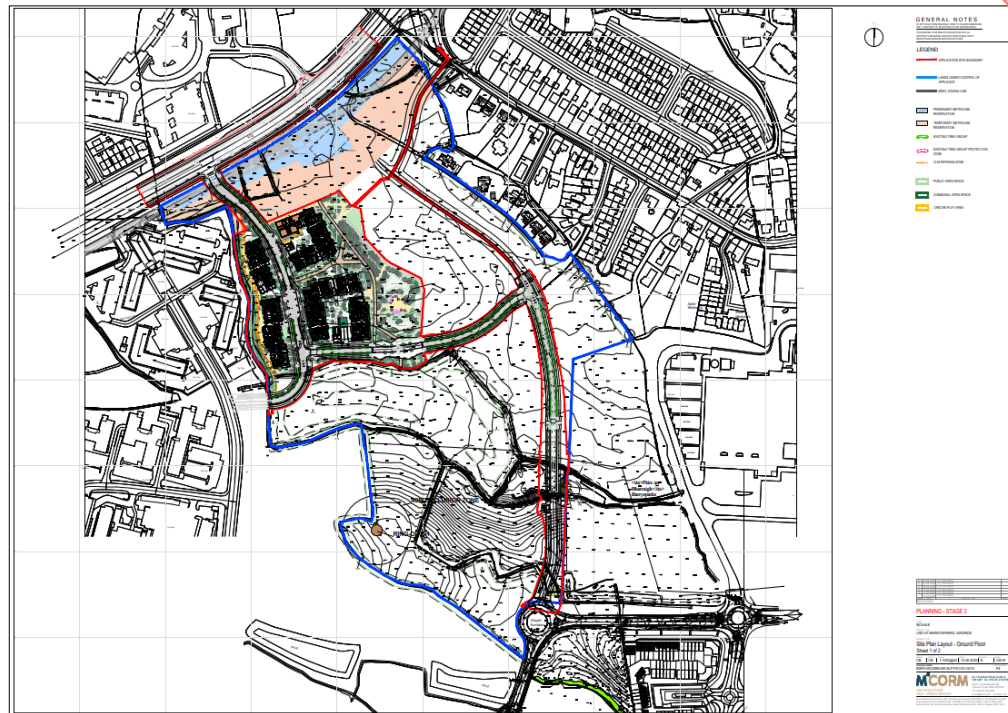


Figure 21. Proposed Site Layout.

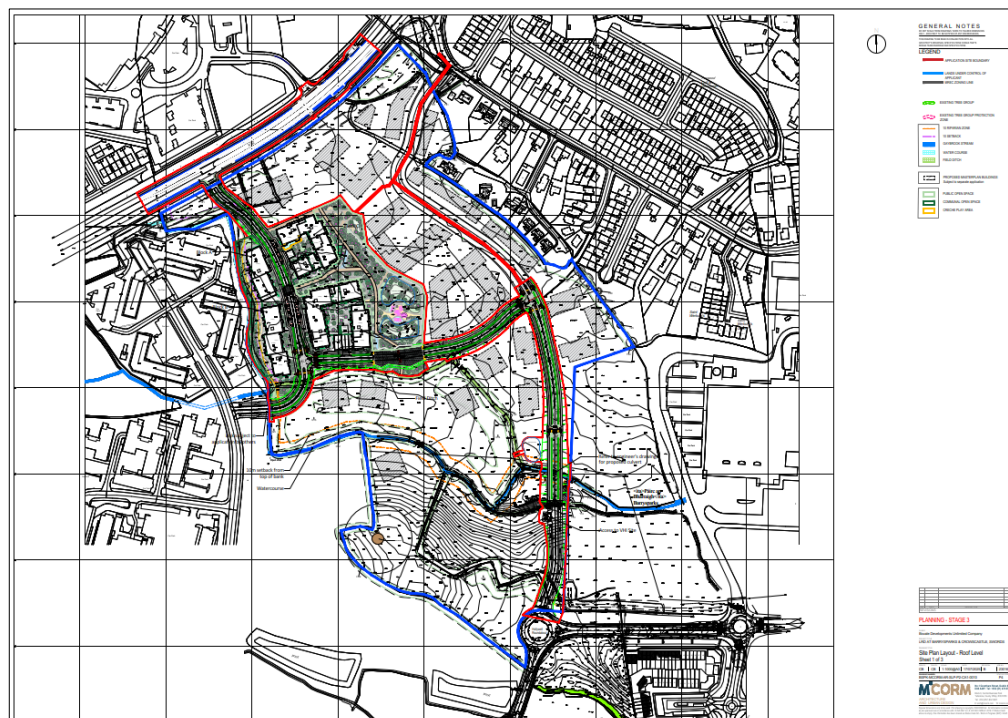


Figure 22. Later phases of the proposed development as per the masterplan.

3.3 Identification of Potential Impacts on European sites

The potential impacts of the proposed development of the Large Scale Residential Development and Creche as shown on **Figure 21** above, and the later phases of proposed development as shown in the masterplan drawing on **Figure 22** above on nearby European sites were assessed using the following factors:

- size and scale
- land-take
- distance from the European site or key features of the site
- resource requirements (water abstraction etc.)
- emissions (disposal to land, water or air)
- excavation requirements
- transportation requirements
- duration of construction, operation, decommissioning, etc.
- reduction of habitat area
- disturbance to key species
- habitat or species fragmentation
- reduction in species density
- changes in key indicators of conservation value (water quality etc.)
- climate change
- key relationships that define the structure of the sites
- key relationships that define the function of the site

These impacts on nearby European sites are summarised below in **Table 9**.

Note that the proposed development project is not directly connected with, or necessary to the conservation management of, any European site.

Table 9. Likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on nearby European Sites by virtue of:

Size and scale	None
Land-take	None
Distance from European sites	There are eighteen European Sites within the zone of influence of the development as presented in Table 1 above. These are: • Baldoyle Bay SAC 000199 • Baldoyle Bay SPA 004016 • Howth Head SAC 000202 • Howth Head Coast SPA 004113 • Ireland's Eye SAC 002193 • Ireland's Eye SPA 004117 • Lambay Island SAC 000204 • Lambay Island SPA 004069 • Malahide Estuary SAC 000205 • Malahide Estuary SPA 004025 • North Dublin Bay 000206 • North Bull Island SPA 004006 • North-West Irish Sea SPA 004236 • Rockabill to Dalkey Island SAC 003000 • Rogerstown Estuary SAC 000208 • Rogerstown Estuary SPA 004015 • South Dublin Bay SAC 000210 • South Dublin Bay and River Tolka Estuary SPA 004024 All of these sites with the exception of the Malahide Estuary SAC (Site Code: 000205), the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were ruled out from further assessment as there is no pathway for likely significant effects from the application site to these European sites. Small numbers of ex situ populations of wintering birds which form part of the qualifying interests of the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were confirmed to use the northern Barrysparks FCC Masterplan Lands during the wintering period of 2022/2023 and 2023/2024. Waterbird numbers recorded during the survey sessions were generally quite low. The exceptions were that on the 6th January 2023 a flock of 420 black tailed godwits was recorded utilising the northern Barrysparks FCC Masterplan Lands and on three occasions in January and February 2024 large

	numbers of black tailed godwits (279, 420 and 272) were also recorded. These counts all exceed the national 1% threshold for the species (200 birds, Burke <i>et al.</i> 2018). Following changes to the hydrology within the northern Barrysparks FCC Masterplan Lands and the loss of grazing animals the lands were no longer suitable for wintering waterbirds and only 2 species of waterbird were recorded in 2024/2025 and the ex-situ wintering bird populations previously recorded on the lands have been displaced. Other potential impacts on the Malahide Estuary SAC (Site Code 00205), the Malahide Estuary SPA (Site Code 004025) and the North-West Irish Sea SPA (Site Code: 004236) were considered in terms of hydrological connectivity (source-pathway-receptor) via local watercourses on the site which are tributaries of the Gaybrook Stream which discharges to the Malahide Estuary. Other potential impacts on the Malahide Estuary SAC (Site Code 00205), the Malahide Estuary SPA (Site Code 004025) and the North-West Irish Sea SPA (Site Code: 004236) were considered in terms of hydrological connectivity (source-pathway-receptor) via the local watercourse/drainage system on the lands which are tributaries of the Gaybrook Stream which discharges to the Malahide Estuary. Treated effluent from the development will be discharged to and treated in the Swords WWTP, which discharges to Malahide Estuary and therefore there is also a hydrological connection between the proposed development and the European sites in Malahide Estuary via the foul water network. Notwithstanding the hydrological connection between the proposed development and European sites in Malahide Estuary via the foul water network, there is no possibility of significant effects on any European sites arising from the proposed development from additional foul water loading associated with the proposed development for the following reasons: • Waters will be directed to and treated at the Swords WWTP, which operates under a discharge licence from the EPA (D0024-01). • According to the Annual Environmental Report for the Swords WWTP (D0024-01), the plant is operating within the emission limit values of its licence; • According to Irish Water, there is sufficient additional capacity at the WWTP to accommodate the proposed development.
Resource requirements (water abstraction, etc.)	This section relies on the information provided in the Engineering Services Report prepared by POGA Consulting Engineers. <u>Water</u>

	A connection to the water network is possible to the south at Hollywell Roundabout and to the north at Drynam road to the north. There will be no extraction from natural surface or ground water sources to supply the development. Water requirements for the development will therefore not impact on the water levels or the hydrology of any European site. <u>Groundwater</u> Activities that have the potential to change the groundwater regime in terms of recharge of groundwater levels, regional/ local flow patterns and water quality could include the following: • Impacts to the underlying aquifer as a result of deep excavations; • Changes in groundwater recharge characteristics. There are no proposals to extract groundwater to service the proposed development. There are no potential impacts arising from any deep excavation or similar on any groundwater sources which could affect the hydrology of any European Site within the zone of influence of the LRD application. The proposed works do not require any deep excavations which could impact on groundwater within the wider FCC Barrysparks Master Plan lands. Localised dewatering associated to perched water confined within granular/cohesive deposits may occur during the excavations works.
Emissions (disposal to land, water or air)	This section relies on the information provided in the Engineering Services Report prepared by POGA Consulting Engineers. <u>Foul Water</u> There is an existing Ø750mm wastewater sewer located on the R132 at the Drynam Roundabout to the north of the site. Wastewater from the proposed development will be connected via a gravity connection to the existing Uisce Eireann network at Drynam Road. Treated effluent from the site will be discharged to and treated in the Swords WWTP, which discharges to Malahide Estuary and therefore there is a hydrological connection between the proposed development and the European sites in Malahide Estuary via the foul water network. <u>Surface Water</u> Surface water from the site will be managed in accordance with FCC SuDS Guidance Document, Green/Blue infrastructure for developments.

	The surface water management techniques for this phase of the development will include; Detention Basin, Green Roofs, Roadside linear swales, Permeable paving, Rain gardens & Tree Pits, etc. The Surface Waters will then be discharged to the Gaybrook Stream. <i>Construction Phase:</i> Potential negative impacts could arise should untreated surface water enter the Gaybrook Stream adjoining the site during the construction phase of the development carrying silt, sediments, hydro-carbons or other pollutants. <i>Operational Phase:</i> Potential operational impacts could arise should untreated surface water enter the Gaybrook Stream adjoining the site during the operational phase of the development carrying silt, sediments, hydro-carbons or other pollutants. <u>Groundwater</u> Activities that have the potential to change the groundwater regime in terms of recharge of groundwater levels, regional/ local flow patterns and water quality could include the following: • Changes in groundwater quality due to accidental spillages of potentially polluting substances; and, • Impact potential on groundwater contributions to identified surface watercourses.
Excavation requirements	None within any European site. There will be significant excavation and earth movements within the boundaries of the site.
Transportation requirements	Unknown at present
Duration of construction, operation, decommissioning, etc.	Estimate of 24 months.
Reduction of habitat area	None within any European site

Changes to any European sites arising as a result of disturbance, fragmentation, etc. are summarised below in **Table 10**.

Table 10. Description of likely changes to the site arising as a result of:

Disturbance to key species	There will be no direct disturbance to any key species within any European site. Small numbers of ex situ populations of wintering birds which form part of the qualifying interests of the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull
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	Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were confirmed to use the northern Barrysparks FCC Masterplan Lands during the wintering period of 2022/2023 and 2023/2024. Waterbird numbers recorded during the survey sessions were generally quite low. The exceptions were that on the 6th January 2023 a flock of 420 black tailed godwits was recorded utilising the northern Barrysparks FCC Masterplan Lands and on three occasions in January and February 2024 large numbers of black tailed godwits (279, 420 and 272) were also recorded. These counts all exceed the national 1% threshold for the species (200 birds, Burke <i>et al.</i> 2018). Following changes to the hydrology within the northern Barrysparks FCC Masterplan Lands and the loss of grazing animals the lands were no longer suitable for wintering waterbirds and only 2 species of waterbird were recorded in 2024/2025 and the ex-situ wintering bird populations previously recorded on the lands have been displaced. The current condition of the lands coupled with the proposed development of the LRD application and the future development of the wider FCC Barrysparks Master Plan lands as set out in the Barrysparks & Crowscastle Masterplan 2019 will ensure that this displacement and disturbance is permanent.
Habitat or species fragmentation	Small numbers of ex situ populations of wintering birds which form part of the qualifying interests of the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) were confirmed to use the northern Barrysparks FCC Masterplan Lands during the wintering period of 2022/2023 and 2023/2024. Waterbird numbers recorded during the survey sessions were generally quite low. The exceptions were that on the 6th January 2023 a flock of 420 black tailed godwits was recorded utilising the northern Barrysparks FCC Masterplan Lands and on three occasions in January and February 2024 large numbers of black tailed godwits (279, 420 and 272) were also recorded. These counts all exceed the national 1% threshold for the species (200 birds, Burke <i>et al.</i> 2018). Following changes to the hydrology within the northern Barrysparks FCC Masterplan Lands and the loss of grazing animals the habitats used by the birds were no longer suitable for wintering waterbirds and only 2 species of waterbird were recorded in 2024/2025. The current condition of the lands coupled with the proposed development of the LRD application and the future development of the wider FCC Barrysparks Master Plan lands

	as set out in the Barrysparks & Crowscastle Masterplan 2019 will ensure that this loss of habitat is permanent.
Reduction in species density	The importance of the FCC Barrysparks Master Plan lands for ex-situ populations of waterbirds which form part of the qualifying interests of the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) was confirmed over two seasons of wintering bird surveys (2022/2023 and 2023/2024). Following changes to the hydrology within the northern Barrysparks FCC Masterplan Lands and the loss of grazing animals the habitats used by the birds were no longer suitable for wintering waterbirds and only 2 species of waterbird were recorded in 2024/2025. This reflects a reduction in species density for the ex-situ populations of wintering waterbirds within the Barrysparks lands. The current condition of the lands coupled with the proposed development of the LRD application and the future development of the wider FCC Barrysparks Master Plan lands as set out in the Barrysparks & Crowscastle Masterplan 2019 will ensure that this loss of habitat is permanent.
Changes in key indicators of conservation value (water quality etc.)	A potential risk to water quality (in the Gaybrook Stream) has been identified. This would have potential impacts on the habitats and species in the downstream European Sites (the Malahide Estuary SPA (Site Code: 004025), the Malahide Estuary SAC (Site Code: 000205) and the North-West Irish Sea SPA (Site Code: 004236)). Invasive species could also be introduced to the identified European sites which are hydrologically connected to the development site during construction works.
Climate change	TBC

Likely impacts on any European sites as a whole in terms of structure and functions are described below in **Table 11**.

Table 11. Describe any likely impacts on European site as a whole in terms of:

Key relationships that define the structure of the sites	The FCC Barrysparks Master Plan lands were confirmed to support ex-situ populations of waterbirds which form part of the qualifying interests of the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) over two seasons of wintering bird surveys (2022/2023 and 2023/2024). Following changes to the hydrology within the northern Barrysparks FCC Masterplan Lands and the loss of grazing animals the habitats used by the birds were no longer suitable for wintering waterbirds and only 2 species of waterbird were recorded in 2024/2025. The current condition of the lands coupled with the proposed development of the LRD application and the future development of the wider FCC Barrysparks Master Plan lands as set out in the Barrysparks & Crowscastle Masterplan 2019 will ensure that this loss of habitat is permanent.
Key relationships that define the function of the site	The lower lying parts of the FCC Barrysparks Master Plan lands which were formerly grazed and were previously flooded formed an ex situ satellite site over a number of years for species of Conservation Interest from adjoining SPAs. These areas within the FCC Barrysparks Master Plan lands are all proposed for development as set out in the Barrysparks & Crowscastle Masterplan 2019. The change in grazing management and hydrology of these lands in 2024/2025 has resulted in the loss of these ex-situ populations of wintering waterbirds from the site. The current condition of the lands coupled with the proposed development of the LRD application and the future development of the wider FCC Barrysparks Master Plan lands as set out in the Barrysparks & Crowscastle Masterplan 2019 will ensure that this loss of habitat is permanent.

4. POTENTIAL IMPACTS

This NIS assesses the potential impacts of the LRD development on the site on the habitats and species which form part of the qualifying interests of the identified European sites (the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024)) as set out in **Tables 9, 10 and 11** above. These include impacts at both the Construction and Operational Phase.

4.1 Construction Phase

The identified impacts at Construction Phase include the following:

1. Potential impacts on surface waters within and leaving the site with potential downstream impacts on the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236) with a potential for the degradation of habitats within these European Sites as a consequence of a reduction in water quality and/or a change to the hydrological regime within these lands.
2. Potential impacts on the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236) with a potential for the degradation of habitats within these European Sites as the foul water from the development will discharge to these sites.
3. Potential impacts on the hydrology of surface waters within and leaving the site,
4. Potential impacts on ground waters within the site,
5. Potential impacts on those habitats within the site that previously supported ex-situ waterbird populations arising from removal of vegetation, compaction of soil, silt, dust, etc.,
6. Potential impacts on waterbirds previously recorded using the FCC Barrysparks Master Plan lands which may return to the site arising from direct and in-direct disturbance during construction and operation,
7. Potential for the introduction or spread of non-native invasive plant species which could lead to a degradation of habitats within the European Sites downstream.

An analysis of Likely Significant Effects on the Conservation Objectives of those identified European sites, in the absence of mitigation, was completed and is presented in **Table 12** and further expanded on below.

Table 12. Site specific conservation objectives of the Qualifying Interests and Special Conservation Interest species of European sites within the zone of Influence of the proposed development of a Large Scale Residential Development on the FCC Barrysparks Masterplan lands and analysis of likely significant effects in the absence of mitigation.

Malahide Estuary SAC [000205]

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Malahide Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes				
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilus edulis</i> -dominated community complex, subject to natural processes.				
Community Structure:	<i>Zostera</i> density Shoots/m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	X			X
Community structure:	<i>Mytilus edulis</i> density Individuals/m ²	Conserve the high quality of the <i>Mytilus edulis</i> -dominated community, subject to natural processes	X			X
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand with oligochaetes, amphipods, bivalves and polychaetes community complex; Estuarine sandy mud with Chironomidae and <i>Hediste diversicolor</i> community complex; and Sand to muddy sand with <i>Peringia ulvae</i> , <i>Tubificoides benedii</i> and <i>Cerastoderma edule</i> community complex.	X			X

* Potential impacts of the proposed development of a Large Scale Residential Development on the FCC Barrysparks Masterplan lands on the Qualifying Interests and Special Conservation Interest species of the identified European sites were assessed using the following criteria:

1. Potential impacts on surface waters within and leaving the site with potential downstream impacts on the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236), with a potential for the degradation of habitats within these European Sites as a consequence of a reduction in water quality and/or a change to the hydrological regime via the hydrological and foul water linkage that exists between the Barrysparks lands and the European Sites coupled with potential impacts on groundwaters/surface waters within the site which could impact previously recorded ex-situ waterbird populations and the habitats which support them,
2. Potential impacts on the habitats within the site that previously supported ex-situ waterbird populations arising from removal of vegetation, silt, dust, etc.,
3. Potential impacts on waterbirds previously recorded using the site which have been recorded as ex-situ populations from adjoining SPAs on the Barrysparks lands arising from direct and in-direct disturbance during construction and operation,
4. Potential for the introduction or spread of non-native invasive plant species which could lead to a degradation of habitats within the European Sites downstream.

1310 *Salicornia* and other annuals colonizing mud and sand

To maintain the favourable conservation condition of *Salicornia* and other annuals colonising mud and sand in Malahide Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary- 1.93ha.				
Habitat distribution	Hectares	No decline, or change in habitat distribution, subject to natural processes.				
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions.				
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession				
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime				
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession				
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward				
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated.				
Vegetation composition: typical species and sub communities	Percentage cover	Maintain the presence of species-poor communities listed in Saltmarsh Monitoring Programme (McCorry and Ryle, 2009)				
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>). No new sites for this species and an annual spread of less than 1% where it is already known to occur.				

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)

To restore the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) in Malahide Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary- 25.33ha.				
Habitat distribution	Hectares	No decline, or change in habitat distribution, subject to natural processes.				
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions.				
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession				
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime				
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession				
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward				
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated.				
Vegetation composition: typical species and sub communities	Percentage cover	Maintain the presence of species-poor communities listed in Saltmarsh Monitoring Programme (McCorry and Ryle, 2009)	X			X
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>). No new sites for this species and an annual spread of less than 1% where it is already known to occur.				

1410 Mediterranean salt meadows (*Juncetalia maritimi*)

To maintain the favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*) in Malahide Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary-0.64ha.				
Habitat distribution	Hectares	No decline, or change in habitat distribution, subject to natural processes.				
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions.				
Physical structure: creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession				
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime				
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession				
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward				
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of area outside creeks vegetated.				
Vegetation composition: typical species and sub communities	Percentage cover	Maintain the presence of species-poor communities listed in Saltmarsh Monitoring Programme (McCorry and Ryle, 2009)	X			X
Vegetation structure: negative indicator species – <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>). No new sites for this species and an annual spread of less than 1% where it is already known to occur.				

2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Malahide Estuary SAC, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary- 1.80ha.				
Habitat distribution	Hectares	No decline, or change in habitat distribution, subject to natural processes.				
Physical structure: functionality and sediment supply	Presence/absence of physical barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions.				
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession				
Vegetation composition: plant health of dune grasses	Percentage cover	95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present).				
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>)				
Vegetation composition: negative indicator species	Percentage cover	Negative indicator species (including non-natives) to represent less than 5% cover				

Malahide Estuary SPA [004025]

A005 Great Crested Grebe *Podiceps cristatus*, A046 Brent Goose *Branta bernicla hrota*, A048 Shelduck *Tadorna tadorna*, A054 Pintail *Anas acuta*, A067 Goldeneye *Bucephala clangula*, A069 Red-breasted Merganser *Mergus serrator*, A130 Oystercatcher *Haematopus ostralegus*, A140 Golden Plover *Pluvialis apricaria*, A141 Grey Plover *Pluvialis squatarola*, A143 Knot *Calidris canutus*, A149 Dunlin *Calidris alpina alpina*, A156 Black-tailed Godwit *Limosa limosa*, A157 Bar-tailed Godwit *Limosa lapponica*, A162 Redshank *Tringa tetanus*

To maintain the favourable conservation condition of the SCI species in Malahide Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Population trend	Percentage change	Long term population trend stable or increasing				
Distribution.	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation	X	X	X	

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in Malahide Estuary SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 765 hectares, other than that occurring from natural patterns of variation	X	X	X	X

North-West Irish Sea SPA (Site Code: 004236)

A065 Common Scoter *Melanitta nigra*, A001 Red-throated Diver *Gavia stellata*, A003 Great Northern Diver *Gavia immer*, A009 Fulmar *Fulmarus glacialis*, A013 Manx Shearwater *Puffinus puffinus*, A018 Shag *Phalacrocorax aristotelis*, A017 Cormorant *Phalacrocorax carbo*, A177 Little Gull *Larus minutus*, A188 Kittiwake *Rissa tridactyla*, A179 Black-headed Gull *Chroicocephalus ridibundus*, A182 Common Gull *Larus canus*, A183 Lesser Black-backed Gull *Larus fuscus*, A184 Herring Gull *Larus argentatus*, A187 Great Black-backed Gull *Larus marinus*, A195 Little Tern *Sterna albifrons*, A192 Roseate Tern *Sterna dougallii*, A193 Common Tern *Sterna hirundo*, A194 Arctic Tern *Sterna paradisaea*, A204 Puffin *Fratercula arctica* and A206 Razorbill *Alca torda*.

To maintain the favourable conservation condition of the SCI species in the North-West Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Non-breeding population size	Number	No significant decline				
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	X	X	X	
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target				
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial	X	X	X	
Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	X	X	X	

Baldoyle Bay SPA [004016]

A046 Light-bellied Brent Goose *Branta bernicla hrota*, A048 Shelduck *Tadorna tadorna*, A137 Ringed Plover *Charadrius hiaticula*, A140 Golden Plover *Pluvialis apricaria*, A141 Grey Plover *Pluvialis squatarola*, A157 Bar-tailed Godwit *Limosa lapponica*

To maintain the favourable conservation condition of the SCI species in Baldoyle Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Population trend	Percentage change	Long term population trend stable or increasing				
Distribution.	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation	X	X	X	

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in Baldoyle Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263 hectares, other than that occurring from natural patterns of variation	X	X	X	X

Rogerstown Estuary SPA [004015]

A043 Greylag Goose *Anser anser*, A046 Light-bellied Brent Goose *Branta bernicla hrota*, A048 Shelduck *Tadorna tadorna*, A056 Shoveler *Anas clypeata*, A130 Oystercatcher *Haematopus ostralegus*, A137 Ringed Plover *Charadrius hiaticula*, A141 Grey Plover *Pluvialis squatarola*, A143 Knot *Calidris canutus*, A149 Dunlin *Calidris alpina*, A156 Black-tailed Godwit *Limosa limosa*, A162 Redshank *Tringa totanus*

To maintain the favourable conservation condition of the SCI species in Rogerstown Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Population trend	Percentage change	Long term population trend stable or increasing				
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation	X	X	X	

A999 Wetlands

To maintain the favourable conservation condition of wetland habitat in Rogerstown Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 646 hectares, other than that occurring from natural patterns of variation	X	X	X	X

North Bull Island SPA [004006]

A046 Light-bellied Brent Goose *Branta bernicla hrota*, A048 Shelduck *Tadorna tadorna*, A052 Teal *Anas crecca*, A054 Pintail *Anas acuta*, A056 Shoveler *Anas chlypeata*, A130 Oystercatcher *Haematopus ostralegus*, A140 Golden Plover *Pluvialis apricaria*, A141 Grey Plover *Pluvialis squatarola*, A143 Knot *Calidris canutus*, A144 Sanderling *Calidris alba*, A149 Dunlin *Calidris alpina*, A156 Black-tailed Godwit *Limosa limosa* [A156], A157 Bar-tailed Godwit *Limosa lapponica*, A160 Curlew *Numenius arquata*, A162 Redshank *Tringa tetanus*, A169 Turnstone *Arenaria interpres*, A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of the SCI species in North Bull Island SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Population trend	Percentage change	Long term population trend stable or increasing				
Distribution.	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation	X	X	X	

A999 Wetlands

To maintain the favourable conservation condition of wetland habitat in North Bull Island SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation	X	X	X	X

South Dublin Bay and River Tolka Estuary SPA [004024]

A046 Light-bellied Brent Goose *Branta bernicla hrota*, A130 Oystercatcher *Haematopus ostralegus*, A141 Grey Plover *Pluvialis squatarola*, A143 Knot *Calidris canutus*, A144 Sanderling *Calidris alba*, A149 Dunlin *Calidris alpina*, A157 Bar-tailed Godwit *Limosa lapponica*, A162 Redshank *Tringa tetanus*, A179 Black-headed Gull *Chroicocephalus ridibundus*, A137 Ringed Plover *Charadrius hiaticula*, A192 Roseate Tern *Sterna dougallii*, A193 Common Tern *Sterna hirundo*, Arctic Tern *Sterna paradisaea*

To maintain the favourable conservation condition of the SCI species in South Dublin Bay and River Tolka Estuary SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Population trend	Percentage change	Long term population trend stable or increasing				
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the SCI species, other than that occurring from natural patterns of variation	X	X	X	

A999 Wetlands

To maintain the favourable conservation condition of the wetland habitat in South Dublin Bay and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target	Criteria*			
			1	2	3	4
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation	X	X	X	X

Waterbirds

The ornithological studies confirmed that the application site is currently of low importance for the ex-situ wintering birds which were previously recorded using the Barrysparks lands.

This is primarily on account of the dominant habitats present which are dry meadow and grassy verge grassland (GS2), scrub (WS1) and a watercourse (FW2) and drainage ditch (FW4). These habitats are not suitable for wintering waterbirds as they are enclosed (waders like open habitats to be able to see predators), they do not flood and the grass sward is too high for the waterbirds to forage in.

The areas of ground within the application site which previously held standing water and supported waterbirds are no longer suitable for waterbirds and will be permanently lost.

Surface Waters

Potential source vector pathways were addressed in considering the hydrological connectivity between the proposed LRD application and the Malahide Estuary European sites.

Were the development to proceed, there would be no direct impact on the surface waters of the Malahide Estuary European sites. Therefore potential indirect impacts were then considered.

The potential for indirect significant adverse effects on the Malahide Estuary European sites is uncertain in the absence of control of potential pollution on surface water during the construction of the LRD development.

A Construction Environmental Management Plan will therefore be required to ensure that the project avoids potential impacts on the watercourse and ditch within the site, the Gaybrook Stream and ultimately the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236), downstream.

Groundwaters

Groundwater dependant habitats can be impacted by changes in groundwater levels. This could arise if a proportion of an aquifer was removed or if dewatering activities associated with excavations could lead to a temporary change in groundwater levels and flow within an aquifer. Accidental spillage could result in the mobilisation of contaminants into an aquifer. Should contaminated ground be disturbed during excavation this could also reduce the quality of the groundwater within an aquifer, thereby resulting in the degradation of groundwater dependent terrestrial ecosystem and any species that they may support.

In the case of the wider FCC Barrysparks lands a hydrogeological study was completed to determine if spring activity witnessed during the December 2020 survey was groundwater dependent (or if the spring had affinities with the Annex I habitat '7220 Petrifying springs with tufa formation (Cratoneurion)').

It was also important to determine how the flooded areas which are present in the FCC Barrysparks lands function as these were used by wintering waterbirds.

There was also the possibility that the surface water flooded areas within the northern parts of the site are hydro-geologically connected to the underlying bedrock and are potentially ground water dependent.

Potential impacts on these areas could potentially adversely affect the integrity of the identified European sites as a result of interactions with, or by affecting, the existing groundwater regime during construction or operation.

Foul Waters

The proposed development will ultimately be treated in the Swords WWTP. This WWTP discharges to the Malahide Estuary thereby creating a Potential source vector pathway to the designated European sites in the Malahide Estuary and beyond.

General Ecology

The main potential ecological impacts arising from the proposed development of the LRD application during the construction period were assessed in the EIAR as follows:

- Direct loss of habitats within the red line boundary of the LRD application site - these are primarily areas of grassland and scrub and small areas which formerly held wintering waterbirds.
- Potential damage to retained habitats within the site from the construction works.
- Potential for the spread of invasive species if biosecurity measures are not implemented during the works.
- Potential impacts on breeding birds through removal of vegetation used for nesting and feeding purposes.
- Potential impacts on bats which use the lands for foraging purposes.
- Potential for disturbance to bats from lighting including loss of hunting habitat and barriers to the movement of bats through the site.
- Potential for disturbance to fauna using the Gaybrook Stream.
- Potential for loss of feeding and shelter for fauna using the Gaybrook Stream.
- Potential for impacts on ex-situ populations of wintering birds which have previously been recorded using the Barrysparks lands from the development of these lands as set out above. These species form part of the Qualifying Interest for the Malahide Estuary SPA (Site Code: 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024).
- Potential loss of ecological corridor of the Gaybrook Stream.
- Potential impacts on water quality within the Gaybrook Stream through siltation and runoff from site during the works.

- Potential impacts on groundwater and surface water movements which created the areas of flooded grassland previously used by wintering birds.

The most significant impacts during this phase arise from the removal of habitats and physical disturbance of the soil within the site during the construction of the LRD development.

These works will result in the loss of all habitats and associated species within the red line boundary of the application site and there are potential impacts on areas of adjoining retained habitats and the species they support if these are not protected during the works.

There is potential for run-off from soil disturbance on the site resulting in silt entering the adjoining watercourses and Gaybrook Stream and ultimately the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236), unless some remedial measures are put in place.

There is also some potential for leaks of oil and petrol from machinery and equipment used on site during the construction phase to enter the European sites downstream via surface water runoff entering the adjoining watercourses and Gaybrook Stream. These impacts can also potentially impact the areas used by waterbirds as discussed in **Section 4.1** above.

There is also some potential for the spread of invasive species if biosecurity measures are not implemented during the works.

4.2 Operational Phase

Potential ecological impacts which have been identified within the EIAR during the operational phase of the LRD application may include the following:

- Potential disturbance to bats from lighting.
- Potential sanitisation of the stream corridor through removal of vegetation, trampling pressure, future development, etc.
- Disturbance to breeding birds through increased public use.
- Disturbance to fauna utilising the stream corridor.

The other main potential impacts from the proposed development includes the risk of surface water run-off from the LRD application and potentially resulting in silt, sediments or other pollutants entering the adjoining watercourses and Gaybrook Stream and ultimately the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236), unless some remedial measures are put in place.

There is also a potential source vector pathway between the LRD application and the European sites within and beyond the Malahide Estuary via the foul water services for the development.

Notwithstanding the hydrological connection between the proposed development and European sites in Malahide Estuary via the foul water network, there is no possibility of significant effects on any European sites arising from the proposed development from additional foul water loading associated with the proposed development for the following reasons:

- Waters will be directed to and treated at the Swords WWTP, which operates under a discharge licence from the EPA (D0024-01).
- According to Irish Water's Confirmation of Feasibility (see POGA Consulting Engineers Engineering Planning Report as part of the application documentation), there is sufficient additional capacity at the WWTP to accommodate the proposed development.

Therefore the proposed project will not adversely affect the integrity of any European sites as a result of foul water discharges during construction or operation.

5. PROPOSED MITIGATION MEASURES FOR EUROPEAN SITES

A series of mitigation measures for general ecological impacts are presented in the EIAR which accompanies the planning application.

The measures outlined below relate only to mitigation measures required for the identified European Sites.

5.1 Mitigation Measures for Water Quality in the European Sites – Groundwater

The hydrogeological survey prepared for the FCC Barrysparks lands by AWN found that the surface water flooded areas within the northern FCC Barrysparks lands are not hydro-geologically connected to the underlying bedrock. Their study has concluded that the observed seasonal flooded areas are fed by perched water associated with direct rainfall events and, in no case, from the underlying bedrock groundwater.

The hydrogeological surveys and assessment completed for the project by AWN confirmed that the potential for impact on the aquifer is Low based on the absence of any bulk chemical storage on site. The overburden thickness, low permeability nature of till and a lack of fracture connectivity within the aquifer will minimise the rate of off-site migration for any indirect discharges to ground at the Proposed Development site. As such there is no potential for a change in the groundwater body status or significant source pathway linkage through the aquifer to any Natura 2000 site.

The development of the proposed LRD application will in no way affect the bedrock and regional aquifer sites within the site (or the hydrology of any European Site within the zone of influence of the Barrysparks Healthcare Facility Application Site).

No specific mitigation measures are therefore required for the protection of groundwater within the application site or for any European Site.

5.2 Mitigation Measures for Water Quality in the European Sites - Surface Waters

In a worst-case scenario the project could result in a significant detrimental change in water quality in Malahide Estuary (either alone or in combination with other projects or plans) as a result of indirect pollution via the drainage ditch and Gaybrook Stream on site. The effect of this would have to be considered in terms of changes in water quality which would significantly affect the habitats or food sources for which the Malahide Estuary European sites are designated, particularly on the sand and mudflat habitats which provide food sources and habitats for protected birds.

The hydrogeological surveys and assessment completed for the project by AWN states that:

‘During construction phase, there is no direct open-water pathway between the site and Malahide Estuary. However, there is an indirect pathway through the stormwater drainage which discharges into the adjacent Gaybrook Stream. Should any silt-laden stormwater from construction or hydrocarbon-contaminated water from a construction vehicle leak/tank leak manage to enter into the surface/combined water sewer, the suspended solids will naturally settle within the sewer; however, in the event of a worst case hydrocarbon leak of 1,000 litres this would be diluted to background levels (established as surface water quality objectives as outlined in S.I. No. 272 of 2009, S.I. No. 386 of 2015 and S.I. No. 77 of 2019) by the time the stormwater reaches the nearest Natura 2000 Sites (Malahide Estuary, c. 2.0 km downgradient)’.

‘During operation, the potential for a release is low as there is no bulk fuel/chemical storage and no silt laden run-off. Stormwater will be collected by a drainage system which includes SuDS measures, an attenuation system and oil/ petrol interceptors prior to discharge off-site (albeit these measures have been disregarded for this analysis). In addition, the potential for hydrocarbon discharge is quite minimal based on an individual vehicle (70 litres) leak being the only source for hydrocarbon release. However, even if the operation of the proposed SuDS and interceptor systems are excluded from consideration, there is no likely impact above water quality objectives as outlined in S.I. No. 272 of 2009, S.I. No. 386 of 2015 and S.I. No. 77 of 2019) in the worst-case scenarios described above at section 3.2 and there will be no significant effect on any European site. The volume of contaminant release is low and combined with the significant attenuation within the stormwater drainage network, hydrocarbons will dilute to background levels with no likely impact above water quality objectives as outlined in S.I. No. 272 of 2009, S.I. No. 386 of 2015 and S.I. No. 77 of 2019 at any Natura 2000 sites.

It can be concluded that the in-combination effects of surface water arising from the Proposed Development taken together with that of other permitted developments will not be significant based on the in-combination low potential chemical and sediment expected loading. Therefore, based on the loading of any hazardous material considered in the worst-case scenarios mentioned in Section 3.1 above during construction and operation phases, there is

subsequently no potential for impact on downgradient Natura 2000 habitats (Malahide Estuary, which is located 2 km from the site).

The peak wastewater discharge is calculated at 16.51 l/s (POGA, 2025). The sewage discharge will be licensed by Uisce Éireann, collected in the public sewer to the north of the site, and treated ultimately Irish Water's WWTP at Swords prior to discharge to Broadmeadow River.

Even without treatment at the Swords WWTP, the peak effluent discharge, calculated for the proposed development as 16.51 l/s (which would equate to 2.34% of the licensed discharge at Swords WWTP peak hydraulic capacity), would not have a measurable impact on the overall water quality within Malahide Estuary and therefore would not have an impact on the current Water Body Status (as defined within the Water Framework Directive).

The assessment has also considered the effect of cumulative events, such as release of sediment laden water combined with a hydrocarbon leak on site (1,000 litres as a worst-case scenario during the construction phase). As there is adequate assimilation and dilution between the site and the Natura 2000 sites (Malahide Estuary, which is c. 2 km from the site), it is concluded that no perceptible impact on water quality would occur at the Natura 2000 sites as a result of the construction or operation of this Proposed Development

As the Proposed Development will have no additional stormwater run-off during a stormwater event over and above the current level, surface water run-off from the development in the operational phase will therefore have no impact on the current water quality in any overflow situation at Malahide Estuary.

Finally, in a worst-case scenario of an unmitigated leak and not considering the operation of the SuDS and interceptor already included in the design, no perceptible risk to any Natura 2000 Sites is anticipated given the distance from source to Malahide Estuary protected areas (c. 2 km). Potential contaminant loading will be attenuated, diluted and dispersed near source area'.

A series of mitigation measures from an ecological perspective are set out below to avoid and minimise same.

5.2.1 Sediment Control during Construction

Sediment control will be required during the construction phase to prevent silt, cement, hydro-carbons and other building materials from entering the adjoining Gaybrook Stream and drainage ditch with potential subsequent impacts downstream on the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236).

Sediment control practices are used on building sites to prevent sand, soil, cement and other building materials from reaching waterways and water dependent habitats. Even a small amount of pollution from a site can cause significant environmental damage by killing aquatic life, silting up streams and blocking storm water pipes. Storm water can contain many pollutants which

can enter our local drainage ditches, streams, rivers and marine systems, causing harm to native animals, plants, fish breeding habitats and recreational areas.

Sediment control measures have been developed in consideration of the following standard best international practice including but not limited to:

- Construction Industry Research and Information Association (CIRIA) (2015) Environmental Good Practice on Site (C741);
- CIRIA (2001) Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532);
- CIRIA (2000) Environmental Handbook for Building and Civil Engineering Projects (C512);
- CIRIA (2007) The SUDS Manual (C697);
- CIRIA (2006a) Control of water pollution from linear construction projects: Technical guidance (C848);
- CIRIA (2006b) Control of water pollution from linear construction projects: Site guide (C649);
- IFI (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters;
- UK Pollution Prevention Guidelines (PPG)

Should the working area become flooded during works any water and silt will be passed through a silt buster or similar to ensure that only clean water is returned to the wider landscape outside the proposed works area. A splash plate or similar will be used to prevent scouring at the discharge point. This will ensure that only clean desilted water enters the local watercourse and adjoining habitats during the works.

The Outline Construction Environmental Management Plan prepared by POGA Consulting Engineers includes specific measures to ensure water quality is protected during the works.

5.2.2 Surface Water during Operation

Potential negative impacts could arise should untreated surface water enter the Gaybrook Stream and the drainage ditch from the new LRD development.

These impacts have been addressed by POGA Consulting Engineers through the project design, which has been designed in accordance with the principles of Sustainable Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS) and will significantly reduce run-off rates and improve storm water quality discharging to the public storm water system.

These measures will ensure that all surface water leaving the site complies with the policies and guidelines of the Greater Dublin Strategic Drainage Study (GDSDS) before it ultimately enters the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236).

5.3 Biosecurity Measures & Invasive Species

There is the potential for the spread of the noted invasive species from the site and to the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code; 004236), downstream if biosecurity measures are not implemented during the works and the current populations present are not controlled.

Should earth or other material be brought to site this material should be screened to confirm that no invasive species such as Japanese knotweed or other species as described on <http://www.invasivespeciesireland.com/> are present.

All machinery and plant entering the site should be cleaned prior to arrival to ensure that no fragments of Japanese knotweed or seeds of other invasive species are brought on to the site in line with the Birds and Natural Habitats Regulations 2011.

The populations of the non-native invasive species buddleia (*Buddleia davidii*), pheasant berry (*Leycesteria formosa*), winter heliotrope (*Petasites fragrans*) and Canadian fleabane (*Conyza canadensis*) which were recorded along the watercourse within the site will be removed and any regrowth dealt with.

5.4 Wintering Birds

Recognising that waterbirds may return to the site if conditions allow (such as if large areas of standing water form following rainfall events during the works) a number of mitigation measures are proposed. These are designed to reduce impacts on any waterbirds that may return to the wider the northern Barrysparks FCC lands during the development of these lands.

These are outlined below.

5.4.1 Delineation of the Working Area

The red line boundary of the proposed LRD application site will be delineated by robust permanent hoarding/fencing which will be erected in advance of any construction works commencing on site.

The purpose of this hoarding/fencing is to control construction activity on the wider northern Barrysparks FCC lands and to protect the remaining areas of land that may flood and support wintering waterbirds outside the application site.

This will also allow for protection measures to reduce disturbance impacts on waterbirds should they return to the site during the works.

Guidance from an ecologist will be needed on the fencing but it is envisaged that it will be constructed of timber posts to which solid sheets of plywood panels 2.4m high or similar could be added if waterbirds return to the site.

5.4.2 Maintenance of Current Hydrological Regime within the wider northern Barrysparks FCC lands

There will be no attempts to drain, infill or otherwise alter the current hydrological regime within the lands outside of the red line boundary of the development (i.e. the wider northern Barrysparks FCC lands) during the works.

5.4.3 Protection Measures for Surface Waters

The erection of a silt fence surrounding the site will ensure that the water quality of any surface water that develops on the wider northern Barrysparks FCC lands remains protected and favourable for foraging birds should they return during the works.

5.4.4 Monitoring

Given that nationally important numbers of Black-tailed godwit were recorded over two wintering seasons utilising the northern FCC Barrysparks lands, and had been previously recorded during the studies completed for the Metrolink Project (JACOBS IDM 2022a, 2022b) monitoring of wintering birds on the northern FCC Barrysparks lands will continue during the construction phase of the development of the proposed LRD.

These surveys will include spot counts of the northern FCC Barrysparks lands during the passage months, coupled with weekly counts of waterbirds during the main winter season as was previously completed to determine if the absence of waterbirds in 2024/2025 was as a result of the dry winter, lack of grazing or other factors.

5.4.5 Protection of the Riparian Corridor

As set out in the EIAR the riparian corridor and the drainage ditch in the Barrysparks lands will be protected during the works. The Gaybrook Stream will be augmented with additional native and appropriate wetland planting as this feature supports other waterbirds such as Grey heron, Mallard and Snipe.

5.5 General Biodiversity Protection Measures

A series of mitigation measures to ensure the protection of biodiversity during the development of the LRD site and the wider Barrysparks lands is presented in the EIAR which accompanies the planning permission. The mitigation measures set out within this NIS will be implemented in conjunction with those measures detailed in the EIAR. These include the following:

- Mitigation by Avoidance
- General Guidance on Sediment Control
- Contractor Briefing
- Protection Measures for Breeding Birds
- Mitigation Measures for Breeding Birds
- Protection Measures for Bats
- Mitigation Measures for Bats
- Biosecurity
- Planting Proposals
- Invasive Species
- Measures for the Watercourse

- Ecological Clerk of Works
- Monitoring

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6. CUMULATIVE/IN COMBINATION EFFECTS

The cumulative impacts of the proposed development of the LRD Application on the lands at Barrysparks, Swords, Co. Dublin were considered in combination with other identified plans and projects.

A radius of c.500m was chosen as an appropriate study area in respect of cumulative assessment and the identification of relevant other projects. A search³ was undertaken of planning applications on the local authority online planning database and An Coimisiun Pleanala online Map Search facility. Larger scale projects, comprising 100+ residential units, 1000sq.m+ commercial floorspace and significant infrastructure proposals, are included due to the potential for significant cumulative impacts arising from developments of this scale. Approved projects (commenced and not commenced) are included on the basis that they may proceed and have the potential to interact with the proposed project.

Table 13 lists the relevant other projects arising from the methodology above.

³ Search undertaken on 24/06/2025.

Table 13. Other Plans and Projects Considered in Terms of Cumulative Impacts.

Ref.	Description	Address	Status
	FCC Swords Masterplans Part A: Masterplans for Barrysparks & Crowscastle; Fosterstown; & Estuary West (Fingal County Council 2019).	Barrysparks & Crowscastle; Fosterstown; & Estuary West	Approved The NIS produced for this plan determined that, assuming the successful implementation of the mitigation outlined, there would be no adverse effects on integrity of European sites, in isolation or in combination with other plans and projects acting in the same area.
NA29N.314724	Metrolink. Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and City Centre to Charlemont, Co. Dublin.	Swords, Co. Dublin to Charlemont, Dublin 2	Pending The Biodiversity Assessment (JACOBS IDM 2022a) and Natura Impact Statement prepared for the project surveyed the flora and fauna including wintering and breeding bird studies of the Barrysparks lands and determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects (JACOBS IDM 2022b).
JP06F.310145	R132 Connectivity Project, to carry out road alteration works along the R132 at Swords, Co. Dublin	R132, Swords. Co. Dublin	Granted 20 Jan 2022
HA06D.317121	BusConnects Swords to City Centre Bus Corridor Scheme	Swords to Dublin City Centre	Granted 19 June 2024 The AA screening for the BusConnects Swords to City Centre Core Bus Corridor Scheme identified that there was potential for the scheme to result in the disturbance / displacement of SCI bird species

			associated with SPA populations and therefore a full Natura Impact Statement was prepared. The NIS determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects (JACOBS/ARUP/SYSTRA 2023b)
F25A/0413E	Proposed development comprises the continued use on a permanent basis of the existing access and exit roadway off the western carriageway of the R132 regional route, south of the existing Malahide Road roundabout.	Pavilions Shopping Centre, Malahide Road, Swords, Co. Dublin	Granted 12 August 2025
F23A/0083	The demolition and reinstatement of existing hotel floorspace (c. 175 sq m) at Travelodge Dublin Airport North.	Travelodge Dublin Airport North 'Swords', Pinnockhill, Swords, Co. Dublin, K67 K6R2	Granted 03 Oct 2023 The AA Screening report determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects
F21A/0100	A new link road from the roundabout to the south of Lakeshore Drive, Crowcastle, Swords, Co Dublin that will be constructed to a length of approximately 290m. The road will incorporate lighting, drainage, footpaths and cycle tracks.	Crowcastle, Swords, Co Dublin	Granted 21 Jan 2022 The AA Screening report determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects
F25A/0521E	The development will consist of a health, racquets and wellness club facility.	Lands at Crowcastle (to the west of	Pending

		Holywell Distributor Road), Swords, Co. Dublin	
F24A/0159	Permission and retention permission for the reorganisation of on-site car site car parking to increase of the total number of permitted car parking from 346 No. spaces to 416 No. spaces at MSD International GmbH (MSD Biotech Dublin), Drynam Road, Barrysparks, Swords, Co. Dublin.	Drynam Road, Barrysparks, Swords, Co. Dublin	Granted 9 May 2024 The AA Screening report determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects
LADP/008/23	A Residential Development (5,189 sq m Gross Floor Space) arranged over 3 no. buildings ranging in height from 4 to 6 storeys at a site of approximately 0.77 ha located in the Townland of Crowscastle, Holywell, Swords, Co. Dublin.	Site located in the Townland of Crowscastle, Holywell, Swords, Co. Dublin	Granted 13 Oct 2023 The AA Screening report determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects
F23A/0727	A Healthcare Facility of 4,425.8 sqm gross floor area (GFA), across three storeys over a lower ground floor level car park and all ancillary site works on a site of 2.1 ha.	Barrysparks & Crowscastle, Holywell Distributor Road, Swords, Co. Dublin	Granted 05 Mar 2024 The planning application was accompanied by an NIS which determined that 'with a range of mitigation measures that there would be no significant effect on the European sites considered in the assessment'.

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LH06F.321455	Large-scale residential development (LRD): Construction of 123 dwellings with all associated site works.	A site fronting the Swords to Malahide Road (R106), Mountgorry, Swords, Co. Dublin	Granted 25 Feb 2025 The AA Screening report determined that the proposed project would not adversely affect the integrity of any European sites, either alone or in-combination with any other plans or projects
F18A/0467	The construction of a six-storey office building plus rooftop plant, signage, bins stores, ESB substation, generator, and cycle shelters at Site A1. The proposed development will also consist of 593 no. surface car parking spaces, of which 160 no. spaces will be provided at Site A1 and 433 no. spaces will be provided at Site A2.	Airside Business Park, Crowcastle, Swords, Fingal, Co. Dublin.	Granted 30 January 2019 The planning application was accompanied by an NIS which determined that 'with a range of mitigation measures that there would be no significant effect on the European sites considered in the assessment'. Permission was granted on that basis.
F18A/0335	A residential development on a 0.77 ha site bounded by Holywell Avenue & Holywell Court to the east, Holywell Drive & Holywell Gardens to the south and to the north and west by the recently constructed link road section that links to the R125 to the south and Mountgorry Way to the east. Access to the site is from the recently constructed link road section that bounds the development to the north. The proposed development comprises 29 dwellings.		Granted 03 Jan 2019 The planning application was accompanied by a report for AA Screening which concluded that there will be no negative impacts on the qualifying interests of any Natura 2000 sites within a 15km radius of the proposed development. The report found that 'the proposed development will not, either individually or cumulatively in combination with the other identified plans and projects, adversely affect the integrity of any Natura 2000 site'.
F18A/0198	The development consisted of the construction of a	MSD,	Granted

	biopharmaceutical manufacturing campus with a total additional floor area of 12,046 square metres.	Drynam Road, Barrysparks, Commons East, Crowcastle, Swords	17 Jul 2018 The planning application was accompanied by an NIS which determined that with a range of precautionary design measures and mitigation measures that there would be no significant effect on the European sites considered in the assessment'.
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Other plans and projects of relevance include:

- *National Biodiversity Action Plan 2017 - 2021* (Department of Culture, Heritage and the Gaeltacht, 2017);
- *Fourth National Biodiversity Action Plan 2023 - 2027* (Department of Housing, Local Government and Heritage);
- *Fingal Biodiversity Action Plan 2010 - 2015* (Fingal County Council, 2010);
- *Fingal Biodiversity Action Plan 2022-2030*. (Fingal County Council (2022));
- *Fingal Development Plan 2017 - 2023* (Fingal County Council, 2017);
- *Fingal 2023 - 2029* (Fingal County Council, 2023);
- *FCC Swords Masterplans Part A: Masterplans for Barrysparks & Crowscastle; Fosterstown; & Estuary West* (Fingal County Council 2019).

The potential cumulative impacts on those European sites within the ZoI of the proposed LRD application from the proposed development of the project in combination with the plans and projects listed above were identified and assessed.

The development of the wider FCC Barrysparks Master Plan lands, which are all proposed for development as set out in the Barrysparks & Crowscastle Masterplan 2019 have been assessed.

The development of MetroLink and this application, future phases of the FCC Barrysparks Masterplan coupled with the previously permitted application for the VHI Healthcare Facility, will result in permanent losses of habitat within the site.

These include areas previously used by ex-situ wintering bird populations from the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025), the North-West Irish Sea SPA (Site Code: 004236), the Baldoyle Bay SPA (Site Code: 004016), the Rogerstown Estuary SPA (Site Code: 004015), the North Bull Island SPA (Site Code: 004006), and the South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024)).

Should the lands not be developed as per the FCC Barrysparks Masterplan and remain ungrazed the rank grassland would continue to develop with increasing scrub cover within the lands. These habitats are not conducive to wintering waterbirds.

It is noted that the Barrysparks lands have developed as an ex-situ site for the waterbirds over recent years and are not a 'typical' traditional waterbird site. The areas of standing water which attracted the birds to the Barrysparks FCC masterplan lands have formed as a result of historic agricultural land use, are seasonal in nature and are fed by perched water associated with direct rainfall events.

They are not groundwater dependent wetland habitats and are not hydrologically linked to the underlying bedrock groundwater.

The grazing of the site by horses further created favourable conditions for waterbirds to forage in.

The hydrological study completed by AWN of the wider FCC Barrysparks masterplan lands further substantiated the causality for the formation of the wetland areas on the Barrysparks FCC masterplan lands.

These wetland areas formed temporal foraging areas for waterbirds, which coupled with the grazing activities of horses and the undisturbed nature of the site provided attractive undisturbed foraging habitat for waterbirds.

The Barrysparks lands are likely to be one of several ex-situ wintering bird sites in the Fingal area that wintering waterbirds from the identified coastal European Sites could avail of.

In the absence of grazing and the conservation of the hydrological condition of the site they are no longer suitable as an ex-situ wintering bird site as evidenced by the wintering bird survey of 2024/2025.

The updated NIS prepared for MetroLink concluded that there would be no significant impacts on SCI listed bird species from the identified European Sites arising from the development of the lands. This determination was made based on the following:

- The 'relatively low frequency of occurrence of these SCI bird species on lands located within the habitat loss and disturbance/displacement ZoI of the proposed Project, evidencing that these species do not regularly use or rely upon these lands as foraging or roosting habitat and are likely to use other suitable sites available in the wider area on a similar or more regular basis'.
- That 'relatively low peak flocks recorded on lands located within the habitat loss and disturbance/displacement ZoI of the proposed Project (i.e. between one or two birds), evidencing that these sites are not significantly important to the overall SPA population of each respective SCI bird species, and are likely to use other suitable sites available in the wider area on a similar or more regular basis, and
- The 'availability of large areas of alternative suitable foraging and/or roosting habitat for these SCI bird species in the wider locality of the proposed Project'.

An assessment based solely on the results of the 2024/2025 ornithological surveys would be in agreement with this determination.

The NIS prepared for Metrolink did not specifically reference the NIS prepared for the VHI application in the cumulative impacts assessment. This NIS included the results of the 2022/2023 wintering bird survey when Black-tailed godwits were first recorded in nationally important numbers. The Metrolink NIS assessment was unaware of the nationally important numbers of Black-tailed godwits utilising the site and did not consider them in making the above

determination relying on the low frequency of occurrence of the SCI bird species and the relatively low numbers of the SCI birds recorded in their surveys.

In addition the Conservation Objectives Supporting Document for each of the identified European Sites also contains the following consideration.

‘Ex-situ factors: several of the listed waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas ecologically connected to it. The reliance on these habitats will vary from species to species and from site to site. Significant habitat change or increased levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers’.

In light of this a review of the population trend for Black-tailed godwit prepared by BirdWatch Ireland was completed to consider the population status of this species (Kennedy *et al.* (2023)) and to determine if the losses of these ex-situ lands are ‘significant’.

This review showed that the population of this species (based on studies by Lewis *et al.* (2019)) is ‘Stable and Increasing’ at a national level as shown below on **Figure 23** and similar trends are shown for the species within both the Malahide Estuary and Rogerstown Estuary sites.

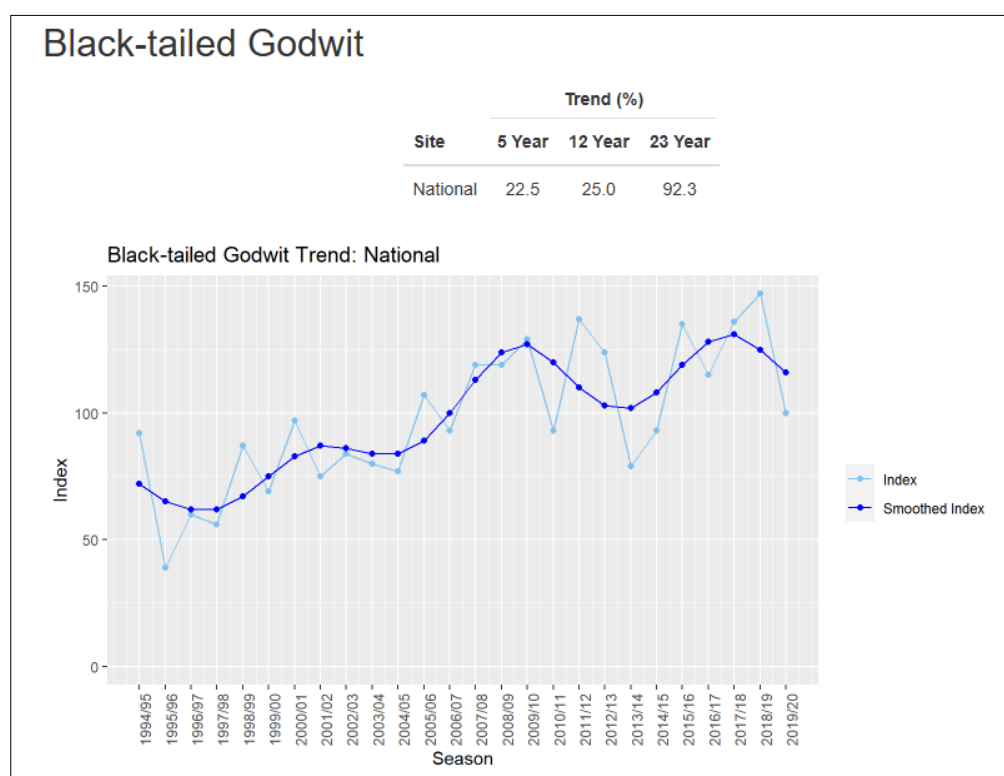


Figure 23. The long-term national trend for Black tailed godwit is Stable or Increasing.

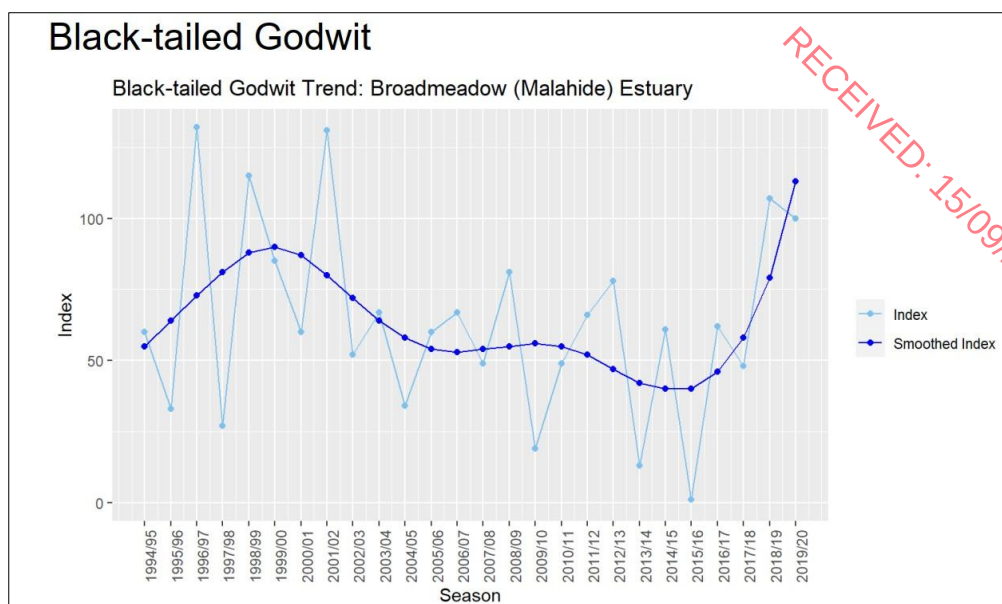


Figure 24. The long-term trend for Black-tailed godwit at the Malahide Estuary is Stable or Increasing.

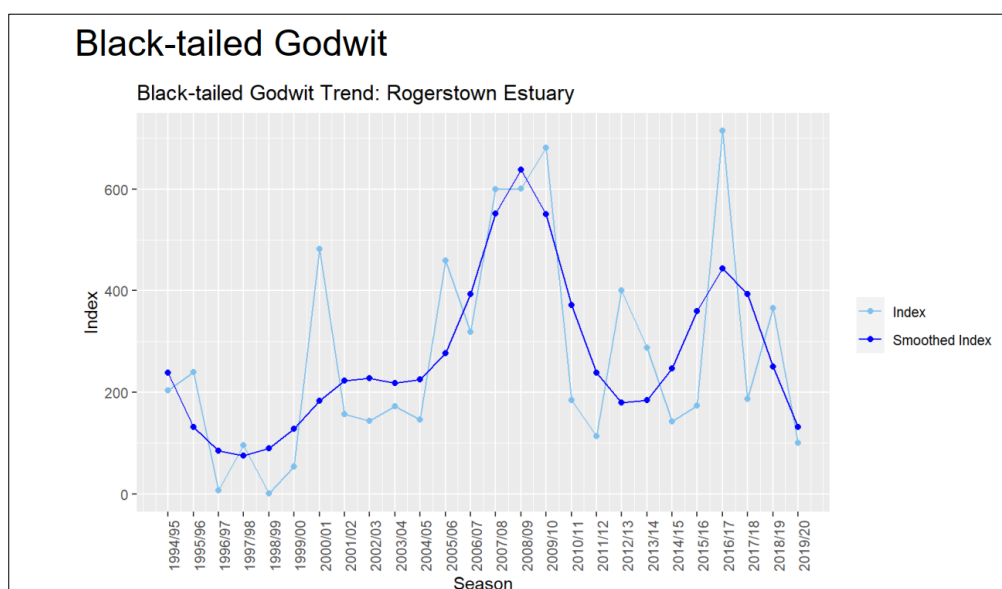


Figure 25. The long-term trend for Black-tailed godwit at the Rogerstown Estuary is Stable or Increasing.

A review of the European Red List of Birds (prepared by BirdLife International (2021)) was also completed. This reported that the National Population for Ireland of wintering Black-tailed godwits is 17800-17900 birds representing 12% of the European population of this species (Burke *et al.* (2018)). The short-term trend for this species is reported as 'Increasing' as shown below on **Figure 26**.

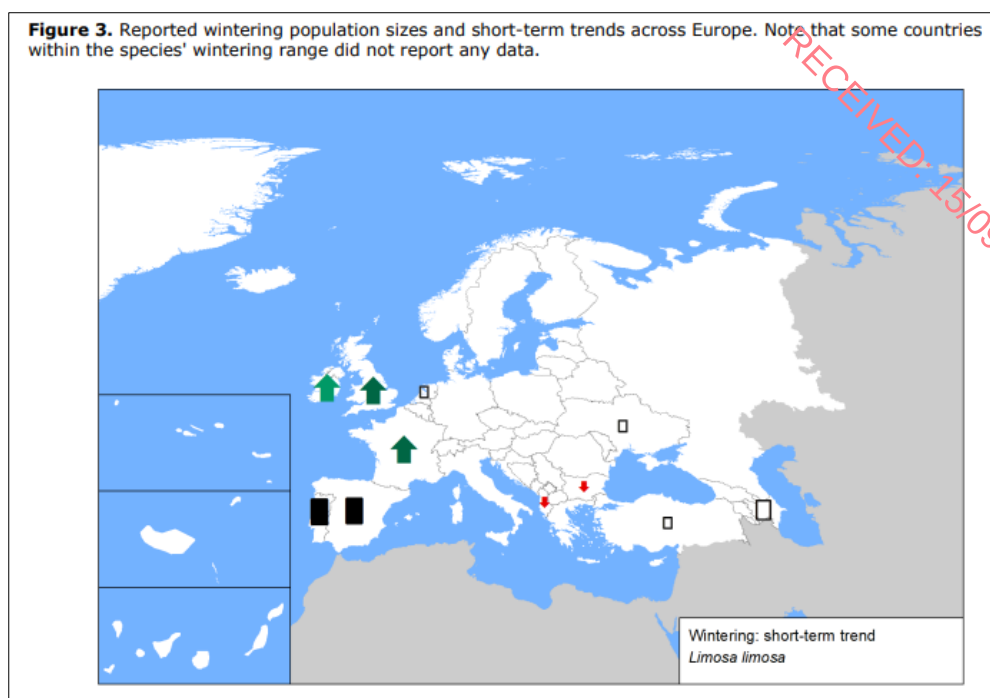


Figure 26. Reported wintering population sizes and short-term trends for *Limosa limosa* across Europe.

The long-term trend for this species is also reported as 'Increasing' as shown below on **Figure 27**.

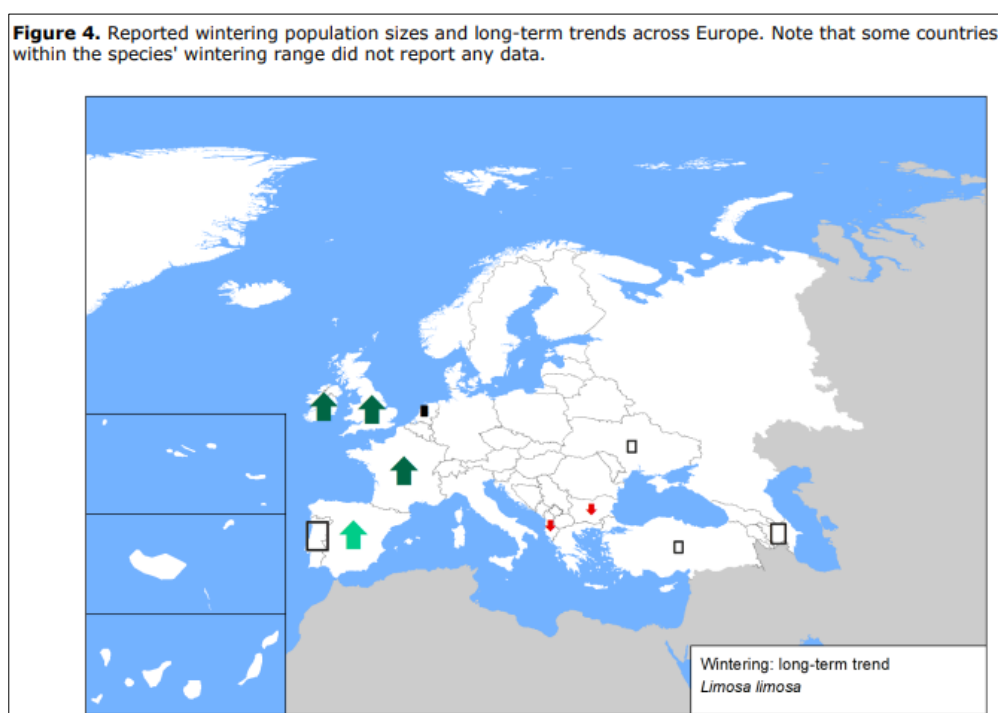


Figure 27. Reported wintering population sizes and long-term trends for *Limosa limosa* across Europe.

7. NATURA IMPACT STATEMENT & CONCLUSION

This NIS has determined that there are no significant source-receptor-pathway impacts arising from the development of the Barrysparks lands.

Site specific measures have been designed to be implemented during both the construction and operational phases of the site to ensure that no negative impacts arise from surface water runoff or other potential pollutants from entering the Gaybrook Stream and adjoining drainage ditch with potential subsequent impacts on the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236), downstream.

At construction stage the OCEMP will ensure that the project avoids potential impacts on water quality in the Gaybrook Stream and the identified European Sites downstream.

At operational stage standard SuDs design features will limit run-off rates and safeguard storm water quality discharging to existing watercourses.

In relation to foul waters from the proposed development it has been confirmed that the Swords WWTP has sufficient capacity to accommodate the proposed development.

Biosecurity measures will also be implemented to ensure that no invasive species listed under the Birds and Natural Habitats Regulations 2011 are introduced to the site with potential risks to the Malahide Estuary SAC (Site Code; 000205), the Malahide Estuary SPA (Site Code; 004025) and the North-West Irish Sea SPA (Site Code: 004236) downstream.

Ornithological surveys were commissioned for the northern FCC Barrysparks lands in line with the requirements of the NIS prepared for the Barrysparks and Crowcastle Masterplan (Scott Cawley (2019)). These surveys were completed over three wintering bird seasons - 2022/2023, 2023/2024 and 2024/2025.

These surveys showed that ex-situ populations of nationally important numbers of Black-tailed godwits and other waterbirds used the northern FCC Barrysparks lands on a small number of occasions over two wintering bird seasons (2022/2023 and 2023/2024). The most recent of the surveys (2024/2025) recorded no evidence of waterbirds using either the northern FCC Barrysparks lands or the application site.

Furthermore, the nature of the habitats within the application site in 2025 are of low importance for ex-situ wintering waterbirds and the current condition of habitats present on the site are not conducive to wintering waterbirds.

Nonetheless mitigation measures were developed to ensure the protection of waterbird habitat adjoining the application site and any ex situ populations of waterbirds they may support during the construction phase of the project.

The implementation of the mitigation measures outlined above during the development of the application site will reduce potential impacts on any waterbirds that may return to the adjoining lands during the construction stage.

The cumulative impacts of the long-term development of these lands as proposed by this zoning and designation will result in the permanent loss of these lands.

Waterbirds will continue to avail of alternative suitable foraging and/or roosting habitat in the wider locality of the proposed project. Both the national and short term and long term population trends for this species is 'Stable and Increasing' at a national level and the wintering population sizes and long-term trends for Black-tailed godwits across Europe is also 'Increasing' at an international level.

The location of the project has been determined by the zoning and designation of the lands within the *Fingal Development Plan 2023 – 2029* and the *Barrysparks & Crowscastle Masterplan 2019*, both of which support the development of the lands adjacent to Swords and the planned Metrolink.

The information provided in this Natura Impact Statement will allow the competent authority to evaluate the proposed development of a LRD application on the lands at Barrysparks, Swords, Co. Dublin and to determine whether or not significant negative impacts on the integrity of European sites are likely to arise by virtue of its construction and subsequent operation and use.

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9. APPENDIX 1. ECOLOGICAL SURVEYS

Table 1. Field Surveys.

Date	Lands surveyed	Survey for
28/08/2020	FCC Barrysparks Master Plan lands – southern lands	Mammals, habitats, flora and invasive species, post breeding season birds
28/08/2020	FCC Barrysparks Master Plan lands	Bat survey
29/09/2020	FCC Barrysparks Master Plan lands – southern lands	Mammals, habitats, flora and invasive species, post breeding season birds
29/09/2020	FCC Barrysparks Master Plan lands	Bat survey
13/12/2020	FCC Barrysparks Master Plan lands – northern lands	Mammals, habitats and flora, wintering birds
19/08/2021	VHI Barrysparks lands	Mammals, habitats and flora, post breeding season birds
19/08/2021	FCC Barrysparks Master Plan lands	Bat survey
29/11/2022	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
12/12/2022	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
06/01/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
13/01/2023	VHI Barrysparks lands	Wintering water birds
20/01/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering water birds
13/02/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
22/02/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering water birds
07/03/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
20/03/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
03/04/2023	FCC Barrysparks and Crowscastle Master Plan lands	Wintering birds (water birds and passerines)
26/05/2023	FCC Barrysparks Master Plan lands	Mammals, habitats, flora, invasive species, breeding birds and detailed grassland survey
08/06/2023	FCC Barrysparks Master Plan lands	Habitats, flora and detailed grassland and spring survey
26/06/2023	FCC Barrysparks Master Plan lands	Habitats, flora and orchid survey
13/09/2023	FCC Barrysparks Master Plan lands	Wintering water birds
18/09/2023	FCC Barrysparks Master Plan lands	Wintering water birds
26/09/2023	FCC Barrysparks Master Plan lands	Wintering water birds
02/10/2023	FCC Barrysparks Master Plan lands	Wintering water birds
12/10/2023	FCC Barrysparks Master Plan lands	Wintering water birds
18/10/2023	FCC Barrysparks Master Plan lands	Wintering water birds
23/10/2023	FCC Barrysparks Master Plan lands	Wintering water birds
01/11/2023	FCC Barrysparks Master Plan lands	Wintering water birds
07/11/2023	FCC Barrysparks Master Plan lands	Wintering water birds
14/11/2023	FCC Barrysparks Master Plan lands	Wintering water birds
21/11/2023	FCC Barrysparks Master Plan lands	Wintering water birds
29/11/2023	FCC Barrysparks Master Plan lands	Wintering water birds
05/12/2023	FCC Barrysparks Master Plan lands	Wintering water birds
14/12/2023	FCC Barrysparks Master Plan lands	Wintering water birds
18/12/2023	FCC Barrysparks Master Plan lands	Wintering water birds
27/12/2023	FCC Barrysparks Master Plan lands	Wintering water birds
03/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
06/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
15/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
16/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds

Date	Lands surveyed	Survey for
17/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
25/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
30/01/2024	FCC Barrysparks Master Plan lands	Wintering water birds
01/02/2024	FCC Barrysparks Master Plan lands	Wintering water birds
09/02/2024	FCC Barrysparks Master Plan lands	Wintering water birds
12/02/2024	FCC Barrysparks Master Plan lands	Wintering water birds
20/02/2024	FCC Barrysparks Master Plan lands	Wintering water birds
26/02/2024	FCC Barrysparks Master Plan lands	Wintering water birds
05/03/2024	FCC Barrysparks Master Plan lands	Wintering water birds
07/03/2024	FCC Barrysparks Master Plan lands	Wintering water birds
12/03/2024	FCC Barrysparks Master Plan lands	Wintering water birds
21/03/2024	FCC Barrysparks Master Plan lands	Wintering water birds
27/03/2024	FCC Barrysparks Master Plan lands	Wintering water birds
09/04/2024	FCC Barrysparks Master Plan lands	Wintering water birds
12/04/2024	FCC Barrysparks Master Plan lands	Wintering water birds
24/04/2024	FCC Barrysparks Master Plan lands	Wintering water birds
14/05/2024	FCC Barrysparks Master Plan lands - application site	Habitats, flora and orchid survey, invasive species, breeding birds
23/08/2024	FCC Barrysparks Master Plan lands - application site	Habitats and Flora, invasive species
12/09/2024	FCC Barrysparks Master Plan lands - application site	Habitats and Flora, invasive species
24/09/2024	FCC Barrysparks Master Plan lands - application site	Bat Survey
25/09/2024	FCC Barrysparks Master Plan lands - application site	Mammals and Bats
29/10/2024	FCC Barrysparks Master Plan lands	Wintering water birds
05/11/2024	FCC Barrysparks Master Plan lands	Wintering water birds
18/11/2024	FCC Barrysparks Master Plan lands	Wintering water birds
26/11/2024	FCC Barrysparks Master Plan lands	Wintering water birds
01/12/2024	FCC Barrysparks Master Plan lands	Wintering water birds
11/12/2024	FCC Barrysparks Master Plan lands	Wintering water birds
16/12/2024	FCC Barrysparks Master Plan lands	Wintering water birds
23/12/2024	FCC Barrysparks Master Plan lands	Wintering water birds
29/12/2024	FCC Barrysparks Master Plan lands	Wintering water birds
03/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
06/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
10/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
14/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
26/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
31/01/2025	FCC Barrysparks Master Plan lands	Wintering water birds
07/02/2025	FCC Barrysparks Master Plan lands	Wintering water birds
17/02/2025	FCC Barrysparks Master Plan lands	Wintering water birds
26/02/2025	FCC Barrysparks Master Plan lands	Wintering water birds
03/03/2025	FCC Barrysparks Master Plan lands	Wintering water birds
10/03/2025	FCC Barrysparks Master Plan lands	Wintering water birds
12/03/2025	FCC Barrysparks Master Plan lands	Wintering water birds
18/03/2025	FCC Barrysparks Master Plan lands	Wintering water birds
25/03/2025	FCC Barrysparks Master Plan lands	Wintering water birds
02/04/2025	FCC Barrysparks Master Plan lands	Wintering water birds
15/07/2025	FCC Barrysparks Master Plan lands - application site	Habitats and Flora

RECEIVED: 15/09/2025

Table 2. Ornithological surveys and weather conditions during the survey sessions - 2022/2023.

Date	Tidal state	Cloud	Ice	Wind
29/11/2022	Low - Rising	67-100%	No	WSW2
12/12/2022	Low - Rising	67-100%	No	W1
06/01/2023	Rising - High	67-100%	No	SSW3
*20/01/2023	Rising - High	0-33%	Yes	S1
13/02/2023	Low	0-33%	No	SSW3
*22/02/2023	Rising	0-33%	No	WNW4
07/03/2023	Rising	0-33%	Yes	NW2
20/03/2023	High	67-100%	No	S3
03/04/2023	High-Rising	67-100%	No	SE4

* Not all birds were recorded – the focus was on waterbirds.

RECEIVED: 15/09/2025

Table 3. Conditions during the survey sessions between September 2023 and April 2024.

Date	Rain	Cloud Octas	Wind Km/hr	Temp °C	Tidal state	High Tide	Height (m)
13/09/2023	None	4	S8		High	11:35	3.28
18/09/2023	None	6	W29		High	14:15	3.8
26/09/2023	None	3	SW24	16	Falling	09:53	3.43
02/10/2023	None	8	SSW11		High	14:18	4.3
12/10/2023	None	0	W3		High	11:19	3.56
18/10/2023	None	8	E23		High	14:25	3.88
23/10/2023	None	7	SE27		Low	07:09	3.11
01/11/2023	None	4	WSW39	9	High	13:34	3.9
07/11/2023	None	2	W25		Low	07:25	2.92
14/11/2023	None	4	W27		High	11:47	4.09
21/11/2023	None	2	NW12	4	Falling	05:51	3.32
29/11/2023	None	7	NE14		High	12:35	4.04
05/12/2023	Drizzle	4	NNW12	8	Low	05:12	2.95
14/12/2023	None	8	W19	9	High	12:06	4.21
18/12/2023	None	8	WSW19		High	15:26	4.07
27/12/2023	None	8	SW29		High	11:43	4.04
03/01/2024	None	8	WSW15		Rising	16:23	3.39
06/01/2024	None	3	NNW11		Low	07:13	3.1
15/01/2024	None	2	NW11		High	14:08	4.38
16/01/2024	None	4	SW20	4	Rising	15:08	4.35
17/01/2024	None		NW10	2	High	16:00	4.19
25/01/2024	None	8	SSW22	13	High	11:27	3.93
30/01/2024	None	1	WSW15	2	Rising	14:16	3.84
01/02/2024	None	4	SW14		Rising	15:36	3.47
09/02/2024	None	8	NE12	7	Falling	10:51	4.18
12/02/2024	None	3	WSW28	8	High	13:04	4.72
20/02/2024	None	8	WSW28		Low	09:02	3.3
26/02/2024	None	2	N22	8	High	12:41	3.99
05/03/2024	None	7	WSW21	10	Low	19:26	2.88
07/03/2024	None	4	SE27	10	Low	08:55	3.42
12/03/2024	None	4			High	12:43	4.67
21/03/2024	None	7	SW27	11	Falling	09:30	3.39
27/03/2024	Showers	8	S26	9	Falling	12:45	3.87
09/04/2024	None	6	NNW38		Rising	12:41	4.56
12/04/2024	None	7	SSW3	12	Low	14:58	4.03
24/04/2024	None	8	E9	10	High	1246	3.81

Table 4. Conditions during the survey sessions completed for the IRD application between October 2024 and April 2025.

Date	Rain	Cloud Octas	Wind Km/hr	Temp °C	Tidal state	High Tide	Height (m)
29/10/2024	None	8					
05/11/2024	Drizzle	8	SSE11		Rising	13:30	3.77
18/11/2024	Showers	8	ESE8	4	Rising	12:52	4.2
26/11/2024	None	0	WSW12	6	Low	08:30	3.23
01/12/2024	None	1	NW26	6	High	11:56	3.99
11/12/2024	None						
16/12/2024	None	7	SW26	9	High	11:55	4.24
23/12/2024	None	7	SW15	6	Low	05:18	3.28
29/12/2024	None	8	WSW25	10	Falling	10:27	3.75
03/01/2025	None	0	WSW17	3	Rising	13:36	4.17
06/01/2025	None	6	W18		Low	16:10	4.03
10/01/2025	None	8	SSE16	4	Falling	08:17	3.52
14/01/2025	None	8	SW9	11	High	11:41	4.08
26/01/2025	None	8	ESE33	6	High	09:17	3.48
31/01/2025	None	0	W10	6	Rising	12:36	4.47
07/02/2025	None	6	E29		Low	19:02	3.31
17/02/2025	None	8	SE26	6	Rising	14:23	3.78
26/02/2025	None	8	W31	7	High	10:12	3.81
03/03/2025	None	3			High	13:38	4.3
10/03/2025	None	1	NNW16	11	Falling	09:08	3.42
12/03/2025	None	2	N17	8	Falling	10:40	3.86
18/03/2025	None	2	ESE24	8	Rising	13:54	3.69
25/03/2025	None	8	NW17		Falling	08:12	3.10
02/04/2025	None	1	E19	10	Low	15:13	4.11

Table 5. Species recorded overall from the FCC Barrysparks and Crowscastle Master Plan lands, illustrating the peak count overall, percentage of visits recorded, together with their Birds of Conservation Concern (BoCCI) status (following Gilbert *et al.* 2021). Species marked by an asterisk are waterbirds, and those marked by double asterisk are specifically listed on at least one of the nearby coastal SPAs (refer to Table 11 for further details about the nearby SPAs and their qualifying species). **The species recorded from the LRD application site (Section A) are highlighted in the red box.**

Species	Scientific name	BoCCI status	Peak count	% visits recorded	% visits recorded (Sect. A)	% visits recorded (Sect. B)	% visits recorded (Sect. C)
*Mute Swan	<i>Cygnus olor</i>	A	2	100.0			100.0
*Mallard	<i>Anas platyrhynchos</i>	A	10	88.9	11.1		88.9
Pheasant	<i>Phasianus colchicus</i>		2	22.2	22.2		
*Little Grebe	<i>Tachybaptus ruficollis</i>		2	44.4			44.4
*Grey Heron	<i>Ardea cinerea</i>		2	55.6	11.1	11.1	44.4
Sparrowhawk	<i>Accipiter nisus</i>		1	22.2	22.2		
Buzzard	<i>Buteo buteo</i>		5	77.8	77.8	33.3	33.3
*Moorhen	<i>Gallinula chloropus</i>		6	88.9			88.9
**Oystercatcher	<i>Haematopus ostralegus</i>	R	1	11.1	11.1		
*Lapwing	<i>Vanellus vanellus</i>	R	18	11.1	11.1		
*Snipe	<i>Gallinago gallinago</i>	R	7	100.0	22.2		100.0
**Black-tailed Godwit	<i>Limosa limosa</i>	R	420	44.4	44.4		
**Curlew	<i>Numenius arquata</i>	R	6	33.3	22.2	11.1	
**Redshank	<i>Tringa totanus</i>	R	12	33.3	33.3		
**Black-headed Gull	<i>Chroicocephalus ridibundus</i>	A	30	55.6	55.6		
*Common Gull	<i>Larus canus</i>	A	4	33.3	33.3		
*Herring Gull	<i>Larus argentatus</i>	A	32	88.9	88.9	11.1	66.7
Stock Dove	<i>Columba oenas</i>	R	2	11.1		11.1	
Woodpigeon	<i>Columba palumbus</i>		60	77.8	77.8	66.7	44.4
Collared Dove	<i>Streptopelia decaocto</i>		3	22.2	22.2		
*Kingfisher	<i>Alcedo atthis</i>	A	1	11.1			11.1
Meadow Pipit	<i>Anthus pratensis</i>	R	6	88.9	22.2	11.1	77.8
Pied Wagtail	<i>Motacilla alba</i>		2	55.6	22.2		44.4
Wren	<i>Troglodytes troglodytes</i>		18	77.8	77.8	66.7	77.8
Dunnock	<i>Prunella modularis</i>		13	77.8	77.8	66.7	77.8
Robin	<i>Erithacus rubecula</i>		12	77.8	77.8	77.8	44.4
Stonechat	<i>Saxicola torquatus</i>		2	22.2	11.1		22.2
Blackbird	<i>Turdus merula</i>		35	77.8	66.7	55.6	66.7
Fieldfare	<i>Turdus pilaris</i>		15	44.4	33.3	33.3	
Song Thrush	<i>Turdus philomelos</i>		11	66.7	44.4	44.4	44.4
Redwing	<i>Turdus iliacus</i>	R	49	55.6	55.6	33.3	11.1
Mistle Thrush	<i>Turdus viscivorus</i>		3	55.6	33.3	11.1	11.1
Goldcrest	<i>Regulus regulus</i>	A	2	11.1	11.1		
Blue Tit	<i>Cyanistes caeruleus</i>		7	77.8	55.6	22.2	55.6
Great Tit	<i>Parus major</i>		2	44.4	33.3	22.2	
Magpie	<i>Pica pica</i>		21	77.8	66.7	66.7	44.4
Jackdaw	<i>Corvus monedula</i>		14	44.4	44.4	11.1	
Rook	<i>Corvus frugilegus</i>		7	44.4	33.3		22.2
Hooded Crow	<i>Corvus cornix</i>		18	77.8	66.7	55.6	55.6
Starling	<i>Sturnus vulgaris</i>	A	81	77.8	77.8	11.1	33.3
House Sparrow	<i>Passer domesticus</i>	A	5	44.4	33.3		11.1
Chaffinch	<i>Fringilla coelebs</i>		4	55.6	44.4	22.2	11.1
Greenfinch	<i>Chloris chloris</i>	A	7	66.7	33.3	44.4	22.2
Goldfinch	<i>Carduelis carduelis</i>		22	66.7	66.7	55.6	55.6
Linnet	<i>Carduelis cannabina</i>	A	7	55.6	44.4	22.2	44.4
Redpoll	<i>Carduelis flammea</i>	A	1	11.1		11.1	
Bullfinch	<i>Pyrrhula pyrrhula</i>		1	11.1	11.1		
Yellowhammer	<i>Emberiza citrinella</i>	R	1	12.5			11.1
Reed Bunting	<i>Emberiza schoeniclus</i>		5	25.0			33.3

10. APPENDIX 2. BIRD DATA

Table 1. Birds recorded on the FCC Crowcastle Barrysparks Lands 2022/2023 – the proposed LRD application site is located within Zone A.

Date	Species	Scientific name	Waterbird Species	Total	A North	B VHI	C South
29/11/2022	Mute Swan	<i>Cygnus olor</i>	Yes	2			2
29/11/2022	Mallard	<i>Anas platyrhynchos</i>	Yes	2			2
29/11/2022	Grey Heron	<i>Ardea cinerea</i>	Yes	2	1		1
29/11/2022	Buzzard	<i>Buteo buteo</i>	No	1	1		
29/11/2022	Moorhen	<i>Gallinula chloropus</i>	Yes	6			6
29/11/2022	Oystercatcher	<i>Haematopus ostralegus</i>	Yes	1	1		
29/11/2022	Snipe	<i>Gallinago gallinago</i>	Yes	1			1
29/11/2022	Black-tailed Godwit	<i>Limosa limosa</i>	Yes	4	4		
29/11/2022	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Yes	1	1		
29/11/2022	Herring Gull	<i>Larus argentatus</i>	Yes	8	5		3
29/11/2022	Woodpigeon	<i>Columba palumbus</i>	No	28	27	1	
29/11/2022	Kingfisher	<i>Alcedo atthis</i>	Yes	1			1
29/11/2022	Meadow Pipit	<i>Anthus pratensis</i>	No	5	2		3
29/11/2022	Pied Wagtail	<i>Motacilla alba</i>	No	2			2
29/11/2022	Wren	<i>Troglodytes troglodytes</i>	No	6	2		4
29/11/2022	Dunnock	<i>Prunella modularis</i>	No	13	6	1	6
29/11/2022	Robin	<i>Erithacus rubecula</i>	No	7	1	2	4
29/11/2022	Stonechat	<i>Saxicola torquatus</i>	No	2	1		1
29/11/2022	Blackbird	<i>Turdus merula</i>	No	35	20	6	9
29/11/2022	Fieldfare	<i>Turdus pilaris</i>	No	4	2	2	
29/11/2022	Song Thrush	<i>Turdus philomelos</i>	No	6	3	1	2
29/11/2022	Mistle Thrush	<i>Turdus viscivorus</i>	No	1		1	
29/11/2022	Goldcrest	<i>Regulus regulus</i>	No	2	2		
29/11/2022	Blue Tit	<i>Cyanistes caeruleus</i>	No	2	1		1
29/11/2022	Great Tit	<i>Parus major</i>	No	2	1	1	
29/11/2022	Magpie	<i>Pica pica</i>	No	7	4	1	2
29/11/2022	Jackdaw	<i>Corvus monedula</i>	No	14	14		
29/11/2022	Rook	<i>Corvus frugilegus</i>	No	7	7		
29/11/2022	Hooded Crow	<i>Corvus cornix</i>	No	18	15	2	1
29/11/2022	Starling	<i>Sturnus vulgaris</i>	No	50	25	25	
29/11/2022	House Sparrow	<i>Passer domesticus</i>	No	4	4		
29/11/2022	Chaffinch	<i>Fringilla coelebs</i>	No	4	2	1	1
29/11/2022	Greenfinch	<i>Chloris chloris</i>	No	2		2	
29/11/2022	Goldfinch	<i>Carduelis carduelis</i>	No	16	6	1	9
29/11/2022	Linnet	<i>Carduelis cannabina</i>	No	4	1		3
12/12/2022	Mute Swan	<i>Cygnus olor</i>	Yes	2			2
12/12/2022	Mallard	<i>Anas platyrhynchos</i>	Yes	2			2
12/12/2022	Pheasant	<i>Phasianus colchicus</i>	No	1	1		
12/12/2022	Grey Heron	<i>Ardea cinerea</i>	Yes	1		1	
12/12/2022	Moorhen	<i>Gallinula chloropus</i>	Yes	1			1
12/12/2022	Snipe	<i>Gallinago gallinago</i>	Yes	7	6		1
12/12/2022	Curlew	<i>Numerius arquata</i>	Yes	1		1	
12/12/2022	Herring Gull	<i>Larus argentatus</i>	Yes	2	1		1
12/12/2022	Woodpigeon	<i>Columba palumbus</i>	No	8	5	3	
12/12/2022	Meadow Pipit	<i>Anthus pratensis</i>	No	6	2	4	
12/12/2022	Wren	<i>Troglodytes troglodytes</i>	No	7	4	1	2
12/12/2022	Dunnock	<i>Prunella modularis</i>	No	8	3	3	2
12/12/2022	Robin	<i>Erithacus rubecula</i>	No	4	1	1	2
12/12/2022	Blackbird	<i>Turdus merula</i>	No	23	17	5	1
12/12/2022	Fieldfare	<i>Turdus pilaris</i>	No	7		7	
12/12/2022	Song Thrush	<i>Turdus philomelos</i>	No	11	7	2	2
12/12/2022	Redwing	<i>Turdus iliacus</i>	No	6	6		
12/12/2022	Mistle Thrush	<i>Turdus viscivorus</i>	No	3	3		
12/12/2022	Blue Tit	<i>Cyanistes caeruleus</i>	No	1			1
12/12/2022	Magpie	<i>Pica pica</i>	No	5	2	2	1
12/12/2022	Rook	<i>Corvus frugilegus</i>	No	3	1		2
12/12/2022	Hooded Crow	<i>Corvus cornix</i>	No	3	2		1
12/12/2022	Starling	<i>Sturnus vulgaris</i>	No	81	81		
12/12/2022	Chaffinch	<i>Fringilla coelebs</i>	No	3	3		

Date	Species	Scientific name	Waterbird Species	Total	A North	B VHI	C South
12/12/2022	Goldfinch	<i>Carduelis carduelis</i>	No	12	12		
12/12/2022	Linnet	<i>Carduelis cannabina</i>	No	6		5	1
06/01/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
06/01/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	2			2
06/01/2023	Grey Heron	<i>Ardea cinerea</i>	Yes	1			1
06/01/2023	Buzzard	<i>Buteo buteo</i>	No	4	1	1	2
06/01/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	3			3
06/01/2023	Snipe	<i>Gallinago gallinago</i>	Yes	1			
06/01/2023	Black-tailed Godwit	<i>Limosa limosa</i>	Yes	420	420		
06/01/2023	Curlew	<i>Numenius arquata</i>	Yes	6	6		
06/01/2023	Redshank	<i>Tringa totanus</i>	Yes	12	12		
06/01/2023	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Yes	30	30		
06/01/2023	Common Gull	<i>Larus canus</i>	Yes	3	3		
06/01/2023	Herring Gull	<i>Larus argentatus</i>	Yes	30	27		3
06/01/2023	Woodpigeon	<i>Columba palumbus</i>	No	60	17	32	11
06/01/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	2			2
06/01/2023	Pied Wagtail	<i>Motacilla alba</i>	No	1			1
06/01/2023	Wren	<i>Troglodytes troglodytes</i>	No	9	4	1	4
06/01/2023	Dunnock	<i>Prunella modularis</i>	No	4	1		3
06/01/2023	Robin	<i>Erithacus rubecula</i>	No	10	4	2	4
06/01/2023	Blackbird	<i>Turdus merula</i>	No	17		10	7
06/01/2023	Fieldfare	<i>Turdus pilaris</i>	No	15	2	13	
06/01/2023	Song Thrush	<i>Turdus philomelos</i>	No	8	2	3	3
06/01/2023	Redwing	<i>Turdus iliacus</i>	No	17	5	12	
06/01/2023	Blue Tit	<i>Cyanistes caeruleus</i>	No	7	3	2	2
06/01/2023	Great Tit	<i>Parus major</i>	No	1		1	
06/01/2023	Magpie	<i>Pica pica</i>	No	13		13	
06/01/2023	Rook	<i>Corvus frugilegus</i>	No	1			1
06/01/2023	Hooded Crow	<i>Corvus cornix</i>	No	7	3	4	
06/01/2023	Starling	<i>Sturnus vulgaris</i>	No	51	45		6
06/01/2023	House Sparrow	<i>Passer domesticus</i>	No	4	4		
06/01/2023	Chaffinch	<i>Fringilla coelebs</i>	No	1		1	
06/01/2023	Goldfinch	<i>Carduelis carduelis</i>	No	22	3	18	1
06/01/2023	Linnet	<i>Carduelis cannabina</i>	No	1	1		
06/01/2023	Yellowhammer	<i>Emberiza citrinella</i>	No	1			1
20/01/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
20/01/2023	Little Grebe	<i>Tachybaptus ruficollis</i>	Yes	2			2
20/01/2023	Buzzard	<i>Buteo buteo</i>	No	2	2		
20/01/2023	Lapwing	<i>Vanellus vanellus</i>	Yes	18	18		
20/01/2023	Snipe	<i>Gallinago gallinago</i>	Yes	1			1
20/01/2023	Black-tailed Godwit	<i>Limosa limosa</i>	Yes	30	30		
20/01/2023	Curlew	<i>Numenius arquata</i>	Yes	2	2		
20/01/2023	Redshank	<i>Tringa totanus</i>	Yes	5	5		
20/01/2023	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Yes	14	14		
20/01/2023	Common Gull	<i>Larus canus</i>	Yes	3	3		
20/01/2023	Herring Gull	<i>Larus argentatus</i>	Yes	8	8		
20/01/2023	Fieldfare	<i>Turdus pilaris</i>	No	6	6		
20/01/2023	Greenfinch	<i>Chloris chloris</i>	No	2		2	
20/01/2023	Redpoll	<i>Carduelis flammula</i>	No	1		1	
13/02/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
13/02/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	8			8
13/02/2023	Little Grebe	<i>Tachybaptus ruficollis</i>	Yes	1			1
13/02/2023	Sparrowhawk	<i>Accipiter nisus</i>	No	1	1		
13/02/2023	Buzzard	<i>Buteo buteo</i>	No	3	1	1	1
13/02/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	2			2
13/02/2023	Snipe	<i>Gallinago gallinago</i>	Yes	3			3
13/02/2023	Black-tailed Godwit	<i>Limosa limosa</i>	Yes	55	55		
13/02/2023	Redshank	<i>Tringa totanus</i>	Yes	2	2		
13/02/2023	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Yes	23	23		
13/02/2023	Common Gull	<i>Larus canus</i>	Yes	4	4		
13/02/2023	Herring Gull	<i>Larus argentatus</i>	Yes	13	13		
13/02/2023	Woodpigeon	<i>Columba palumbus</i>	No	23	20	3	
13/02/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	3			3
13/02/2023	Pied Wagtail	<i>Motacilla alba</i>	No	1			1

Date	Species	Scientific name	Waterbird Species	Total	A North	B VHI	C South
13/02/2023	Wren	<i>Troglodytes troglodytes</i>	No	14	8	1	5
13/02/2023	Dunnock	<i>Prunella modularis</i>	No	7	1	3	3
13/02/2023	Robin	<i>Erithacus rubecula</i>	No	4	3	1	
13/02/2023	Blackbird	<i>Turdus merula</i>	No	8	8		
13/02/2023	Redwing	<i>Turdus iliacus</i>	No	39	39		
13/02/2023	Mistle Thrush	<i>Turdus viscivorus</i>	No	1	1		
13/02/2023	Blue Tit	<i>Cyanistes caeruleus</i>	No	3	3		
13/02/2023	Magpie	<i>Pica pica</i>	No	5	2	3	
13/02/2023	Hooded Crow	<i>Corvus cornix</i>	No	3			3
13/02/2023	Starling	<i>Sturnus vulgaris</i>	No	18	18		
13/02/2023	House Sparrow	<i>Passer domesticus</i>	No	5	5		
13/02/2023	Chaffinch	<i>Fringilla coelebs</i>	No	1	1		
13/02/2023	Greenfinch	<i>Chloris chloris</i>	No	1	1		
13/02/2023	Goldfinch	<i>Carduelis carduelis</i>	No	6	1	4	1
22/02/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
22/02/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	10			10
22/02/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	2			2
22/02/2023	Snipe	<i>Gallinago gallinago</i>	Yes	4			4
22/02/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	4			4
22/02/2023	Song Thrush	<i>Turdus philomelos</i>	No	1			1
07/03/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
07/03/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	2			2
07/03/2023	Grey Heron	<i>Ardea cinerea</i>	Yes	1			1
07/03/2023	Sparrowhawk	<i>Accipiter nisus</i>	No	1	1		
07/03/2023	Buzzard	<i>Buteo buteo</i>	No	1	1		
07/03/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	2			2
07/03/2023	Snipe	<i>Gallinago gallinago</i>	Yes	3			3
07/03/2023	Herring Gull	<i>Larus argentatus</i>	Yes	6	5		1
07/03/2023	Stock Dove	<i>Columba oenas</i>	No	2		2	
07/03/2023	Woodpigeon	<i>Columba palumbus</i>	No	28	20	2	6
07/03/2023	Collared Dove	<i>Streptopelia decaocto</i>	No	1	1		
07/03/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	1			1
07/03/2023	Pied Wagtail	<i>Motacilla alba</i>	No	1	1		
07/03/2023	Wren	<i>Troglodytes troglodytes</i>	No	12	5	3	4
07/03/2023	Dunnock	<i>Prunella modularis</i>	No	13	4	3	6
07/03/2023	Robin	<i>Erithacus rubecula</i>	No	7	6	1	
07/03/2023	Blackbird	<i>Turdus merula</i>	No	16	9	4	3
07/03/2023	Redwing	<i>Turdus iliacus</i>	No	49	33	14	2
07/03/2023	Blue Tit	<i>Cyanistes caeruleus</i>	No	2			2
07/03/2023	Great Tit	<i>Parus major</i>	No	2	2		
07/03/2023	Magpie	<i>Pica pica</i>	No	19	14	5	
07/03/2023	Jackdaw	<i>Corvus monedula</i>	No	1	1		
07/03/2023	Hooded Crow	<i>Corvus cornix</i>	No	11	6	3	2
07/03/2023	Starling	<i>Sturnus vulgaris</i>	No	17	16		1
07/03/2023	Chaffinch	<i>Fringilla coelebs</i>	No	3	3		
07/03/2023	Greenfinch	<i>Chloris chloris</i>	No	3	3		
07/03/2023	Reed Bunting	<i>Emberiza schoeniclus</i>	No	5			5
20/03/2023	Mute Swan	<i>Cygnus olor</i>	Yes	1			1
20/03/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	4			4
20/03/2023	Little Grebe	<i>Tachybaptus ruficollis</i>	Yes	1			1
20/03/2023	Grey Heron	<i>Ardea cinerea</i>	Yes	1			1
20/03/2023	Buzzard	<i>Buteo buteo</i>	No	5	4		1
20/03/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	2			2
20/03/2023	Snipe	<i>Gallinago gallinago</i>	Yes	6			6
20/03/2023	Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Yes	2	2		
20/03/2023	Herring Gull	<i>Larus argentatus</i>	Yes	31	30		1
20/03/2023	Woodpigeon	<i>Columba palumbus</i>	No	35	30		5
20/03/2023	Collared Dove	<i>Streptopelia decaocto</i>	No	3	3		
20/03/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	6			6
20/03/2023	Pied Wagtail	<i>Motacilla alba</i>	No	2	1		1
20/03/2023	Wren	<i>Troglodytes troglodytes</i>	No	17	9	1	7
20/03/2023	Dunnock	<i>Prunella modularis</i>	No	12	8	2	2
20/03/2023	Robin	<i>Erithacus rubecula</i>	No	12	6	3	3
20/03/2023	Blackbird	<i>Turdus merula</i>	No	12	8		4

Date	Species	Scientific name	Waterbird Species	Total	A North	B VHI	C South
20/03/2023	Song Thrush	<i>Turdus philomelos</i>	No	1	1	1	
20/03/2023	Redwing	<i>Turdus iliacus</i>	No	13	11	2	
20/03/2023	Mistle Thrush	<i>Turdus viscivorus</i>	No	2	2		
20/03/2023	Blue Tit	<i>Cyanistes caeruleus</i>	No	4	2	1	1
20/03/2023	Magpie	<i>Pica pica</i>	No	21	13	3	5
20/03/2023	Jackdaw	<i>Corvus monedula</i>	No	5	5		
20/03/2023	Rook	<i>Corvus frugilegus</i>	No	2	2		
20/03/2023	Hooded Crow	<i>Corvus cornix</i>	No	16	13	3	
20/03/2023	Starling	<i>Sturnus vulgaris</i>	No	31	31		
20/03/2023	House Sparrow	<i>Passer domesticus</i>	No	2			2
20/03/2023	Greenfinch	<i>Chloris chloris</i>	No	7	2	1	4
20/03/2023	Goldfinch	<i>Carduelis carduelis</i>	No	11	3	3	5
20/03/2023	Linnet	<i>Carduelis cannabina</i>	No	3	1		2
20/03/2023	Reed Bunting	<i>Emberiza schoeniclus</i>	No	2			2
03/04/2023	Mute Swan	<i>Cygnus olor</i>	Yes	2			2
03/04/2023	Mallard	<i>Anas platyrhynchos</i>	Yes	5	1		4
03/04/2023	Pheasant	<i>Phasianus colchicus</i>	No	2	2		
03/04/2023	Little Grebe	<i>Tachybaptus ruficollis</i>	Yes	1			1
03/04/2023	Buzzard	<i>Buteo buteo</i>	No	2	1	1	
03/04/2023	Moorhen	<i>Gallinula chloropus</i>	Yes	2			2
03/04/2023	Snipe	<i>Gallinago gallinago</i>	Yes	4	1		3
03/04/2023	Herring Gull	<i>Larus argentatus</i>	Yes	32	21	3	8
03/04/2023	Woodpigeon	<i>Columba palumbus</i>	No	30	20	8	2
03/04/2023	Meadow Pipit	<i>Anthus pratensis</i>	No	4			4
03/04/2023	Wren	<i>Troglodytes troglodytes</i>	No	18	11	1	6
03/04/2023	Dunnock	<i>Prunella modularis</i>	No	7	2	2	3
03/04/2023	Robin	<i>Erithacus rubecula</i>	No	7	4	3	
03/04/2023	Stonechat	<i>Saxicola torquatus</i>	No	2			2
03/04/2023	Blackbird	<i>Turdus merula</i>	No	7	4	2	1
03/04/2023	Song Thrush	<i>Turdus philomelos</i>	No	1	1		
03/04/2023	Mistle Thrush	<i>Turdus viscivorus</i>	No	2			2
03/04/2023	Blue Tit	<i>Cyanistes caeruleus</i>	No	2	2		
03/04/2023	Great Tit	<i>Parus major</i>	No	2	2		
03/04/2023	Magpie	<i>Pica pica</i>	No	8	5		3
03/04/2023	Jackdaw	<i>Corvus monedula</i>	No	8	6	2	
03/04/2023	Hooded Crow	<i>Corvus cornix</i>	No	16	13	1	2
03/04/2023	Starling	<i>Sturnus vulgaris</i>	No	55	30		25
03/04/2023	Greenfinch	<i>Chloris chloris</i>	No	5		3	2
03/04/2023	Goldfinch	<i>Carduelis carduelis</i>	No	6	2	1	3
03/04/2023	Linnet	<i>Carduelis cannabina</i>	No	7	2	3	2
03/04/2023	Bullfinch	<i>Pyrrhula pyrrhula</i>	No	1	1		
03/04/2023	Reed Bunting	<i>Emberiza schoeniclus</i>	No	1			1

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Table 2. Usage by waterbirds in 2022/2023 (refer to Figure 17 for Map ID location).

Section	MapID	Species	29/11/2022	12/12/2022	06/01/2023	20/01/2023	13/02/2023	22/02/2023	07/03/2023	20/03/2023	03/04/2023
A North	1	Grey Heron	1								
A North	1	Black-headed Gull	1								
A North	1	Herring Gull	5								
A North	5	Oystercatcher	1								
A North	5	Black-tailed Godwit	4								
A North	6	Snipe		4							
A North	7	Snipe		1							
A North	8	Snipe		1							
A North	14	Black-tailed Godwit			420	28	40				
A North	14	Redshank			6	3	1				
A North	14	Black-headed Gull			24	14	23			2	
A North	14	Common Gull			3	3	4				
A North	14	Herring Gull			8	8	12		1	26	17
A North	15	Black-headed Gull			2						
A North	16	Curlew			6						
A North	16	Black-headed Gull			2						
A North	17	Redshank			6						
A North	17	Black-headed Gull			2						
A North	18	Herring Gull			12						
A North	20	Lapwing				18					
A North	20	Black-tailed Godwit				2					
A North	20	Curlew				2					
A North	20	Redshank				2					
A North	20	Herring Gull									2
A North	21	Black-tailed Godwit					15				
A North	22	Redshank					1				
A North	26	Snipe									1
A North	26	Herring Gull									2
A North	27	Mallard									1
B VHI	9	Curlew		1							
B VHI	10	Grey Heron		1							
C South	2	Mute Swan			1	1	1	1	1	1	2
C South	2	Mallard			2		4	6	2	2	2
C South	2	Little Grebe				2	1			1	1
C South	2	Grey Heron						1	1	1	
C South	2	Moorhen	5		2		2	1	1	1	2

Section	MapID	Species	29/11/2022	12/12/2022	06/01/2023	20/01/2023	13/02/2023	22/02/2023	07/03/2023	20/03/2023	03/04/2023
C South	3	Mute Swan	2	2							
C South	3	Mallard	2	2			4	4		2	
C South	3	Moorhen	1	1	1			1	1	1	
C South	3	Kingfisher	1								
C South	4	Snipe	1	1	1			3	3	2	3
C South	11	Snipe								2	
C South	12	Grey Heron			1						
C South	13	Herring Gull			2						
C South	19	Snipe				1					
C South	23	Snipe					3				
C South	24	Snipe						1			
C South	25	Snipe								2	

Table 3. Waterbirds recorded during 2023/2024 at Barrysparks.

Date	Mallard	Little Egret	Grey Heron	Lapwing	Black-tailed Godwit	Ruff	Redshank	Black-headed Gull	Common Gull	Lesser Black-backed Gull	Herring Gull	Great Black-backed Gull
13/09/2023												
18/09/2023								3		1	13	
26/09/2023											3	
02/10/2023											4	
12/10/2023												
18/10/2023												
23/10/2023								14			8	
01/11/2023												
07/11/2023								1			8	
14/11/2023								3			11	
21/11/2023												
29/11/2023											1	
05/12/2023								4		2	1	
14/12/2023								2	22		3	
18/12/2023												
27/12/2023					1			36	4		3	
03/01/2024								2	5		3	
06/01/2024					1							
15/01/2024					133		6					
16/01/2024				4	73		5	13	1		6	
17/01/2024												
25/01/2024					279	1	14	36	25		31	
30/01/2024		1			420		7	4	3		11	
01/02/2024					272		16				1	
09/02/2024												
12/02/2024												
20/02/2024								3				
26/02/2024	1		1									1
05/03/2024												
07/03/2024								2			8	
12/03/2024	1									2	24	1
21/03/2024											2	
27/03/2024												
09/04/2024											2	
12/04/2024												1
24/04/2024	2											

Table 4. Waterbirds recorded during 2024/2025 at Barrysparks.

Date	Grey Heron	Snipe
29/10/2024		2
10/01/2025	1	4