Forestry, Ecology & Environment

Natura Impact Statement

Proposed Residential Renovation
Newtowncashel, Cashel, Co. Longford

Compiled by Veon Ecology,
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Prepared for: Will Design Associates

On behalf of: GALRO Unltd

Completion Date: 11th of April 2023

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Executive Summary

The project site is located at Cashel, Newtowncashel, Co. Longford. The proposed development site is located in on the eastern shore of Lough Ree in County Longford approximately 19.7 kilometres southwest of Longford town. The village of Newtowncashel lies approximately 3 kilometres east of the development site (Location Map, Figure 2.1). The proposed development lies in the Cashel townland, which is flanked by Loughfarm, Elfeet, Glebe and Ballynahinch townlands.

The proposed development is for change in use if an existing dwelling to a care residence for persons with disabilities. The proposed works will consist of a widening of the existing entrance and upgrading the site boundary fencing. The proposed works also include the renovation of the existing dwelling, the erection of a single storey extension to the northeast of the dwelling and the removal of non-native coniferous trees that exist along the southeast and southwest of the dwelling.

The site is centred at Easting 601037 and Northing 759814 (ITM) approximately. The site is approximately 7.67 acres and lies on the eastern shore of Lough Ree. Newtowncashel is the nearest townland, approximately 3km east of the proposed site. The surrounding locality consist primarily of improved agricultural grassland, agricultural structures, residential dwellings and some areas of woodland and scrub.

This report details the results of field surveys and a desktop study which have informed this NIS for the proposed development. With the application of the proposed mitigation measures it is concluded that there is negligible risk of any significant impact on the local flora and fauna as a result of the proposed development.

The contents of this NIS, produced by Veon Ecology are true and have been prepared with due regard to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct.

General Details

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Describe scope of contribution in preparing this NIS	Desktop survey, Phase 1 habitat survey, Ecological assessment, Final report compilation.

Veon Ltd. Veon Ecology							
Revision	**Description**	**Author:**	**Date**	**Reviewed By:**	**Date**	**Authorised by:**	**Date**
1	Draft Report	SS	23/03/23	DP	24/03/23	-	-
2	2nd Draft	SS	11/04/23	DP	12/04/23	-	-

Section 1: INTRODUCTION

Veon Limited (Veon Ecology) has been appointed by Will Design Associates, on behalf of GALRO Unlimited, to carry out a Screening for Appropriate Assessment (AA) and Natura Impact Statement (NIS) for the proposed change of use, extension to an existing dwelling and associated works on lands at Cashel, Newtowncashel, Co. Longford. The location of the proposed works is presented in **Figure 2.1.**

The Screening for Appropriate Assessment and Natura Impact Statement (NIS) has been prepared to provide the competent authority, Longford County Council, with the relevant scientific information to conduct the Appropriate Assessment (AA) in accordance with the requirement of Article 6(3) of the Habitats Directive (Directive 92/43) and in accordance with the provisions of section 177T of the Planning & Development Act 2000 (as amended). This information will allow Longford County Council to determine, in view of best scientific knowledge, if the proposed project, individually or in combination with other plans and projects is likely to have a significant effect on a European site and, where necessary, to ascertain whether or not the proposed project would adversely affect the integrity of a European site.

A Screening for Appropriate Assessment for the proposed project has been prepared and is provided in **Section 4**. The screening assessment concluded as follows:

'It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed project (i.e., the change of use, extension to dwelling and associated works), individually or in combination with other plans and projects, would have a significant effect on the following European Sites:

- ***Lough Ree SAC (000440)***
- ***Lough Ree SPA (004064)***

As a result, an Appropriate Assessment of the proposed project is required, and a Natura Impact Statement shall be prepared in respect of the proposed project (i.e., the change of use, extension to dwelling and associated works)'.

1.1 Legislative Background

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European Sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act, 2000 - 2015 and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of 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(3) of the Habitats Directive, transposed into Irish Law relevant to this project includes Part XAB of the Planning and Development Act, 2000-2019 and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Natura 2000 sites in Ireland (herein referred to as European sites) that form part of the Natura 2000 network of protected sites include Special Areas of Conservation (SACs) designated due to their significant ecological importance for species and habitats protected under Annexes I and II respectively of the Habitats Directive, and Special Protected Areas (SPAs), designated for the protection of populations and habitats of bird species protected under the EU Birds Directive (Council Directive 2009/409/EEC). Features for which SACs and SPAs are designated are termed Qualifying Interests and Special Conservation Interests respectively. Collectively, Qualifying Interests and Special Conservation Interests are herein referred to as Qualifying Features.

As the proposed project is not directly connected with or necessary to the management of any European Site, Longford County Council as the competent authority, is obliged to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with other plans or projects, is likely to have a significant effect on European Sites.

The appropriate assessment process undertaken to meet Article 6(3) obligations is described in **Section 1.2.1** below.

In consideration of the findings of the Screening report, a Natura Impact Statement (NIS) has been prepared in accordance with the in compliance with the provisions of Section 177T of the Planning & Development Act 2000 as amended. In addition, the NIS follows the European Commission guidance document 'Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC' (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (DoEHLG, 2010).

1.2 Methodology & Report Structure

The information contained in this Natura Impact Statement (NIS) is formulated to comply with the provisions of sections 177 T (1)(b) and 177 T (2) in that it comprises of a scientific examination of evidence and data, carried out by competent person(s) to identify and classify any implications for the relevant European sites in view of their conservation objectives, and to allow the Competent Authority to assess in accordance with the provisions of section 177 V of the Planning & Development Act 2000 (as amended);

(i) Whether there will be any adverse effects on the integrity of any European Site, in the event the proposed project proceeds.

(ii) Whether the proposed project, alone or in combination with other plans and/or projects will adversely affect the integrity of any European Sites in view of their conservation objectives.

The proposed project is described in detail in **Section 2** of this report. Following on from this the results of the desk and field surveys that were undertaken are presented in **Section 3,** to provide the necessary details of the ecological baseline conditions of the site for the proposed project. The proposed operations of the project are considered in the context of potential effects on the baseline environment, with particular reference to the potential for adverse effect on the integrity of the relevant European Site(s).

The conservation objectives and Qualifying Interests (QI)/Special conservation interests (SCI) of the "screened in" European Sites are described in **Section 5**, with the identification of potential pathways for effects on each individual (QI)/(SCI). Where potential pathways for effects are identified, the potential for these adverse effects on each QI/SCI is assessed with respect to the national level pressures and threats. Where available, the site-specific attributes and targets, associated with the individual QI/SCI are also assessed in relation to the proposed project taking into consideration best practice guidelines and following the precautionary principle as detailed in Article 191 of the Treaty on the Functioning of the European Union (TFEU). Following on from this assessment a further assessment of the potential for effects when the proposed project is considered cumulatively and in combination with other plans and/or projects is detailed in **Section 8** of this report.

Finally, a concluding statement is provided in **Section 9** of the report. This includes a summary of the results of the assessment along with a summary statement of the lack of adverse effects on the integrity of any European Site (in light of the Conservation Objectives of the site as per Box 10 of EC, 2001). As per EC (2001) the meaning of integrity is defined as follows:

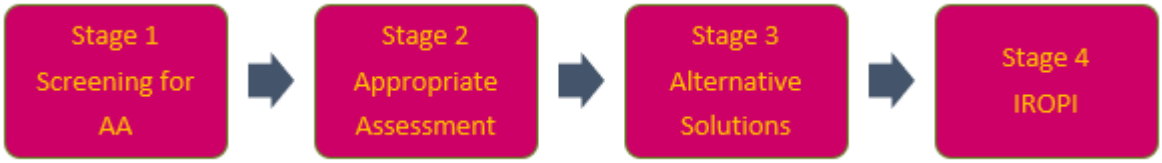
The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives' (MN2000, paragraph 4.6(3))'. The information contained in this report will allow the Competent Authority to determine that the proposed project either individually or in combination with other projects will not adversely affect the integrity of any European Site.

1.2.1 Appropriate Assessment Methodology

The purpose of an Appropriate Assessment (AA) is to establish whether a particular plan or project is likely to have a significant effect on a Natura 2000 Site, either individually or in combination with other plans and/or projects. Natura 2000 sites in Ireland are European sites, including Special Protection Areas (SPAs), and Special Areas of Conservation (SACs).

The four distinct stages in the AA process are summarised diagrammatically in **Figure 1.1**. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

Figure 1.1: Stages of Appropriate Assessment.



Stage 1: Screening for Appropriate Assessment.

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan and/or project, alone or in combination with other plans and/or projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

Stage 2: Appropriate Assessment (Natura Impact Statement).

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Stage 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e., the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-combination effects. This should provide information to enable the public authority to carry out the AA. The information required in a Natura Impact Statement, is outlined in Regulation 42(5) (a) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended, as follows:

A Natura Impact Statement shall, in addition to addressing the issues referred to in the interpretation contained in Regulation 2(1), include such information or data as the public authority considers necessary, and specifies in a notice given under paragraph (3), to enable it to ascertain if the plan or project will affect the integrity of the site.

Where appropriate, an Appropriate Assessment (AA) shall include, in addition:

(i) The alternative solutions that have been considered and the reasons why they have not been adopted.

(ii) The imperative reasons of overriding public interest that are being relied upon to indicate that the plan or project should proceed notwithstanding that it may adversely affect the integrity of a European site.

(iii) The compensatory measures that are being proposed.

If the assessment is negative, i.e., adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned. The competent authority must decide to that effect before proceeding to the next stage.

1.3 Guidance and Legislation

The Screening for AA and This NIS report has been prepared with regard to the relevant provisions of the EU Council Directive 92/43/EEC and Ireland's EU (Birds and Natural Habitats) Regulations 2011 (as amended). The methodology considered in preparation of this report and additional guidance and legislation followed for this assessment are outlined below:

- DoEHLG (2009, rev. 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government.
- European Commission (EC) (2018), Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats Directive' 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission.
- EC (2002) 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, Office for Official Publications of the European Communities, Luxembourg. European Commission.
- EC (2021) Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC - Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission.
- EC, (2007b), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission.
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.
- EC (2021) Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.1 (September 2019), Guidelines for Ecological Impact Assessment in the UK and Ireland.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report.
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01 - Appropriate Assessment Screening for Development Management.
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended.
- The Planning and Development Act 2000-2022.
- The Planning and Development Regulations 2001-2022.

1.4 Planning Process

Due to the nature of the proposed project, a Natura Impact Statement (NIS) report for the purpose of planning applications is required.

The planning application and NIS report will be made to Longford County Council under Section 34 of the Planning and Development Acts 2000 to 2018 for the renovation and an extension to an existing dwelling and the associated infrastructure works.

For the purposes of this NIS report, where the proposed project is referred to, this relates to the development site and associated infrastructure works.

Table 1.1: Townlands containing the overall proposed project infrastructure.

Project Components	Townland(s)
Change of use, extension to existing swelling and associated works	Cashel, Newtowncashel, Co. Longford

Section 2: PROPOSED DEVELOPMENT

2.1 Project Location

The project site is located at Cashel, Newtowncashel, Co. Longford. The proposed development site is located in on the eastern shore of Lough Ree in County Longford approximately 19.7 kilometres southwest of Longford town. The village of Newtowncashel lies approximately 3 kilometres east of the development site (**Location Map, Figure 2.1**). The proposed development lies in the Cashel townland, which is flanked by Loughfarm, Elfeet, Glebe and Ballynahinch townlands.

The site is approximately 7.67 acres in size and is bounded by improved agricultural pastures, scrub and a freshwater lake. The existing dwelling sits at an elevation of 43 meters with the land sloping moderately southwest towards Lough Ree, and a slight slope northeast away from the existing dwelling. The southwestern boundary of the site runs along the shore of Lough Ree for approximately 196 meters. The local road L1157 runs along the northern boundary of the site. A number of residential dwellings are scattered across the rural locality surround the site.

The proposed development site adjoins Lough Ree (European code: IE_SH_26_750a) to the southwest. The wider landscape surrounding the proposed development site is comprised of improved agricultural grassland, scrub, semi-natural grassland and scattered dwellings. There are large areas of cutover bog to the east and northeast of the purposed development site. A scattered settlement pattern is evident throughout the landscape with working farms and residential dwellings. The proposed development site is currently comprised of an existing dwelling, areas of semi-natural woodland, semi-natural grassland and hedgerows (**see Appendix 1**). No drainage ditches or watercourses occur within the site. The predominant species found throughout the semi-natural grasslands on site include Common Knapweed (*Centaurea nigra*), Curled Dock (*Rumex crispus*), Yorkshire-Fog (*Holcus lanatus*) and Soft Rush (*Juncus effusus*). Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Hazel (*Corylus avellana*) account for majority of the wooded area on the site.

The proposed development site is situated on the Visean Limestone Formation. The limestone bedrock that unlays the Lough Ree area is a defining element of the landscape, with Limestone Pavement habitat being one of the Qualifying Interests (QI's) of the Lough Ree SAC. The limestone bedrock is reflected in the soil types which occurs under the site including well-drained shallow brown soils derived from calcareous parent materials. The proposed site sits on a bedrock aquifer which is defined as 'regionally important'.

Two European designated Natura 2000 sites intersect with the proposed development site. The Lough Ree Special Area of Conservation (SAC) (000440) overlaps the proposed site, and the Lough Ree Special Protection Area SPA (004064) borders the site (**see Figure 2.2**). Over 18 watercourses flow into Lough Ree, however there are significant watercourses within the development or site the surrounding area. Lough Ree (European code: IE_SH_26_750a) was determined to be 'Good' water quality by the Water Framework Directive 2016-2021 assessment. The River Shannon (EPA code: 26S02) is the main watercourse that feeds into Lough Ree at Ballyleague/ Lanesborough and exits at Athlone. Latest assessments under the Water Framework Directive found the Shannon to be of 'Poor' water quality.

The proposed development site lies within the 2km^2 grid square N05E, and the 10km^2 grid square N05 according to the National Biodiversity Database Centre (NBDC). A Phase 1 ecological walkover survey was completed on the 23rd of February 2023, during which all species of flora and fauna were surveyed paying particular attention for Qualifying Interests (QIs), Special Conservation Interests (SCIs) and invasive species. No invasive species listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations were recorded during the walkover survey. It is an offense to disperse, spread or otherwise cause the growth of any of the species listed as a Third Schedule species.

Mitigation measures are fully detailed in **Section 6** of this report. These measures ensure that there are no adverse negative impacts on the existing hydrological, hydrogeological and ecological features within and in the vicinity of the proposed development site.

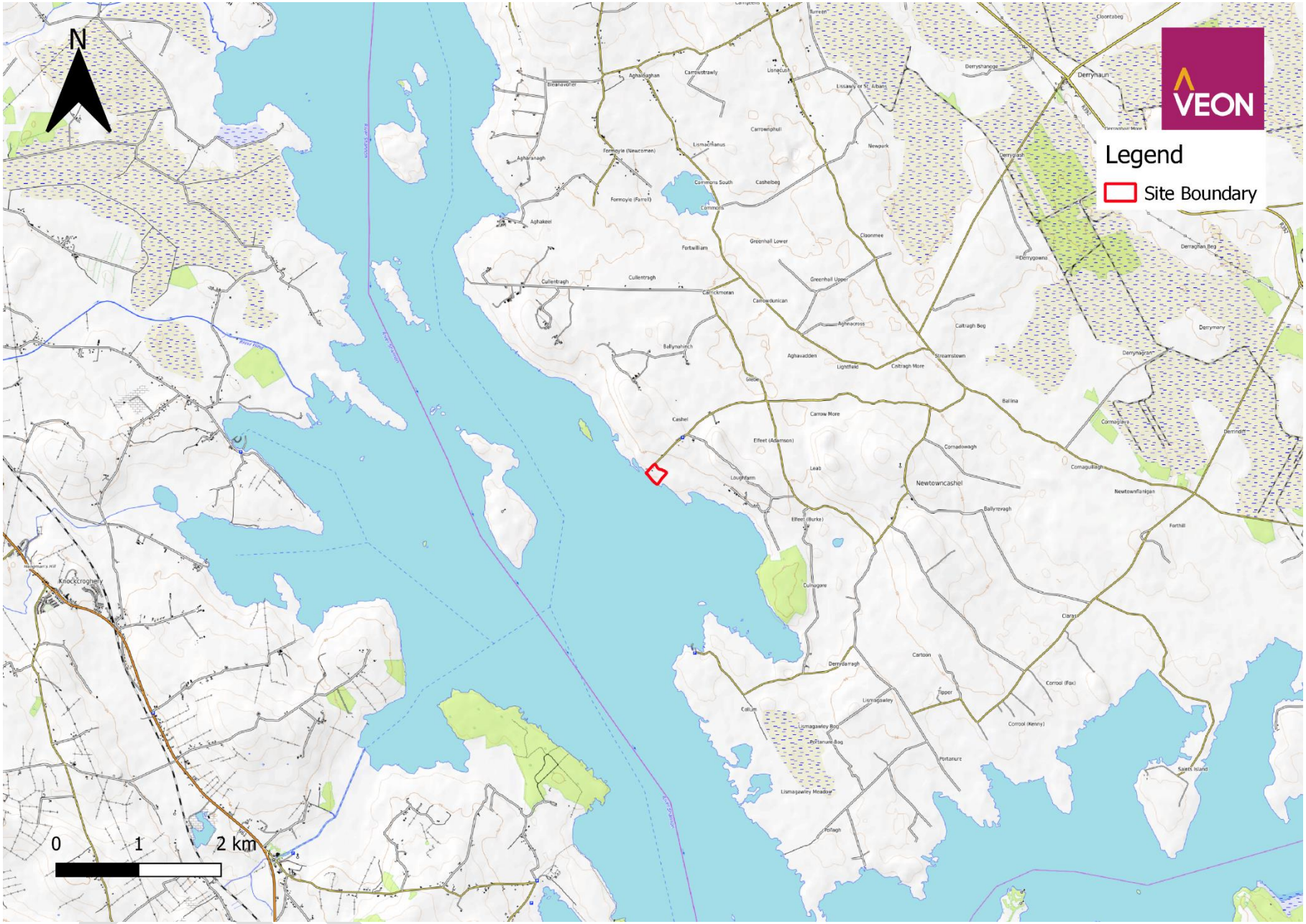


Figure 2.1: Proposed development site location

2.2 Project description

The proposed development is for change in use if an existing dwelling to a care residence for persons with disabilities. The proposed works also include the renovation of the existing dwelling, the erection of a single storey extension to the northeast of the dwelling and the removal of non-native coniferous trees that exist along the southeast and southwest of the dwelling.

The site is centred at Easting 601037 and Northing 759814 (ITM) approximately. The site is approximately 7.67 acres and lies on the eastern shore of Lough Ree. Newtowncashel is the nearest townland, approximately 3km east of the proposed site. The surrounding locality consist primarily of improved agricultural grassland, agricultural structures, residential dwellings and some areas of woodland and scrub.

The Lough Ree Special Area of Conservation (SAC) and Lough Ree Special Protection Area (SPA) directly intersect with the proposed development site. The SPA adjoins the site along the Lough's shoreline. The SAC overlaps with the proposed site entirely.

2.3 Potentially Affected Natura 2000 Sites

The National Parks & Wildlife Services (NPWS) and European Protection Agency (EPA) website and records were consulted to identify the Natura 2000 sites within a 15km Zone of Influence (ZoI) around the proposed site. Each Natura 200 site within the ZoI was assessed to determine if direct physical or hydrological connection exists between them and the proposed development site. The Special Areas of Conservation (SAC) and Special Protection Areas (SPAs) within 15km of the subject site are shown in **Appendix 1**.

Six Natura 2000 sites fall with the proposed site's ZoI: Lough Ree SAC, Fortwilliam Turlough SAC, Corbo Bog SAC, Lough Funshinagh SAC, Mount Jessop Bog SAC and Lough Ree SPA. Two of these sites, Lough Ree SAC and Lough Ree SPA, are physically and/or hydrologically connected to the proposed development site. The Lough Ree SAC directly overlaps the development site, and the Lough Ree SPA intersects with the site (**see Figure2.3**). Based on the direct connection between the site and the aforementioned Natura 2000 sites, these two sites have been screened in for potential impacts based on the rationale. There are no hydrological and/or physical connections between the other Natura 2000 sites within the ZoI and the purposed development site. Based on this rationale these sites are not at risk of being impacted by the purposed works, this screening them out.

2.4 Potentially Affected Habitats/Species

The area of potential impact during the construction phase includes the site of the proposed development and any aquatic habitats downstream of the works. The aquatic zone at the highest risk of potentially being impacted by works associated with the proposed development consist of the entire Lough Ree and a portion of the River Shannon (26S02) as it exists the lake. In this instance the downstream aquatic habitat at risk of potentially being impacted is Lough Ree and the River Shannon (26S02) as it exists the lake. Lough Ree covers an area of 100.2km^2.

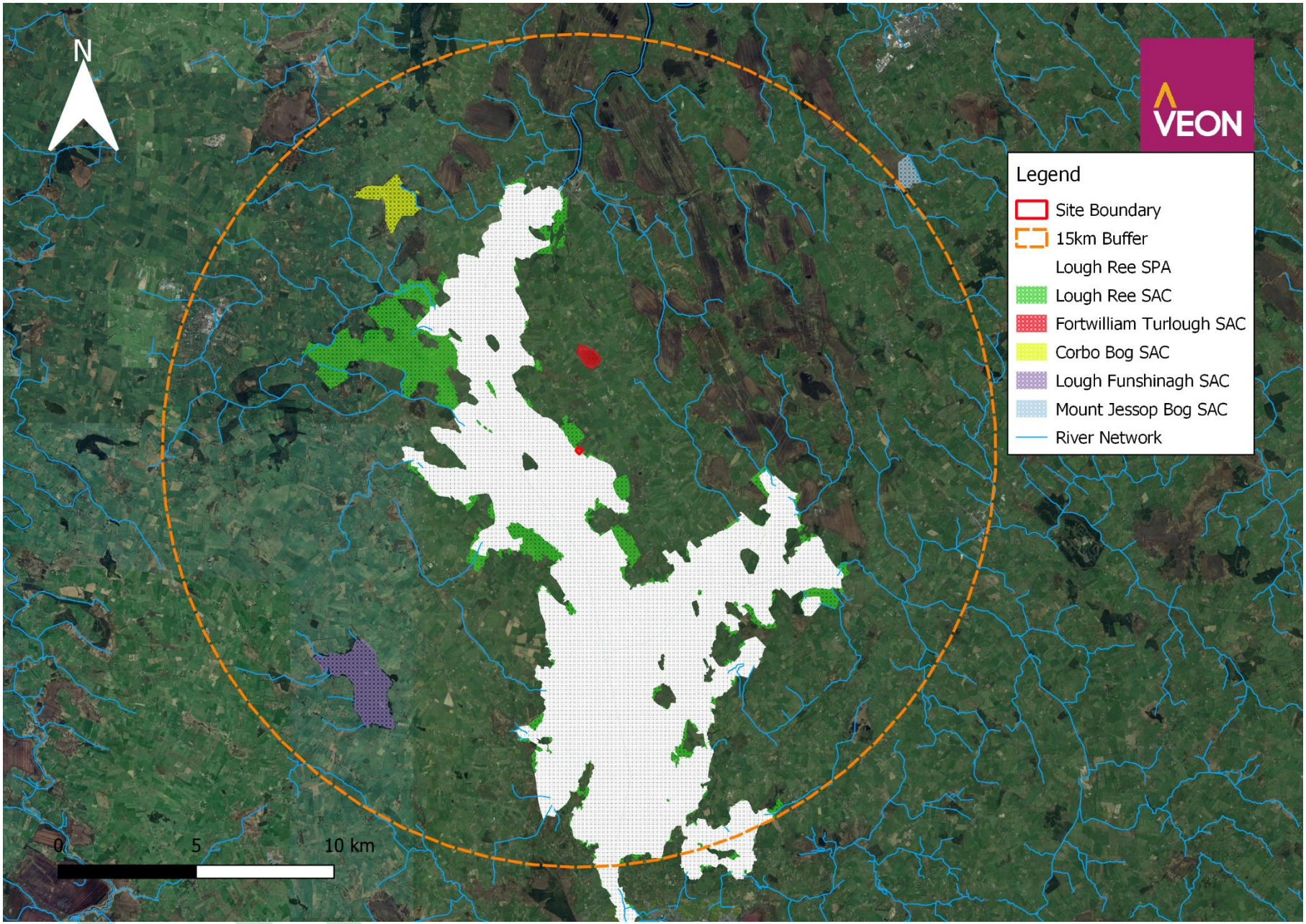


Figure 3.2: Natura 2000 sites within the 15km ZoI

Section 3: EXISTING ENVIRONMENT

3.1 Baseline Ecology

The study area has been mapped in detail, following a phase 1 habitat survey, and was cross referenced with 'A Guide to Habitats in Ireland' (Fossitt, 2000). The findings of the Phase 1 habitat survey are described below, while habitat maps and photographs showing the extent of habitats within the proposed development site are presented in **Figure 3.1** below and **Appendix 1 and 3.**

The surveyed area consists of an existing single storey, uninhabited dwelling (BL2), a small shed, areas of semi-natural grasslands (GS1 & GS4), an area of semi-natural woodland (WN2), hedgerows (WL1), a treeline of non-native coniferous trees (WL2) and a length of freshwater lake shoreline (FL5). The entrance of the site was widened previously, and the boundary fencing upgraded. The upgraded fencing installed was steel green coated fencing, approximately 180cm tall, with a mesh size of 200 x 50mm. The fencing was installed along the northwest and southwest boundaries of the site. The fencing is broken in one location and there are gaps between the bottom of the fence and the ground at various points. The proposed development site was grazed by cattle prior to its purchase, however grazing ceased following the purchase approximately 1.5 years ago. Although some aspects of the habitats have begun to regenerate, indicators of the prior grazing practices are still evident, such as the lack of an understory throughout the semi-natural woodland. The past grazing habits are likely to have influenced the current species diversity and ecology of the site.

The wet semi-natural grassland (GS4) consists of species such as Yorkshire-Fog (*Holcus lanatus*), Common Knapweed (*Centaurea nigra*), Meadow Buttercup (*Ranunculus acris*) and some patches of Soft Rush (*Juncus effusus*). The area of semi-natural dry calcareous/neutral grassland (GS1) on site consists of species such as Meadow grasses (*Pao spp*.), Yorkshire-Fog, Common Knapweed, Curled Dock (*Rumex crispus*) and Dandelion (*Taraxacum vulgaria*). These areas of semi-natural grassland are of moderate ecological value as they are not highly modified habitat and lies within the Lough Ree SAC. These grassland habitats will likely increase in ecological value as the habitats continue to regenerate in the absence of grazing.

An area of approximately 2.45 acres of semi-natural woodland (WN2) is situated along the eastern border of the site. This woodland consists primarily of species such as Hazel (*Corylus avellana*), Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Holly (*Ilex aquifolium*). The ground vegetation of the habitat was low in diversity and consisted of species such as Early Dogs Violet (*Viola reichenbachiana*), Primrose (*Primula vulgaris*), Ivy (*Hedera helix*) and Bramble (*Rubus fructicosus*). Multiple mature trees throughout the area of woodland showed signs of disease, including scaring on the bark (**see Figure 3.2 below**).

A length hedgerow (WL1) exists along the northwest border of the site. The hedgerow has been cut prior to the commencement of bird nesting season and consists of species such as Hazel, Holly, Ivy and Bramble. Some areas of ruined stone walls, covered with mosses are scattered along the hedgerow. An area of scattered trees consisting of species such as Ash and Oak are located towards the northern most section of the site (**see Appendix 1**). The areas of semi-natural woodland, scattered trees, tree lines and hedgerow are habitats of moderate ecological value. These woodland and hedgerow habitats provide ideal habitat for foraging and nesting birds. The various habitats on site also provide shelter and foraging opportunities for mammals such as badger (*Meles meles*).

The Lough Ree shoreline is the only hydrological feature within the development site. Lough Ree is of high ecological value locally, nationally and internationally as it is included in the Lough Ree SAC (000440) and Lough Ree SPA (004064), thus making it a part of the EU Natura 2000 sites network. Lough Ree's water quality was assessed under the EU Water Framework Directive (2000/60/EC) 2nd cycle 2016-2021 and was determined to be of 'Good' water quality status. Many of the Qualifying Interests (QI's) of the SAC and species of Special Conservation Interests (SCI's) are directly impacted or influenced by the water quality of the lake. Otter (*Lutra lutra*) is a QI of the Lough Ree SAC, this semi-aquatic mammal is completely reliant on the aquatic habitats and its ecosystems remaining healthy. All of the SCIs for the Lough Ree SPA are aquatic species of birds, such as Wigeon (*Anas Penelope*) and Lapwing (*Vanellus vanellus*). There are no other hydrological features located within or near to the development site.

3.2 Desktop Study and Information Sources

An ecological desktop study was undertaken to inform this screening assessment and Natura Impact Statement report. The desktop study comprised a review of the following key datasets and information sources:

- Identification of European sites within the Zone of Influence (ZoI) of the Proposed Development area through the identification of potential pathways/links from the Proposed Development area and European sites and/or supporting habitats.

- Review of the National Parks and Wildlife Service (NPWS) site synopsis, Natura 2000 data forms and Conservation Objectives for European sites identified through potential pathways from the Proposed Development (https://www.npws.ie/protected-sites).

- Review of available literature and web data. This included a detailed review of the NPWS and National Biodiversity Data Centre (NBDC) websites including mapping and available reports for relevant sites and in particular Qualifying Interests and Special Conservation Interests described and their Conservation Objectives.

- GIS Online mapping (http://dcenr.maps.arcgis.com; and EPA Mapping database (https://gis.epa.ie/EPAMaps/AAGeoTool).

In addition, aerial photography (Google Earth, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance.

3.3 Field Study

An ecological field survey was completed by Daniel Connell, senior ecologist and Sara Sheridan, ecologist with Veon Ecology. A site investigation at the proposed development site located in Cashel, Newtowncashel, Co. Longford, was undertaken on the 23rd of February 2023, following best practice guidance methodologies for multi-disciplinary walkover surveys, as per the National Road Authority (NRA) (2008). Weather conditions on the day of the survey were dry and bright with a moderate breeze, favourable conditions for surveying, which was completed between the hours of 11:00 and 15:00.

The site was searched for evidence of Annex I habitats and Annex II species listed on the EU Habitats Directive (92/43/EEC). The site was also searched for the presence of invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations (2011). Findings of the surveys were used to inform this NIS and are summarised below.

The purpose of the investigation was to define the site in terms of conservation status, habitat type and general composition, to identify any Annex I habitats or Annex II species and to take cognisance of the fact that some Annex species may not be present or easily observed, and as such should identify if suitable habitat for the species is present. It may then be assumed, using the precautionary principle, that the species is potentially present on the site. Note that Annex I habitats may be defined using indicator species which may not be present at time of survey.

The site was divided into different habitats and observations of fauna species present and surrounding land uses were also made in addition to research of available information from Biological Records Centre (NBDC, 2022) presented in **Appendix 1**.

The following methodologies were adopted for this study:

Habitat identification follows:

- Fossitt, J. A., 2000. A Guide to Habitats in Ireland. The Heritage Council, Kilkenny

Plant species identification follows:

- Webb, D. A., Parnell, J. and Doogue, D., 1996. An Irish Flora. Dundalgan Press, Dundalk
- Hubbard, C. E., 1992. Grasses: A Guide to their Structure, Identification, Uses and Distribution in the British Isles. Penguin Books, Middlesex.
- Smith, A. J. E., 2004. The Moss Flora of Britain & Ireland. 2nd Ed. Cambridge
- Jermy, A. C., Chater, A. O. & David. R. W., 1982. Sedges of the British Isles: BSBI Handbook No. 1. BSBI, London.

Nomenclature follows:

- Stace, C., 2010. New Flora of the British Isles. Cambridge University Press.

Mammals:

- Hayden, T., Harrington, R., 2000. Exploring Irish Mammals. Town House & Country House Ltd. Dublin.

Avifauna:

- Cleave, A., 1995. Birds of Britain & Europe. Chancellor Press, Hong Kong.

Figure 3.1: Habitat map of proposed development site

Habitat Overview

The surveyed area consists of an existing single storey, uninhabited dwelling (BL2), a small shed, areas of semi-natural grasslands (GS1 & GS4), an area of semi-natural woodland (WN2), hedgerows (WL1), a treeline of non-native coniferous trees (WL2) and a length of freshwater lake shoreline (FL5). The wet semi-natural grassland (GS4) consists of species such as Yorkshire-Fog (Holcus lanatus), Common Knapweed (Centaurea nigra), Meadow Buttercup (Ranunculus acris) and some patches of Soft Rush (Juncus effusus). The area of semi-natural dry calcareous/neutral grassland (GS1) on site consists of species such as Meadow grasses (Pao spp.), Yorkshire-Fog, Common Knapweed, Curled Dock (Rumex crispus) and Dandelion (Taraxacum vulgaria).

The majority of the proposed development site comprises of agricultural land, which is classified as GA1 (Improved Agricultural Grassland). The vegetation is dominated by common grass species, mainly Rye grass (*Lolium sp.*) and Yorkshire fog (*Holcus lanatus*), with common agricultural weeds, such as Creeping thistle (*Cirsium arvense*), Nettle (*Urtica dioica*) spear thistle (*Cirsium vulgare*), Ragwort (*Senecio jacobaea*), Dock (*Rumex obtusifolius*) and Creeping buttercup (*Ranunculus repens*) frequent throughout. In some wetter patches, Soft Rush (*Juncus effusus*) and yellow flag (*Iris pseudacorus*) are found. This habitat on site is of low biodiversity value.

An area of semi-natural woodland (WN2) is situated along the eastern border of the site. This woodland consists primarily of species such as Hazel (*Corylus avellana*), Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Holly *(Ilex aquifolium*). The ground vegetation of the habitat was low in diversity and consisted of species such as Early Dogs Violet (*Viola reichenbachiana*), Primrose (*Primula vulgaris*), Ivy (*Hedera helix*) and Bramble (*Rubus fructicosus*). Multiple mature trees throughout the area of woodland showed signs of disease, including scaring on the bark (**Figure 3.2**). A length hedgerow (WL1) exists along the northwest border of the site. The hedgerow has been cut prior to the commencement of bird nesting season and consists of species such as Hazel, Holly, Ivy and Bramble. Some areas of ruined stone walls, covered with mosses are scattered along the hedgerow. Towards the northern most section of the site is an area of scattered trees consisting of species such as Ash and Oak.

The site borders Lough Ree, a freshwater lake protected under the Lough Ree SAC and SPA. No other hydrological features exist on or near the site.

Figure 3.2: Tree showing the signs of disease.

Avifauna

A diverse range of species of birds utilise the habitats within the site for various reasons (i.e., foraging and/or nesting). The semi-natural woodland and scattered trees, both of which consist of trees of varying maturity, provide ideal habitat for nesting and foraging birds. Medium sized bird species such as Corvidae *spp.* and Woodpigeon (*Columba palumbus*) are most likely to nest in the higher canopy of the semi-mature Ash and Oak trees on-site. High levels of passerine activity was noted during the walkover survey throughout the site, but particularly in the treeline, scattered trees and hedgerows located throughout the north and northeast sections of the site surrounding the existing dwelling. Species such as Chaffinch (*Fringilla coelebs*), Wren (*Troglodytes troglodytes*) and Long-tailed Tit (*Aegithalus caudatus*) were recorded in the aforementioned habitats during the walkover survey.

Other species were recorded flying over or on close proximity to the site but not within the site boundary. These included Black-headed gull (*Larus ridibundus*), Common Buzzard (*Buteo buteo*) and Cormorant (*Phalacrocorax carbo*). The drumming display of a Great Spotted Woodpecker (*Dendrocopus major*) was heard while on the purposed development site. The bird did not appear to be within the site boundary however there are some large dead or rotting broadleaf trees within the site that provide ideal habitat for Woodpecker. No signs of woodpecker were noted on any of the trees within the site. The neighbouring site to the southeast also contains suitable woodpecker habitat.

The Lough Ree shoreline along the southwest boundary of the site does not consist of suitable nesting habitat for any aquatic bird species. The shoreline would provide feeding opportunities for waterfowl and wader species at various water levels. The shoreline is also likely to be used by resting waders and waterfowl. Many of the winter visitors to the

Bird species that were seen or heard during the survey period are presented in **Appendix 2**.

Mammals

No underground mammal dwellings, including Otter (*Lutra lutra*) holts or couches or Badger setts, were encountered on the proposed development site during the survey. No evidence of Otter was discovered during the walkover survey. Otter may occasionally exit the water onto the shoreline within the subject site, however on a greater geographical scale exist more suitable Otter habitat, including scrub and wet woodlands.

Mammal activity, thought to be Badger (*Meles meles*), was recorded on the proposed development site during the multidisciplinary walkover survey. Badger latrines, signs of foraging and frequently used pathways were recorded. Badger has been recorded in the 2km grid square 'N05E' in which the site is recorded (NBDC, 2023).

Red Squirrel (*Sciurus vulgaris*) was visually observed and recorded on the proposed development site during the ecological walkover survey. The squirrel was observed moving through broadleaf and conifer trees on the site. One possible Red Squirrel drey was recorded in the semi-natural woodland on-site.

The results of the Phase 1 habitat survey and photographs of the proposed development site are presented in full in **Appendix 2** and **4**.

3.4 Biological Water Quality Data

The results of the 2nd cycle (2016-2021) of the Water Framework Directive (2000/60/EC) assessment reported that ecological and chemical water quality status of Lough Ree (EU code: IE_SH_26_750a) as 'Good'.

The European Protection Agency (EPA) assessed the biological water quality of the River Shannon (Upper) (WFD code: IE_SH_26S021600) at the Ballyleague Br Lanesboro station (Station code: RS26S021600) in 2020 as being of 'Poor' quality, Q Value 3. This station is located in Lanesborough (Easting 200549 Northing 269361), where the Shannon enters Lough Ree, 9.7km north of the purposed development site.

The EPA also assessed the ecologically water quality of the River Shannon in 2020 at the Athlone: Burgess Park (LHS) station (Station code: RS26S021720) which is just downstream of where the Shannon exits Lough Ree and approximately 19km south of the purposed development site. In 2020 the Shannon was assigned a Q Value of 4, 'Good' quality at the Athlone station.

3.5 Flooding

A site-specific Flood Risk Assessment report was completed by Liam Madden in January 2022 on behalf of GALRO Unltd. This report concluded that no mitigation measures are necessary for the proposed development as the estimated risk of flooding is minimal. The Catchment Flood Risk Assessment and Management (CFRAM) River Flood Extents (Present Day) low probability zones which intersects with the proposed development site slightly (**see Figure 3.3**) (Flood Maps, 2023). The location of the dwelling and the proposed extension resides at an elevation above the possible flood zone. The risk of flooding within the low probability is a 1 in 1000 chance of occurring.

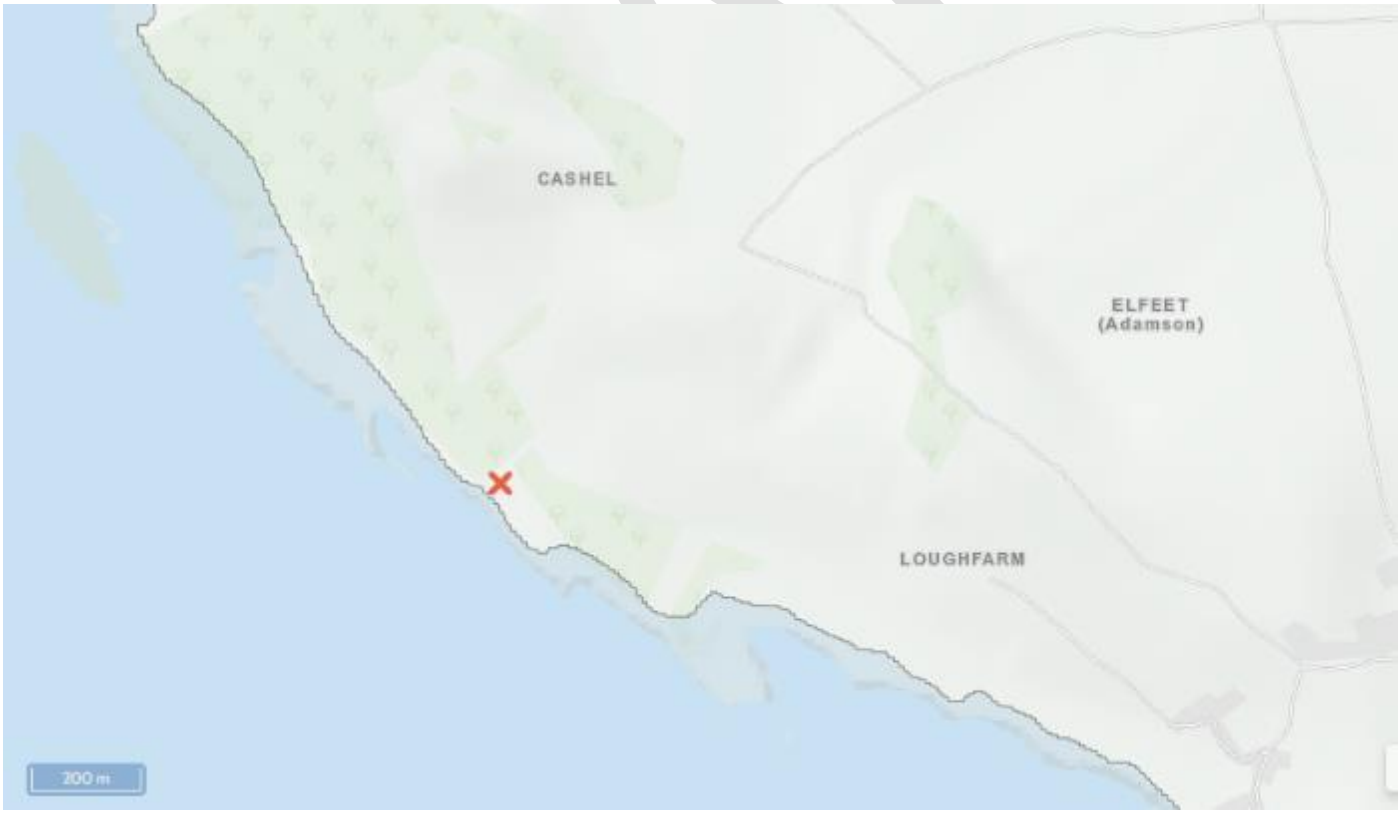


Figure 3.3: Project site location (red marker) and the CFRAM River Flood Extents low probability layer (blue).

3.6 Geology, Hydrology and Hydrogeology

The Geological Survey of Ireland (GSI) online database was consulted for available geological and hydrological information of the proposed development site.

The most immediate hydrological features in the vicinity of the proposed development are Lough Ree (European code: IE_SH_26_750a) which adjoins the site to the southwest. There are no drainage ditches, minor streams or rivers on the site or within the vicinity of the site. Surface groundwater from precipitation on the proposed site would naturally either absorb into the soil or filter into the Lough.

The proposed development site is positioned on the Visean Limestone bedrock formation which consists of undifferentiated limestone and an Aquifer of regional importance (GSI, 2016). The soil that underlays the proposed development site is comprised of deep well drained mineral brown earths (BminDW) and shallow well drained mineral brown earths derived from mainly calcareous parent materials (BminSW) (Teagasc, EPA & GSI, 2006).

Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Where the rock depth is less than 3 meters and depending on the subsoil type and thickness, the vulnerability is rated as 'Extreme'. The proposed development site is classified as 'Extreme Vulnerability' with karst rock near the surface and due to the watercourse (i.e., the Lough) (GSI, 2017). There are no significant springs or groundwater discharges recorded or mapped in the immediate vicinity of the site (GSI, 2017).

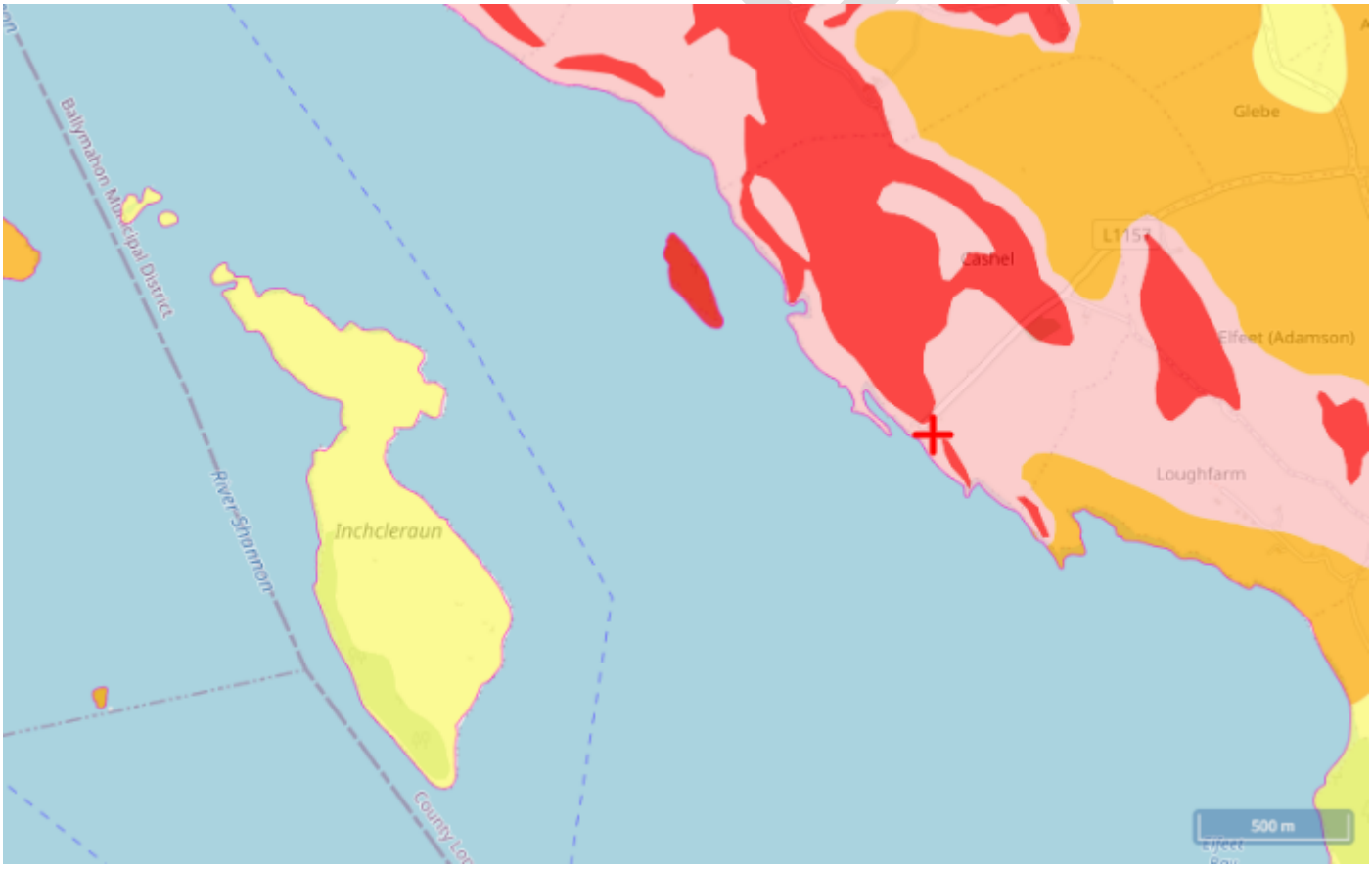


Figure 3.4: GSI Groundwater Vulnerability.

Section 4: STAGE 1. SCREENING FOR APPROPRIATE ASSESSMENT

4.1 Overview of Potential Impacts

The Site Synopsis for Lough Ree SAC (Site Code: IE0000440) name the main threats to the designated site, including grazing, fertilisation, invasive non-native species and forest plantation management and use (NPWS, 2020).

The Site Synopsis for Lough Ree SPA (Site Code: IE0004064) name the main threats to the designated site, including invasive non-native species, fertilisation and grazing (NPWS, 2020).

A screening matrix of unmitigated impacts on the Natura 2000 habitats and species found to be present, or considered possibly present, is presented in **Section 5**. The reasons for decision in the screening matrix are detailed below. Potential impacts on habitats and species not occurring within the zone of impact can be screened out.

There are a number of elements associated with the proposed construction works that may give rise to direct and indirect impacts that have the potential to result in likely significant effects on European Sites. The significance of these impacts depends on the scale of the impact as well as the ecological condition and the sensitivities of the qualifying interests. Elements of the proposed development that may give rise to impacts which have been considered with regards to potential likely significant effects to European sites are as follows:

- Release of sediment and pollutants which may be discharged into surface water, particularly during high rainfall events.
- Movement of vehicles and machinery associated with construction works and the potential for spillages of oils, fuels or other pollutants which could be transported to the surface water system during rainfall events.
- Transportation, pouring of concrete onsite and washing of concrete lorry flume – risk for entry into surface water.
- Increased silt loading, which may stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions.
- The introduction or spread of invasive alien species due to construction works.
- Disturbance to fauna (e.g., through noise from construction activity and/or human presence) resulting in the displacement of affected species.
- Accidental mortality of wildlife from construction machinery.

4.2 Determining the Likely Zone of Influence

Guidance on AA of Plans and Projects in Ireland notes that a distance of 15km is recommended in the case of plans, derived from UK guidance. In some cases, the distance could be much less, or much more than 15km, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the proposed development, and the sensitivities of the ecological receptors and for the in-combination effects (OPR, 2021).

Using the source-pathway-receptor (SPR) model an examination of the potential effects of the Proposed Development was undertaken (alone and in-combination with other plans and projects) to identify what European sites, and which of their Qualifying Interests or Special Conservation Interest species were potentially at risk. This examination was used to determine the Zone of Influence (ZoI) for the Proposed Development. It is vital that an assessment of potential pathways is undertaken to assess potential impact links between the receptor (European sites) and source (proposed development) to establish the risk of any likely significant effects. Additional designated sites including proposed Natural Heritage Areas (pNHA's), Natural Heritage Areas (NHA's) sites were also reviewed, although they do not form part of the AA, they often provide important supporting functions to European sites.
With regards to potential habitat degradation effects associated with the release of sediment and other pollutants to surface water, the ZoI of the Proposed Development is considered to include receiving water bodies adjacent to, or

downstream of, the proposed development site during the construction phase. The distance downstream is associated with the current biological condition of the accepting water body and its capacity to accept and assimilate sediment and other pollutants. The distance downstream is also associated with the sensitivity of the Qualifying Interests of the European Site which is hydrologically connected to the proposed development site.

Noise from construction activities has the potential to cause disturbance to resting, foraging and commuting Qualifying Interest and Special Conservation Interest species. With regards to disturbance effects, the potential ZoI is considered to be in the local vicinity (within 300m) of the Proposed Development during the Construction Phase. The proposed works during the construction phase are anticipated to generate relatively low levels of noise and only during permitted construction hours. In general, machinery will be designed to ensure that the maximum noise level 10m outside the site boundary do not exceed an equivalent continuous sound level beyond what is recommended in the BSI British Standards (BS5228-1:2009+A1:2014). It should be noted, no night works are anticipated.

4.3 Identification of Relevant European Sites

The source-receptor-pathway (S-P-R) conceptual model was used to identify a list of 'relevant' European sites (i.e., those which could be potentially affected by the proposed development). This conceptual model is a standard tool in environmental assessment (OPR, 2021). In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. In the context of the proposed development, the model comprises:

- Source (s) – e.g., Sediment run-off from proposed development works.
- Pathway (s) – e.g., Rivers and drains connecting to a European site.
- Receptor (s) – e.g., Special Conservation Interests (SCI) or Qualifying Interests (QI).

There are currently six European sites within 15km of the proposed development (**See Table 4.1**): Lough Ree SAC, Fortwilliam Turlough SAC, Corbo Bog SAC, Lough Funshinagh SAC, Mount Jessop Bog SAC and Lough Ree SPA.

Of these European Sites, the Lough Ree SAC and Lough Ree SPA are considered relevant based on proximity to the proposed development and source - receptor pathway relationships.

Table 4.1: European Sites located within 15 km of the proposed development site.

Designated Site	Site Code	Approximate Distance from Proposed Works (km)
Lough Ree SAC	000440	0km
Fortwilliam Turlough SAC	000448	2.99km
Corbo Bog SAC	002349	10.36km
Lough Funshinagh SAC	000611	10.38km
Mount Jessop Bog SAC	002202	14.9km
Lough Ree SPA	004064	0km

Potential impacts and their significance, if any, within the European sites are considered below**.** Impacts are considered in light of the Conservation Objectives/Special Conservation Interests for which these European sites are designated.

4.4 Stage 1: Screening of Relevant European Sites

4.4.1 Special Areas of Conservation (SACs)

Natura site(s)	Potential effects to Natura Site	Rationale
Lough Ree SAC (000440) 0km	Yes	The proposed site adjoins the European site. Therefore, there is potential for direct and indirect impacts on the following QIs: **[3150] Natural Eutrophic Lakes,** **[6210] Orchid-rich Calcareous Grassland*,** **[7110] Active Raised Bog*,** **[7120] Degraded Raised Bog,** **[7230] Alkaline Fens,** **[8240] Limestone Pavement*,** **[91D0] Bog Woodland*,** **[91E0] Alluvial Forests*,** **[1355] Otter (*Lutra lutra*)** There is a potential pathway (i.e., hydrological connection which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC could be affected. Therefore, this Natura 2000 can be considered a potential receptor. Based on this rationale, Lough Ree SAC (000440) has been **screened-in** for potential impacts.
Fortwilliam Turlough SAC (000448) ~2.99km	No	The proposed site is located outside and a distance from the European site. Therefore, there is no potential for direct impacts on the following QIs: **[3180] Turloughs*** There are no pathways (physical or hydrological connections which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC cannot be affected. Therefore, this Natura 2000 cannot be considered a potential receptor. Based on this rationale, the Fortwilliam Turlough SAC (000448) has been **screened-out** for potential impacts.
Corbo Bog SAC (002349) ~10.36km	No	The proposed site is located outside and a distance from the European site. Therefore, there is no potential for direct impacts on the following QIs: **[7110] Raised Bog (Active)*,** **[7120] Degraded Raised Bog,** **[7150] Rhynchosporion Vegetation** There are no pathways (physical or hydrological connections which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC cannot be affected. Therefore, this Natura 2000 cannot be considered a potential receptor. Based on this rationale, the Corbo Bog SAC (002349) has been **screened-out** for potential impacts.

Lough Funshinagh SAC (000611) ~10.38km	No	The proposed site is located outside and a distance from the European site. Therefore, there is no potential for direct impacts on the following QIs: **[3180] Turloughs*** **[3270] Chenopodion rubri p.p. and Bidention p.p. vegetation** There are no pathways (physical or hydrological connections which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC cannot be affected. Therefore, this Natura 2000 cannot be considered a potential receptor. Based on this rationale, the Lough Funshinagh SAC (000611) has been **screened-out** for potential impacts.
Mount Jessop Bog SAC (002202) ~14.9km	No	The proposed site is located outside and a distance from the European site. Therefore, there is no potential for direct impacts on the following QIs: **[7120] Degraded Raised Bog** **[91D0] Bog Woodland*** There are no pathways (physical or hydrological connections which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC cannot be affected. Therefore, this Natura 2000 cannot be considered a potential receptor. Based on this rationale, the Mount Jessop Bog SAC (002202) has been **screened-out** for potential impacts.

***** = Priority habitat under EU Habitats Directive (92/43/EEC)*

4.4.2 Special Protection Areas (SPAs)

Natura site(s)	Potential effects to Natura Site	Rationale
Lough Ree SPA (004064) 0km	Yes	The proposed site directly adjoins the European site. Therefore, there is potential for direct or indirect impacts on the following SCIs: **[A004] Little Grebe (*Tachybaptus ruficollis*)** **[A038] Whooper Swan (*Cygnus cygnus*)** **[A050] Wigeon (*Anas Penelope*)** **[A052] Teal (*Anas crecca*)** **[A053] Mallard (*Anas platyrhynchos*)** **[A056] Shoveler (*Anas clypeata*)** **[A061] Tufted Duck (*Aythya fuligula*)** **[A067] Goldeneye (*Bucephala clangula*)** **[A125] Coot (*Fulica atra*)** **[A140] Golden Plover (*Pluvialis apricaria*)** **[A142] Lapwing (*Vanellus vanellus*)** **[A193] Common Tern (*Sterna hirundo*)** Due to the site's location, there is a direct pathway (physical and hydrological connections which could act as a route for potential impacts) between the source site and the European site. Based on this rationale, Lough Ree SPA (004064) has been **screened-in** for potential impacts.

*The Hydrology map in the Appendices is taken from the EPA website https://gis.epa.ie/EPAMaps/AAGeoTool. The watercourse(s) are labelled along with directional flow (**See Appendix 1**). Where the flow of the watercourses is away from or does not flow into European sites mentioned, no Qualifying Interests have been recorded within 10km/2km* of the site and/or there is no hydrological connection to the European sites, these sites have been screened out.*

European sites (SPA/SAC) downstream with direct hydrological connections, or any European sites within 15km where QIs have been recorded on or within 2km of site have been screened in.

Table 4.2: European Sites within the proposed development's Zone of Influence using SPR model.

Site Code	Site Name	Qualifying Interests / Special Conservation Interest Species	Distance from Study Area	Source-Pathway-Receptor Connectivity
000440	Lough Ree SAC	[3150] Natural Eutrophic Lakes [6210] Orchid-rich Calcareous Grassland* [7110] Active Raised Bog* [7120] Degraded Raised Bog [7230] Alkaline Fens [8240] Limestone Pavement* [91D0] Bog Woodland* [91E0] Alluvial Forests* [1355] Otter (*Lutra lutra*)	This European Site directly adjoins the proposed development site.	There is a potential pathway (i.e., hydrological connection which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC could be affected. Therefore, this Natura 2000 can be considered a potential receptor.
000448	Fortwilliam Turlough SAC	[3180] Turloughs*	~2.99km north	No source pathway connectivity via surface water, groundwater or environmental vectors.
002349	Corbo Bog SAC	[7110] Raised Bog (Active)*, [7120] Degraded Raised Bog, [7150] Rhynchosporion Vegetation	~10.36km northwest	No source pathway connectivity via surface water, groundwater or environmental vectors.
000611	Lough Funshinagh SAC	[3180] Turloughs* [3270] Chenopodion rubri p.p. and Bidention p.p. vegetation	~10.38km southwest	No source pathway connectivity via surface water, groundwater or environmental vectors.
002202	Mount Jessop Bog SAC	[7120] Degraded Raised Bog [91D0] Bog Woodland*	~14.9km northeast	No source pathway connectivity via surface water, groundwater or environmental vectors.
004064	Lough Ree SPA	[A004] Little Grebe (Tachybaptus ruficollis) [A038] Whooper Swan (Cygnus cygnus) [A050] Wigeon (Anas Penelope) [A052] Teal (Anas crecca) [A053] Mallard (Anas platyrhynchos) [A056] Shoveler (Anas clypeata) [A061] Tufted Duck (Aythya fuligula) [A067] Goldeneye (Bucephala clangula) [A125] Coot (Fulica atra) [A140] Golden Plover (Pluvialis apricaria) [A142] Lapwing (Vanellus vanellus) [A193] Common Tern (Sterna hirundo)	This European Site directly adjoins the proposed development site.	There is a potential pathway (i.e., hydrological connection which could act as a route for potential impacts) from the source site and so the Qualifying Interests of this SAC could be affected. Therefore, this Natura 2000 can be considered a potential receptor.

4.5 Nationally Designated Sites

Natural Heritage Areas (NHAs) are sites deemed to be of national ecological importance and are afforded protection under the Wildlife Act 1976 (as amended), with many NHA boundaries overlapping with European sites. There are three NHAs located within 15km of the proposed development site: Lisnanarriagh Bog, Mount Jessop Bog and Forthill Bog. There are ten proposed Natural Heritage Areas (pNHAs) located within 15km of the proposed development site: Lough Ree, Fortwilliam Turlough, Lough Bannow, Corbo Bog, Lough Funshinagh, Lough Slawn, Derry Lough, Lough Bawn, Cordara Turlough and Royal Canal.

The pNHAs have not been statutorily proposed or designated under the Wildlife Act (as amended), however they are afforded some protection under County Development Plans including such schemes as agri-environment schemes (Rural Environment Protection Scheme (REPS) and Agri Environmental Options Scheme (AEOS)).

4.6 Screening Conclusion

There is connectivity between the proposed development site and the Lough Ree SAC (000440) and Lough Ree SPA (004064). Each of these European sites directly adjoin or intersect with the proposed development site. There is both physical and hydrological potential pathways between the proposed works and the designated sites via groundwater, surface water and/or environmental vectors.

In the case of all other designated Natura 2000 sites which fall within 15km of the purposed development site, there exists no potential physical, hydrological or environmental pathways between the sites and the purposed development, therefore excluding their QIs and SCIs from being at risk of being impacted.

Section 5: STAGE 2. SCREENED IN EUROPEAN SITES

5.1 Conservation Objectives

Conservation objectives for Natura 2000 Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) have to be set for the habitats and species for which the sites are selected. These objectives are used when carrying out appropriate assessments for plans and projects that might impact on these sites.

Site-specific conservation objectives outline attributes with targets, which define favourable condition for a habitat or species at a particular site. They are used for appropriate assessment of plans or projects. In addition, they can provide useful information for conservation management planning. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

The concept of favourable conservation status is central to the E.U. Habitats Directive. Annex I habitats, Annex II species, and habitats of Annex II species (of the Habitats Directive), as well as the Birds Directive Annex I species and other species designated as Special Conservation Interests must be maintained at or restored to favourable conservation status.

In summary, it is required that the range and areas of the listed habitats, and the range and population of the listed species, should be at least maintained at their status at the time of designation. Site-specific conservation objectives for each European site aim to define favourable conservation conditions for habitats/species of the site.

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as SAC and SPA. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing.
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future.
- The conservation status of its typical species is favourable.

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.
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future.
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The integrity of a European site (referred to in Article 6.3 of the EU Habitats Directive) is determined based on the conservation objectives and of the site. The Qualifying Interests (QI) and Special Conservation Interests (SCI) are obtained through a review of the most recently published (web-published or otherwise) Conservation Objective supporting documents and Site-Specific Conservation Objectives documents (where available) for the European site.

5.2 European Site Descriptions

Site descriptions for the relevant European Sites within the project ZoI are presented below.

Lough Ree SAC (Site Code: 000440)

Lough Ree is one of three large lakes on the River Shannon (EPA code: 26S02), the longest river in Ireland, and covers three counties in the midland: Longford, Westmeath and Roscommon. This freshwater lake covers a surface area of 105km^2 and sits on a depression in Carboniferous Limestone. The Shannon flows into the lake at Ballyleague/ Lanesborough and exits the lake at Athlone. Multiple other rivers, streams and drainage channels also feed into Lough Ree, including the Hind (EPA code: 26H01) and Inny (EPA code: 26I01). Lough Ree hosts multiple islands and many sheltered bays along the shoreline.

The Lough Ree SAC extends beyond the footprint of the Lough Ree, covering an area of 143.38km^2. Beds of Common Reed (*Phragmites australis*) are an extensive habitat in a number of the more sheltered places around the lake, with other species such as Slender Sedge (*Carex lasiocarpa*) also commonly occurring.

The Qualifying Interests of the SAC consist primarily of habitat types, such as Limestone pavements [8240], Bog woodland [91D0] and Alkaline fens [7230]. Three of the habitats listed as QI's are also Priority Habitats under the EU Habitats Directive (92/43/EEC). The European Otter (*Lutra lutra*) is the only species of fauna that is a QI of the SAC. The last Otter survey that was completed in the area was the 2010/12 National Otter (Reid. *et al*., 2013).

The Conservation Objectives for the Lough Ree SAC include measures such as the restoration of degraded raised bogs within the SAC back to condition where they are capable of natural restoration by restoring appropriate water levels and topography to the habitat (NPWS, 2016)

Lough Ree SPA (Site Code: 004064)

The Lough Ree SPA largely overlaps with the Lough Ree SAC. The Lough Ree SPA covers a surface area of 123.48km^2. The SPA mostly follows the footprint of the Lough but also extends slightly beyond it. The Special Conservation Interests (SCIs) of the Lough Ree SPA are entirely aquatic birds and waterfowl highlighting the fact that the Lough is the key feature for the SPA. The SCIs include species such as Teal (*Anas crecca*), Golden Plover (*Pluvialis apricaria*) and Whooper Swan (*Cygnus cygnus*) (NPWS, 2015).

Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of Little Grebe (*Tachybaptus ruficollis*), Whooper Swan (*Cygnus cygnus*), Wigeon (*Anas penelope*), Teal (*Anas crecca*), Mallard (*Anas platyrhynchos*), Shoveler (*Anas clypeata*), Tufted Duck (*Aythya fuligula*), Goldeneye (*Bucephala clangula*), Coot (*Fulica atra*), Golden Plover (*Pluvialis apricaria*) and Lapwing (*Vanellus vanellus*). The SPA is home to a nationally important population of Common Tern (*Sterna hirundo*). Lough Ree is also one of the two main sites in the country for breeding Common Scoter (*Melanitta nigra*), a Red Data Book species (NPWS, 2015).

Lough Ree is of high ornithological importance for both wintering and breeding birds, including Annex I listed species and Red listed species. The Conservation Objectives of the SPA is to maintain or restore the favourable conservation condition of the bird species listed as SCIs, as well as the condition of the wetland habitats utilised by bird species of interest (NPWS, 2022).

5.3 Supporting Habitats and Species

Lough Ree SAC (000440)

Habitats:

- [3150] Natural Eutrophic Lakes
- [6210] Orchid-rich Calcareous Grassland*
- [7110] Active Raised Bog*
- [7120] Degraded Raised Bog
- [7230] Alkaline Fens
- [8240] Limestone Pavement*
- [91D0] Bog Woodland*
- [91E0] Alluvial Forests*

** = EU Priority Habitats*

Species:

- Otter (*Lutra lutra*) [1355]

Hydrocarbons, sediments, and chemicals may enter the watercourse during the proposed development work, which may in turn adversely impact water quality, potentially impacting aquatic organisms and habitats. The aquatic species listed above may be impacted as a result or their food supplies being adversely affected or by being displaced by the proposed works.

Any increased siltation and/or eutrophication in the water may decrease the oxygen levels in the water, which could have a direct impact on respiration of aquatic species, thus impacting on the aquatic fauna and/or habitats for which the SAC is designated. The potential impacts on water quality are significant and mitigation measures are described in **Sections 6.**

Lough Ree SPA (004064)

Habitats:

- [A999] Wetland and Waterbirds

Species:

- Little Grebe (*Tachybaptus ruficollis*) [A004]
- Whooper Swan (*Cygnus cygnus*) [A038]
- Wigeon (*Anas penelope*) [A050]
- Teal (*Anas crecca*) [A052]
- Mallard (*Anas platyrhynchos*) [A053]
- Shoveler (*Anas clypeata*) [A056]
- Tufted Duck (*Aythya fuligula*) [A061]
- Common Scoter (*Melanitta nigra*) [A065]
- Goldeneye (*Bucephala clangula*) [A067]
- Coot (*Fulica atra*) [A125]
- Golden Plover (*Pluvialis apricaria*) [A140]
- Lapwing (*Vanellus vanellus*) [A142]
- Common Tern (*Sterna hirundo*) [A193]

The Lough Ree SPA is a significantly important site for many aquatic birds and waterfowl, with resident and wintering. The local populations of waterfowl and aquatic birds are highly dependent on water quality status of Lough Ree. Hydrocarbons, sediments, and chemicals may enter the watercourse during the proposed development work, which may in turn adversely impact water quality, potentially impacting the SCIs of the SPA.

Habitat loss, degradation and fragmentation within and close to the SPA could potentially impact on the SCIs of the SPA. However, the proposed development will not result in the loss or fragmentation of habitat key to the SCI species. The proposed works have the potential to disturb or displace birds from either breeding sites or winter foraging sites depending on the time of year the works occur.

The potential impacts from the proposed operations on habitat quality are significant and mitigation measures are described in **Sections 6**.

5.4 Threats and Pressures

Threats and pressures published for Lough Ree SPA and Lough Ree SAC are presented in **Table 5.1** and **5.2** below.

Lough Ree SPA (Site Code: IE0004064)

Table 5.1: Negative Threats, Pressures and Activities for Lough Ree SPA.

Lough Ree SPA (Site Code: IE0004064)			
Threat Code[1]	**Threat Type**	**Rank[2]**	**i (inside) / o (outside) / b (both)**
G01.01	Drying out	H	i
A08	Fertilisation	M	o
I01	Invasive non-native species	M	i
F02.03	Leisure fishing	M	i
F03.01	Hunting	M	i
G01.02	Walking, horse-riding and non-motorised vehicles	M	o
A04	Grazing	M	o
B	Sylviculture, forestry	L	o

Lough Ree SAC (Site Code: IE0000440)

Table 5.2: Negative Threats, Pressures and Activities Lough Ree SAC.

Lough Ree SAC (Site Code: IE0000440)			
Threat Code[3]	**Threat Type**	**Rank[4]**	**i (inside) / o (outside) / b (both)**
I01	Invasive non-native species	H	b
J02.11.02	Siltation rate changes	H	o
K03.05	Antagonism arising from introduction of species	H	i
D03.01.02	Piers / tourist harbours or recreational piers	L	i
G01.02	Walking, horse-riding and non-motorised vehicles	L	i
H06.03	Thermal heating of water bodies	L	o
J02.04	Flooding modifications	L	b
L08	Inundation (natural processes)	L	i
A03.03	Abandonment / lack of mowing	M	i
A04	Grazing	M	i

1 Threat codes sourced from Natura 2000 data form and follow reference list provided on threats, pressures and activities for European Sites http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/standarddataforms/notes_en.pdf
2 H – High, M – Medium, L -Low

Lough Ree SAC (Site Code: IE0000440)			
Threat Code[3]	Threat Type	Rank[4]	i (inside) / o (outside) / b (both)
A08	Fertilisation	M	b
B02	Forest and Plantation management & use	M	b
E01.03	Dispersed habitation	M	o
F02.03	Leisure fishing	M	i
F03.01	Hunting	M	i
G01.01	Nautical sports	M	i
H01.08	Diffuse pollution to surface waters due to household sewage and waste waters	M	b
H02.06	Diffuse groundwater pollution due to agricultural and forestry activities	M	b

5.5 Potential Impacts from the Proposed Development

Potential effects associated with the proposed development to the Qualifying Habitats and Species of European Sites within the project Zone of Influence are as follows:

Table 5.3: Impact Source - Pathway and Zone of Influence for the proposed project

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
Construction Phase		
Noise, Vibration, Lighting, Human presence Movements of vehicles associated with construction activities.	Terrestrial - contact (direct contact with construction personnel or machinery during site works), air (through its ability to transmit noise effects), visibility (on site presence of construction personnel)	The Zone of Influence varies by the affected habitat and reliant species. This can be assessed within 500m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser,1993; and Rees et al., 2005). However, distance can be significantly lower (e.g., 150m for otter underground sites (NRA, 2006), or higher for other species.
Earthworks / stripping of overburden (e.g., Digging), Stockpiling of construction materials (sand, aggregates etc.), Use of contaminants (e.g., hydrocarbons, wet cement, lubricants).	Hydrological pathways: i.e., groundwater and/or surface water runoff directly into Lough Ree Accidental spills.	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential contaminant (e.g., silt, hydrocarbons). The worst-case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e., from the proposed development site to the nearby Lough Ree).

5.5.1 Habitat loss, disturbance and fragmentation

Habitats loss, disturbance and fragmentation under the proposed development footprint will be minimal, as the works consist of renovations and a small extension to an existing dwelling. The development does not require the clearance of large areas of habitat including the clearance of trees and hedgerows. Habitats adjacent to and surrounding the proposed development site primarily consist of improved agricultural grassland, built land and some semi-natural woodlands, all of which will not be impacted significantly by the purposed works. The existing areas of improved agricultural grassland are of low ecological importance.

The upgraded fencing installed along the northwest and southwest of the site will not impact on the local fauna, particularly QIs of the relevant Natura 2000 sites. The fencing does not completely enclose the site and there are some gaps between the ground and fence at various spots, meaning that the fencing will not impede the movement of fauna through the site or cause collision with bird species. Overall, the loss, disturbance and fragmentation of the habitats under the footprint of the proposed development is considered to be minimal and not significant, not altering the ecological value of the greater area or the site itself.

5.5.2 Non-native and invasive species

No high impact invasive plant species (as listed by NBDC) were recorded during the site visits at the proposed development site. Likewise, there were no plant species recorded on Third Schedule applying to non-native species subject to restrictions under Regulations 49 of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 within the proposed development site or its immediate environs.

The potential spread of invasive, non-native species has been identified as a pathway for the transmission of impacts affecting Annex I habitats and Annex species listed as qualifying interests of the Lough Ree SAC.

The requirement for fill material or machinery employed within the site during the construction phase may potentially result in the importation of non-native species, both aquatic and terrestrial. Plants and pathogens can be transported with the machinery and equipment. Stringent and robust mitigation measures are proposed for the avoidance of impacts affecting water quality during the proposed development construction in order to protect the Annex I habitats Annex species. Machinery should always be cleaned before entering the site to avoid transport of alien invasive species.

5.5.3 Disturbance to fauna

Localised, minor earthworks and excavation works required during the project construction phase will occur on existing built land habitats and small areas of semi-natural grassland, both of which are low in biodiversity. These habitats are unsuitable to support important breeding or resting habitats for fauna. Therefore, the proposed development is unlikely to contribute direct impacts to fauna. The construction works may lead to temporary indirect disturbance impacts to fauna using the site for commuting purposes or foraging. Such impacts are considered to be indirect, temporary and imperceptible.

5.5.4 Avifauna

The ecological surveys carried out at the site have established that the proposed development site supports a bird community characterised by small passerine and some corvid species typical of open farmland and areas of woodland and scrub. The proposed development will require localised earthworks, predominantly on existing built land habitats and small areas of semi-natural grassland. The field boundaries on the site are generally of low to moderate value for nesting, roosting and feeding passerine birds. There are managed hedgerows along some of the site boundary that are sparce in places and therefore would not provide adequate shelter for nesting birds. The proposed construction works will temporarily make the site relatively unattractive for many of the small passerine species currently using it.

Most birds recorded at the site were small passerine species, predominantly active in the hedgerows, scrub, treelines and semi-natural woodland. Some larger corvid species were recorded in the surround area mostly interacting with the areas of improved agricultural land. Other waterfowl and aquatic bird species were recorded near the site on Lough Ree. The bird community recorded at the site is likely to continue to breed in areas that adjoin or are closely adjacent to the proposed development site. The number and diversity of the bird species associated with the site is moderate. No Red-listed bird species were recorded on-site.

The construction activities will be largely confined to daylight hours only and no broadcast floodlighting will be required at any stage of the development. This will help contain the potential disturbance to birds occurring within and close the site.

5.5.5 Bats

The linear treelines and hedgerows within and on the periphery of proposed development site provide suitable foraging habitat for bats. No roosts were recorded onsite however roosts were recorded in close proximity to the site. Some the mature trees on-site and the built structures may be suitable roosting sites for bats however no active roosts were recorded. Therefore, potential impacts to foraging or roosting bats as a result of the proposed development are possible.

There will be no lighting of the proposed development site during the project construction. Therefore, there will be no direct or indirect impacts as a result of artificial lighting to bats within the proposed development site and the surrounding locality.

5.5.6 Badgers

The site walkover survey identified possible badger activity within the proposed development site. No setts or other evidence of breeding was identified within the proposed project area. Badger was recorded in the NBDC 2km grid square 'N05E' (NBDC, 2023). It is likely that the proposed development site and its wider surrounds provide suitable foraging and commuting habitat for badgers. These habitats are not likely to be impacted by the construction, and any potential impacts will be temporary and minor impacts at the local scale.

The availability of suitable foraging and commuting habitats in those lands surrounding the proposed development site are likely to offset any impacts realised to badger over the short term. In addition, foraging potential will remain within the proposed development site along the site margins and field boundaries.

5.5.7 Receiving and downstream watercourses

There is potential for a range of pollutants (petrol, diesel and oils from machinery) to enter watercourses during the construction of the development, and this may have a significant impact on the habitats and species downstream during the following operations:

- Excavation and soil disturbance.
- Associated construction works.
- Storage of materials on-site.

In consideration of the site location, site layout and existing topography at the proposed site, the primary potential water pollution receptor is Lough Ree which border the proposed site. Potential secondary water pollution receptors are considered is the River Shannon (EPA Code: 26S02) and the various other waterbodies downstream. No other receptors such as turloughs or sinkholes were identified or are mapped within or in the immediate the vicinity of the site.

Construction phase activities have the potential to contribute surface water impacts to the receiving and surrounding environment, in the absence of mitigation. Such impacts include the risk of pollution from fuel spillages, oil leakages, release of particulate matter and other accidents with potential to lead to serious impacts causing the contamination of surface water run-off and the degradation of water quality in the vicinity of the site, consequently impacting the habitats and species present in any affected waterbody.

Without mitigation, the stripping of vegetation, ground disturbance and storage of stripped soils and aggregates near watercourses or their contributory drainage channels, increases the risk of material being washed into watercourses during periods of heavy and prolonged rainfall or flood events, with potential impacts on water quality through increased turbidity levels and sedimentation, as well as the potential mobilisation of a variety of substances that may be contained within the soils. Construction operations also have the potential to cause alterations to localised groundwater levels and surface water flows through extraction activities, dewatering and discharge of water.

5.6 Potential Adverse Effects & Proposed Mitigation

Lough Ree SAC (000440)

Conservation objectives:
Generic CO's: *To maintain or restore the favourable conservation condition of the habitats and species listed as Qualifying Interests for this SAC.*

Lough Ree SAC (000440)		
Qualifying Interest(s)	**Potential Adverse Effect**	**Mitigation**
[3150] Natural Eutrophic Lakes	This habitat has been recorded within 5km of the site. There is a downstream hydrological connection. The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Potential for hydrocarbon, sediment, and chemical build-up in the habitat	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works within 20m of the waterbody to be postponed in after/ during periods of heavy rainfall.
[6210] Orchid-rich Calcareous Grassland*	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[7110] Active Raised Bog*	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**

[7120] Degraded Raised Bog	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[7230] Alkaline Fens	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[8240] Limestone Pavement*	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[91D0] Bog Woodland*	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[91E0] Alluvial Forests*	The habitat was not observed on-site or in the vicinity of the site during the ecology walkover. Therefore, the habitat is not likely to be impacted by the proposed development.	**No mitigation necessary**
[1355] Otter (*Lutra lutra*) EU Habitats Directive: Annex II and IV Bern Convention: Annex II Protected Species: Wildlife Act	Potential for petrochemical Impacts on this species. Otters have been recorded within the 2km grid squares (NBDC, 2022). Potential otter tracks were observed onsite during the ecology walkover. It cannot be ruled out that otters may utilise the site for foraging and/or for passage between suitable foraging sites.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works within 20m of the waterbody to be postponed in after/ during periods of heavy rainfall.

Conservation objectives:

Generic CO's: *To maintain or restore the favourable conservation condition of the habitats and species listed as Qualifying Interests for this SPA*.

Lough Ree SPA (004064)		
Qualifying Interest(s)	**Potential Adverse Effect**	**Mitigation**
[A052] Teal (*Anas crecca*) Bern Convention: Annex I Birds of Conservation Concern: Amber	Teal has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted Teal have been recorded within the NBDC 10km grid square. Teal was recorded in the locality by I-WeBS in 2018/19.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A038] Whooper Swan (*Cygnus cygnus*) EU Birds Directive: Annex I Bern Convention: Annex II Birds of Conservation Concern: Amber	Whooper swans were not recorded onsite or within the vicinity of the site during the ecological walkover survey. Whooper swans have been recorded within the NBDC 10km grid square. Whooper swans were recorded in the locality by I-WeBS in 2018/19.	**Precautionary Measures**: Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A056] Shoveler (*Anas clypeata*) Bern Convention: Annex III Birds of Conservation Concern: Red	Shovelers have not been recorded onsite or within the vicinity of the site. This species was not observed on-site, and no signs of activity were noted Shovelers have been recorded within the NBDC 10km grid square.	**Precautionary Measures**: Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A999] Wetlands and Waterbirds	Wetland habitat and suitable habitats for waterbirds were recorded on-site and within close proximity of the site. There is potential for these habitats and bird species to be impacted by the proposed works in the absence of mitigation.	**Precautionary Measures**: Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.

[A004] Little Grebe (*Tachybaptus ruficollis*) Bern Convention: Annex II Birds of Conservation Concern: Amber	Little Grebe not recorded onsite or within the vicinity of the site during the ecological walkover survey. The species has been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A050] Wigeon (*Anas penelope*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Red	Wigeon has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Wigeon have been recorded within the NBDC 10km grid square. Wigeon was recorded in the locality by I-WeBS in 2018/19.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A053] Mallard (*Anas platyrhynchos*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Amber	Mallard has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Mallard have been recorded within the NBDC 10km grid square. Mallard was recorded in the locality by I-WeBS in 2018/19.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A061] Tufted Duck (*Aythya fuligula*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Amber	Tufted duck has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Tufted duck has been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A065] Common Scoter (*Melanitta nigra*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Red	Common scoter has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Common scoter has been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.

[A067] Goldeneye (*Bucephala clangula*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Amber	Goldeneye has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Goldeneye have been recorded within the NBDC 10km grid square. Goldeneye was recorded in the locality by I-WeBS in 2018/19.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A125] Coot (*Fulica atra*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Amber	Goldeneye has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Goldeneye have been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A140] Golden Plover (*Pluvialis apricaria*) EU Birds Directive: Annex I, II & III Bern Convention: Annex III Birds of Conservation Concern: Red	Golden Plover has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Golden Plover have been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A142] Lapwing (*Vanellus vanellus*) EU Birds Directive: Annex II Bern Convention: Annex III Birds of Conservation Concern: Red	Lapwing has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Lapwing have been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.
[A193] Common Tern (*Sterna hirundo*) EU Birds Directive: Annex I Bern Convention: Annex II Birds of Conservation Concern: Amber	Common Tern has not recorded onsite or within the vicinity of the site during the ecological walkover survey. This species was not observed on-site, and no signs of activity were noted. Common Tern have been recorded within the NBDC 10km grid square.	**Precautionary Measures:** Water quality measures including silt and sediment control and control of use of fertilisers, chemicals. Any works near watercourses to be carried out in dry weather to prevent siltation and run off.

5.7 Summary of potential Impacts

The assessment of the potential for adverse effects on the qualifying interests of the Lough Ree SAC and Lough Ree SPA using the source -pathway-receptor model, identified qualifying interests at risk of potential adverse effects associated with the proposed development works in the absence of any mitigation measures.

There is a physical and surface water pathway connection that exists between the proposed development and the Lough Ree SAC. During the construction phase, contaminated surface water runoff and/or an accidental spillage or a pollution event into the relevant water courses has the potential to have a significant negative effect on the water quality. The effects of frequent and/or prolonged pollution events in a river system can be extensive and far-reaching and can have significant long-term effects.

The proposed works, unless adequately mitigated, could potentially negatively impact the Qualifying Interest of the Lough Ree SAC and Lough Ree SPA. In light of this, it cannot be concluded with certainty that no adverse effects will result from this project (in the absence of suitable mitigation measures).

All proposed developments considered in the Zone of Influence of the proposed development are subject to the statutory planning process and where required are accompanied by the requisite planning and environmental assessment documentation, including Appropriate Assessment, Ecological Impact Assessment. To that end, other projects, programmes and plans within the project zone of influence have been developed under the consideration of potential impacts and effects to their receiving and surrounding environment and are tasked with avoiding and minimising such impacts, through the Appropriate Assessment and Environmental Impact Assessment processes.

Provided that the overarching policies, objectives, best practice and mitigation measures are adhered to, there is no potential for the mentioned plans and projects to have a cumulative impact to features of biodiversity interest, in combination with the proposed development.

Section 6: PROTECTIVE MITIGATION MEASURES

This section presents the mitigation measures that will be implemented during construction and operation of the proposed development to avoid or reduce the potential impacts of the proposed development on the Lough Ree SAC and SPA.

All of the mitigation measures will be implemented in full and are best practice, tried and tested, effective control measures to protect the receiving environment.

6.1 Design Phase Mitigation

As part of proposed development, sensitive habitats will be avoided where possible. This includes treelines, hedgerows, and avoidance of the shoreline. Protection of existing watercourses is a priority and therefore a ≥10 m ecological exclusion zone is incorporated into the project design. In addition to the exclusion zone, existing treelines and hedgerows will be preserved where possible by the Proposed Development works.

Construction Phase

- Stripping of overburden material where the extension to the dwelling is intended to be erected.
- Potential stripping of overburden material within the construction compound, kept to the very minimum, to create an access route to the development site.
- Stockpiling of overburden material (sub-soils, gravel, etc.).
- Excavation works for construction of fencing, cables and possible septic tank upgrading.
- Stockpiling of specific building materials (sand, cement, etc).
- Construction equipment on-site (fuel leaks, etc).
- Storage of fuel on-site.
- Vibration, from the machinery (Piling equipment).
- Soil disturbance related to the removal of non-native trees & replanting.

Post-construction Phase

- Human activity and presence.
- Possible maintenance and renovation.

6.2 Construction Phase Mitigation

6.2.1 Silt Fences

Prior to undertaking any site development works silt fences will be installed along the southwest boundary of the site, following the lake shoreline. This will prevent any silt laden waters entering the lake. The silt fences shall remain in place until the site has been fully landscaped and the risk of silt laden run-off is minimised. Trapped silt will be spread on-site prior to any landscaping or grass seeding.

The contractor shall be required to provide a construction method statement that shall detail its particular specification and methodology for installation and management of silt fences. In general silt fences will be in accordance with the recommendations of CIRIA C532.

Silt fences that require replacement will be removed and temporarily stored in the designated storage area for disposal. On-going inspection of silt fences will be carried out for the duration of the construction phase to ensure that the silt fences and are cleared out and replaced if required.

6.2.2 Construction Compound and Designated Storage Areas

A designated area for the storage of building materials (sand, cement, additives, etc.), plant machinery and for delivery of materials and fuel shall be established northeast of the existing dwelling.

The location of the storage area is proposed as it offers the furthest location from Lough Ree and it also allows for easy access to the proposed development sit, minimising the disturbance on the sloped land close to the lake. It is also proposed to utilise this area if required for the temporary stockpiling of any overburden sub-soil material, these materials will be categorised into designated areas. By stock-piling materials at this location because in the times of high rainfall the risk of heavy siltation into the lake.

The existing dwelling is already connected to the drinking water system and electricity which can be used during the construction phase where possible.

6.2.3 Inspection

In advance of construction commencing the pollution preventative measures detailed above will be assessed and approved by a person appointed by the client. This person shall have overall responsibility for implementation of environmental protection measures. On appointment and prior to commencement of construction works the name and contact details for this person shall be supplied to Longford County Council.

6.2.4 Access Route and Watercourse Crossings

Existing public roads and driveway within the site will be used to access the development area throughout the construction phase. No new internal tracks will be excavated. Mitigation measures as discussed above in Section 6.2.1 will be in place prior to any construction commencing on the site and are to be maintained throughout the duration of the construction phase at the site.

6.2.6 Dust Minimisation

- Overburden material shall only be stockpiled within a designated area, detailed above in Section 6.2.2 that is located at the northern boundary of the site, the furthest point from the Lough Ree shoreline. Separate stockpiles will be designated for different materials.
- Stripped overburden material that is to be temporary stored within the construction compound shall be stockpiled to no more than 2 m in height, to ensure anaerobic conditions do not occur and that the soil will remain fertile and capable of being re-seeded. All stockpiles on site will be covered with a waterproof cover to prevent mobilisation of the stockpile material.
- Building materials (sand, etc) shall only be stockpiled within the designated area in the northeast section of the site. Stored building materials (except blocks, bricks, etc) will be provided with waterproof covers when not being used.
- No concrete production will take place on-site due to the sensitivity of the waterbody bordering the site. Concrete will be supplied to the site using ready mix lorries. No washing down of lorries or any other construction vehicles shall take place on-site.

- Where possible, concrete will be carefully placed by the use of a hydraulic pump to minimise the risk of concrete spillages. The ends of pump hoses will be secured during concreting to prevent the discharge hose accidentally depositing concrete away from the pour site.
- The delivery point for concrete will be within designated area. This will prevent potential concrete spillage from truck mixers contaminating the ground and leaching out into the groundwater. Compressors or generators used for connecting operations will be fitted with drip trays to collect fuel and oil spills that might otherwise contaminate the groundwater and lead to pollution of the watercourses.
- Concrete delivery vehicles will be precluded from washing out at or in the environs of the site, or at such location as would result in a discharge to surface waters.

6.2.7 Control of Noise

Environmental Noise arising from activities on site will be controlled in accordance with the requirements of British Standard BS5228.

The following noise control measures for generated noise shall be implemented during the construction works:

- The hours of construction will be subject to the requirements and prior agreement with Longford County Council.
- All contractors will ensure that the plant and construction methods employed are the quietest available for the required purpose insofar as practicable.
- All contractor vehicles will use existing site access roads and construction compound area.
- Engines, vehicles and equipment will be switched off when not in use.
- Machinery having rotating parts will be serviced according to supplier recommendations to prevent friction induced sound.
- Materials should be lowered, not dropped, insofar as practicable and safely.

6.2.8 Protection of Soil, Surface Waters and Groundwater

- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers in order to prevent accidental spillage.
- All liquid and hazardous material will be stored in a designated and temporarily bunded area with appropriate signage in order to prevent accidental spillage. The temporary bunded area shall be located within the designated storage area located in the northern area of the site.
- There will be no discharge of effluent to groundwater or surface water during the construction phase. All wastewater from the construction facilities will be stored before removal off site for disposal and treatment - temporary portable toilet facilities only shall be used at the site.
- Spill kits will be provided in areas where liquids are stored and refuelling area.
- Contractors will be responsible for ensuring the regular maintenance of construction plant and equipment, to prevent leaks.
- A wheel wash system shall be provided at the site exit location. The wheel wash shall be a self-contained or recycling type system and will not require any wash waters to be discharged to receiving water bodies at the site. All sludge collected within the wheel wash facility shall be removed disposed off-site to a suitable licenced facility. Disposal of the sludge collected will be in in accordance with the requirements of the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.
- All mobile equipment brought to site shall be thoroughly power washed and cleaned prior to arrival at site to avoid transport of alien invasive species.

6.2.9 Flora and Fauna

There shall be on-going monitoring of wildlife in the vicinity of the construction site and any unusual species, dead species or damaged habitats should be reported immediately to the Construction Manager and/or Environmental Officer. This will be co-ordinated with the appointed Ecologist for the project who will be responsible for the ecological monitoring on-site. Where unexpected ecological habitats are uncovered the habitats protection protocol will be adhered to by site contractors.

Protection Protocol

This protocol is designed to ensure that ALL persons working on the construction site are fully aware of their legal obligations under the Wildlife Act 1976, as amended. This Act affords protection to a range of wildlife in Ireland including wild birds, animals and plants. Where a project has received permission to proceed, this does not override certain laws that prevent wilful harm to protected species.

- A minimum of 10 metres will be maintained between all construction works and the lake shoreline where possible.
- Weather conditions shall be considered during the construction phase. Works may need to be halted during or following periods of heavy rain or other conditions likely to lead to large-scale or additional water flow that would carry soil or silt into the lake.
- All wild birds and their eggs, nests and young, with the exception of certain species, are protected under the Wildlife Acts. Certain animals including all bat species. Areas of the site found containing nests will be cordoned off to a distance of 20 metres where possible from any nests and all plant and construction will remain outside of this cordon until the young have fledged (left the nest entirely). The 20-metre radius will be centred on the nest site and each nest would be protected by an equivalent circle. All other areas are safe for operations. When a 20m buffer zone around active birds' nests is not possible due to construction works, alternative mitigation and guidelines will be adopted.
- Surveys of the area have already been carried out to locate where protected species may be living.
- Contractors may discover bat roosts and if any bats are found the works must halt and the NPWS contacted.

Procedure for Protection of Potential Bat Roosts

Whilst no bat roosts were found, there is a chance that bats could occupy roosts prior to the commencement of works. If bat roosts or bats are found during site clearance, works will cease, and the National Parks and Wildlife Service (NPWS) will be contacted to avoid an offence being committed by disturbing a bat roost.

Works will be suspended if bats are found to avoid further risk of direct harm to bats. Landscaping with native species within the project location is suggested. This vegetation will be planted to maintain the nutrient quality of the soil and manage weed growth. Please refer to the relevant planning drawings for further details on the proposed planting scheme and species to be used. The project location will be returned to its original or future anticipated land use after decommissioning.

6.2.10 Refuelling

- Construction plant and equipment shall only be parked over-night within the northeast area of the site. Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Fuel will not be stored on-site for the duration of the construction phase. Fuel will only be brought to site via mobile fuel bowser. For any liquid other than water, this shall include storage in suitable tanks and containers which shall be housed in the designated area.
- Where contractors are required to refuel vehicles on-site, this will be carried out at the designated refuelling location by competent personnel. All refuelling areas will be on areas of hard standing at designated areas agreed by an appropriately qualified person.
- The local authority shall be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase.
- All small plant such as generators and pumps will be stood in drip trays capable of holding 110% of their tank contents.
- All small plant will be positioned as far as practicable from the watercourses.
- Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with requirements of the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.

6.2.11 Site Tidiness, Construction Generated Waste & Housekeeping

- Construction works will be carried out according to a defined schedule agreed with the client and the relevant contractors, with regard to the hours of work outlined above. Any delays or extensions required will be notified at the earliest opportunity to the client and contractors.
- Materials will be appropriately categorised and be disposed of at a licensed waste/recycling facility.
- The cabling required is supplied on wooden drums that are returned to the supplier.
- The material generated from constructing the panel arrays is to be recycled and will only be temporarily stored within the construction compound for disposal. It will generally be transported to a licenced recycling facility on the same day as installation. Materials will be appropriately categorised and be disposed of at a licensed waste/recycling facility.
- Contractors will ensure that road edges and footpaths are swept on a regular basis, this includes the local roadway adjacent to the northern boundary of the proposed development site, a road sweeper will be deployed if required.
- A wheel wash system will be located at the entrance of the site as discussed above.
- All contractors shall be responsible for the clearance of their plant, equipment and any temporary buildings upon completion of construction. The site will be left in a safe condition.
- All mobile equipment brought to site shall be thoroughly power washed and cleaned prior to arrival at site to avoid transport of alien invasive species.

6.2.12 Wastewater Management Plan

The expected uses of water during the construction phase are for the following purposes.

- Welfare use, maximum of 15 to 20 employees on the site at any one time.
- Wheel washing purposes.

It is not proposed to have a permanent toilet or WC facility on the premises. However, for the duration of the construction phase, portable WC units or portable WC cabins will be in place within the construction compound for welfare use. These portable units or portable cabins will be self-contained and will be maintain on a weekly basis by an external licenced contractor.

Disposal of wastewater from any portable WC unit or portable WC cabin will be the responsibility of the external licenced contractor. There will be no discharge of effluent to groundwater or surface water during the construction phase. All wastewater from the construction facilities will be stored before removal off site for disposal and treatment. Disposal of the wastewater collected will be in accordance with the requirements of the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a suitable licensed waste facility.

The details of the contractor who will be responsible for the removal of wastewater from the proposed development site will be provided to Longford County Council on request.

The wheel wash system shall be provided at the main site exit location. The wheel wash shall be a self-contained or recycling type system and will not require any wash waters to be discharged to receiving water bodies at the site. All sludge collected within the wheel wash facility shall be removed and disposed off-site to a suitable licenced facility. Disposal of the sludge collected will be in accordance with the requirements of the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.

Section 7: RESIDUAL EFFECT

After assessing the impacts of the proposed project all attempts should be made to avoid and mitigate ecological impacts. The proposed development will not result in any loss or fragmentation of habitats for which the Lough Ree SAC or Lough Ree SPA are designated.

Significant negative impacts on key Qualifying Interests could have a negative impact on the integrity and Conservation Objectives of the relevant Natura 2000 site(s) (i.e., Lough Ree SAC and SPA).

The NIS has examined and analysed in the light of the best scientific knowledge, the potential source-receptor pathways and how these could impact on the designated site's conservation objectives, in order to make an educated assessment on whether or not these impacts are likely to adversely affect the integrity of the European site(s).

Provided that the recommended mitigation measures set out in **Sections 6** are implemented in full, it is not expected that significant impacts will result to the qualifying features identified for appraisal in this NIS and thus it is not expected that the proposed works will have an adverse impact on the integrity of the relevant Natura 2000 site(s).

Upon completion of all mitigation measures there is little concern for any significant residual effects for the Lough Ree SAC and Lough Ree SPA from the proposed works.

There is no other European site(s) at risk of effects from the proposed development. It has been objectively concluded, following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impact from the proposed development, that the proposed development will not adversely affect (either directly or indirectly) the integrity of the Lough Ree SAC and Lough Ree SPA or any other European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

Section 8: IN-COMBINATION EFFECT

The proposed development was considered in combination with other plans and projects in the locality that could result in cumulative / in-combination effects on European Sites.

8.1 County Development Plan

The new Longford County Development Plan for the period 2021-2027 came into effect on the 20th of November 2021. The purpose of the Development Plan is to guide the future development of the county. Currently, the following sections of Longford County Council Development Plan 2021-2027 apply:

12 Natural Heritage and Environment

12.2.1 Planning and Development Act 2000(as amended)

Development Plans must include mandatory objectives for the conservation of the natural heritage and for the conservation of European sites and any other sites which may be prescribed.

12.2.2 EU Birds and Habitats Directives (The Habitats Directive)

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as 'The Habitats Directive', provides legal protection for habitats and species of European importance. It protects habitats and species of community interest through the establishment and conservation of an EU-wide network of sites, known as Natura 2000; Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The Habitats Directive sets out decision-making tests for plans and projects likely to affect European Sites and establishes the requirement for Appropriate Assessment (AA).

12.2.3 Wildlife Act 1976, (as amended)

The Wildlife Act 1976, as amended is the principal national legislation providing for the protection of wildlife and the control of some activities which may adversely affect wildlife.

12.2.4 Flora (Protection) Order, 2015

This sets out the current list of plant species protected by Section 21 of the Wildlife Act, 1976, as amended.

8.2 Cumulative Impact Assessment

In-combination and cumulative impacts of the project and plans within the project Zone of Influence are considered below.

The proposed development was considered in combination with other plans and projects in the locality that could result in cumulative/in-combination effects on the relevant European Site(s). Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated within an area or location.

Cumulative effects can occur where a proposed development results in impacts that when considered in-combination with impacts caused by other proposed or permitted projects and plans may result in a cumulative effect. Plans or Projects Which Might Act in Combination Article 6(3) of the Habitats Directive requires that, any plan or project not directly connected with or necessary to the management of the European site(s) but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site(s) in view of the site's conservation objectives.

A search of the Longford, Roscommon and Westmeath County Council planning enquiry systems (https://www.eplanning.ie), was carried out in March 2023. Finalised applications lodged within the vicinity of the proposed development within the last 5 years were examined. Planning applications within the last 5 years in the locality of the proposed development site consisted primarily of applications for alterations and extensions to existing buildings, along with the construction of a windfarm development and other major projects (**See Table 8.1**).

In-combination and cumulative impacts of the project and plans within the project Zone of Influence are considered in **Table 8.1** below.

Table 8.1: In-combination Assessment with regards to the proposed development.

File Number	Application Status	Decision Code	Development Address	Development Description
22265	Application finalised	Conditional	Drumnee, Newtowncashel, Co Longford	Proposed construction of toilet facilities to service existing gun club together with installation of a suitable sewerage treatment system with polishing filter to service same, erection of lighting poles with lighting and all ancillary works.
2155	Application finalised	Conditional	Claras Td, Newtowncashel, Co Longford	To erect new dwelling house, provide a new sewerage system and a treatment plant, to provide secondary and tertiary treatment, and all associated works.
21178	Application finalised	Conditional	Barley Harbour, Newtowncashel, Co Longford	Proposed extension and alterations to existing cottage together with associated adjustments to site finishes and drainage. The application includes a Natural Impact Statement.
22168	Application finalised	Conditional	Pollagh, Newtowncashel, Co. Longford	To erect a 5-bay double dry shed to include loose creep area, feeding passage, roofed dung-stead, concrete apron to front and all associated works.
20291	Application finalised	Conditional	Abha na gCarad, Derrynabuntale, Ballymahon, Co. Longford	For a development to consist of a single storey extension (35sqm) to the west side and partially north of the house.
2149	Application finalised	Conditional	Hillquarter, Coosan, Athlone, Co Westmeath	1) Change of use of existing domestic garage to habitable space 2) Construction of first floor extension 3) Increase in ridge height to that of existing dwelling house 4) Alterations to all elevations, all of the aforementioned together with all associated site works.
207164	Application finalised	Conditional	Hillquarter, Coosan, Athlone, Co Westmeath	Reconstruction and extension to house and extension to garage. The development will include decommissioning of the existing septic tank and construction of packaged wastewater treatment system and polishing filter.
21474	Application finalised	Conditional	Lough Ree Yacht Club, Hillquarter, Meehanquarter, Coosan, Athlone, Co Westmeath	Extension of 64.13sqm to clubhouse to include a chair store, kitchen store and office, relocation of gas storage compound and construction of open-sided boat shelter building of 164.15sqm, the expansion of internal circulation road within the site and all ancillary works.
207050	Application finalised	Conditional	Ballaghkeeran Big, Athlone, Co Westmeath	Conversion of an existing garage and utility into a new bedroom and ensuite; proposed new front and rear extensions to an existing dwelling; alterations to the internal layout and external envelope of an existing dwelling and all associated site development works. A Natura Impact Statement (NIS) accompanies this application.
197265	Application finalised	Conditional	Portaneena, Glasson, Co Westmeath	Construction of a two-storey wellness phase in the form of a two-storey extension to the existing building (and including small plant room

				and yard at basement level). The extension will contain reception, changing, waiting area and small treatment rooms and small balcony at first floor plus relaxation area and a small pool at ground floor plus change of existing store to changing area, together with associated alterations to existing building, external ground finishes, and connections to existing underground services together with the addition of new small balcony area serving existing first-floor bedrooms. The application also includes the removal of existing small relaxation room at existing ground floor corridor and the construction of two infill bedrooms in existing gap space (one at ground floor and one at first floor thereover). A Natura Impact Assessment has been prepared in respect of the proposed development.
231	Decision made	Conditional	Edgewater Farm, Portnahinch, Co. Roscommon	Permission for a larger front porch one, demolition of porch two and rear kitchen, new rear extension comprising a kitchen, dining, living and bedroom with alterations to the existing cottage, a wastewater treatment system with a secondary raised tertiary treatment system to EPA 2021 Code of Practice and associated site works.
21553	Application finalised	Conditional	Killoy, Lecarrow, Co Roscommon	Permission to construct domestic garage / store for general storage of sailing / motorboats, motor home, fuel and garden equipment, associated site works and services.
02867	Application finalised	Conditional	Barrymore Townland, Athlone, Co. Roscommon.	For a new single storey extension to existing breakfast room at front of hotel and a new single-storey extension to existing staff canteen at rear of existing Hodson Bay and ancillary works.
21553	Application finalised	Conditional	Glasson Lakehouse Hotel, Killinure North, Killinure South, Ballinlough, Co Westmeath	a) The reprofiling of site levels to south of hotel so as to create landscaped grassed terraces with interconnecting steps, b) a lit pathway for hotel residents to and from the lake shore to replace present pathway alongside driving range, c) 5 no. glazed doors on the south elevation of the hotel building, d) miscellaneous alterations, amendments and refurbishments to the hotel buildings, both internally and externally, e) excavation and removal of soil to the south of hotel and filling with gravel for proposed banqueting room, f) retention of 1 no. prototype of eco-cabin, 35 sqm in size to the north side of hotel linked to the existing drainage system in the hotel, g) enclosure of area to north of hotel for use as a paddock for farm animals, presently containing two concrete bases for chicken coops, a further concrete base, 10 x 4 metres to support an animal shelter, to be open on one side, h) a prefabricated timber structure, 57 sqm in size, beside the car park for use as golf club reception and administration. I) an outdoor heated swimming pool 12m x 6m located to south of hotel. j) a barbeque pavilion, 197 sqm meter in extent. k) a children's play frame to north of the

				hotel. l) a children's play pond to the south of the hotel and m) provision of bicycle shelter. These works are subject to screening for Appropriate Assessment. Permission is sought for 1) the demolition of 2 no. service sheds to the north-west of the hotel building and their replacement by overflow parking on "grass-crete" surface. 2) alterations to the roof profiles of the bedroom blocks to create a setback penthouse with balconies. 3) the addition of small balconies. 3) the addition of small balconies to some first-floor bedrooms, north and south and double door openings in the ground floor bedrooms. 4) an extension at first floor level to the north of Killinure House to provide seven additional bedrooms, five of which will have a set-back terrace. 5) elevation changes to entrance lobby and cinema on the north and west facades, 6) the construction of a two-storey timber and stonework clad gymnasium, with single storey link to the western bedroom block, and with first floor terrace and ground level terrace with swimming pool. 7) the construction of a single storey banqueting room containing rooflights, external access steps and terrace. *Please view scanned documents Application Part B to view the full development description. *
2262	Appealed	Conditional	Barrymore Townland, Hodson Bay, Kiltoom, Athlone, Co. Roscommon	Permission for development consisting of the following recreational facilities: Part A. Landside installations details of which are outlined below: 1. 2 No. marquees for use as a reception and wet suit distribution, measuring 9m X 9m X 6.6m high and 21m X 15m X 7.8M high; 2. 1 No. 9m X 9m X 3.8m high disabled changing marquee; 3. 1 No. 9m X 9m X 4.7m high safety briefing marquee; 4. 9 No. 12m X 6m X 3.3m high changing marquees; 5. 3 No. 12m X 15M X 5m high marquees for use as a customer observation area, a dining area and a gift shop; 6. 1 No. 4m X 8m X 3.7m high café marquee; 7. 2 No. 3m X 6m X 3m high prefabricated office buildings; 8. Outdoor showers 5m X 6m; 9. Realignment of existing fencing. All the marquees will be coloured white. The proposed development includes all ancillary and enabling site works. The changing rooms and coffee shop will be connected by gravity to existing public sewerage. Part B. Waterside Installations, details of which are outlined below: 1. Main waterpark consisting of inflatable platforms, slides and climbing walls with overall dimensions of 35m X 40m X 8m high; 2. Inflatable junior waterpark measuring 8m X 15m X 5.2 high; 3. No. 1 inflatable water slide measuring 15m X 12m X 12m high; 4. No. 1 inflatable water slide measuring 31m x 22m x 16m high; 5. No. 1 inflatable water slide measuring 20m X 8m X 13m high; 6. No. 1 inflatable water slide measuring 32m X 16m X 13m high; 7. 50 No. cylindrical shaped inflatable

				safety booms 4m by .4m diameter. All of the above installations are inflatable PVC structures which are permanently fixed to the lakebed using ropes and anchors. Proposed Operation Periods: It is intended that the overall facility will be operational annually between the 15th of March and the 15th of October. The facility will operate during daylight hours only and will not operate past 21:00 hours on any day (a Natura Impact Statement (NIS) will be submitted to the Planning Authority with the planning application)

8.3 Summary of Cumulative Impact Assessment

There are a number of other proposed developments that have been submitted to the local planning authorities for review. Any and all projects across three counties that have the potential to result in cumulative impacts in conjunction with this proposed development project were considered. As all of the approved developments applications have been assessed by the relevant authority, it can be assumed that the projects are not resulting in likely significant effects on any designated European site(s). As it can be shown objectively that the proposed project, will not have a likely significant effect on any European site(s) it can be concluded that the proposed development will not contribute to any possible cumulative effects when considered with the other developments in the wider area.

In addition, related projects are accompanied with Appropriate Assessment Statements, which will aim to identify and mitigate potential impact sources to the relevant European Sites within the project Zone of Influence.

All proposed developments considered in the Zone of Influence of the proposed development are subject to the statutory planning process and where required are accompanied by the requisite planning and environmental assessment documentation, including Appropriate Assessment.

Therefore, other projects, programmes and plans within the project zone of influence have been developed under the consideration of potential impacts and effects to their receiving and surrounding environment and are tasked with avoiding and minimising such impacts, through the Appropriate Assessment processes.

Provided adherence to the overarching policies and objectives of the plans and programmes, best practice and mitigation measures are implemented for individual projects, there is no potential for the mentioned plans and projects to have a cumulative impact to features of biodiversity interest, in combination with the proposed development.

Section 9: NIS CONCLUSION

Article 6 of the EU Habitats Directive and Regulation 15 of the European Communities (Natural Habitats) Regulations state that any plan or project that may, either alone or in combination with other plans or projects, significantly affect a Natura 2000 site, should be the subject of an AA. Cumulative impacts can occur when proposals have an impact that combines with other plans or projects resulting in a significant impact on a Natura 2000 site. The European Commission Habitats Directive and Habitats Regulations 2011 require that the impacts on European sites be assessed for the plan or project in question and in the presence of other plans and projects that could affect the same Natura 2000 sites.

Thus, as well as singular effects, cumulative effects were also considered in relation to the proposed development. The AA Screening (See **Section 4**) found that the proposed project, in the absence of mitigation measures and in-combination with other unmitigated works, could result on significant impacts on the relevant European sites. Therefore, an NIS (presented in **Section 5**) was undertaken to ascertain whether the proposed works would have an adverse effect on the integrity of European Sites within the project ZoI. The NIS concluded that assuming the correct mitigation procedures are followed, and other development projects have been appropriately assessed, then it can be concluded that this proposed development will not result in significant negative impacts on the relevant Natura 2000 sites.

The proposed works have the potential to result in siltation, nutrient release and contaminated run-off reaching Lough Ree and thus having a negative impact hydrologically. Best practice and mitigation measures (as outlined within **Section 6**) have been identified to ensure that potential pollutant sources and disturbance effects are not released from the proposed development site to the receiving and surrounding environment such that there will be no risk of adverse effects on the Qualifying Features of European Sites within the project's ZoI.

With the implementation of construction best practice and mitigation measures, there will be no significant effects which would adversely affect the Qualifying Interests or Conservation Objectives of the relevant European Sites under consideration with regard to the favourable conservation condition of the considered habitats and species of Qualifying Interest.

The provisions of Article 6 of the 'Habitats' Directive 92/43/EC (2000) defines integrity as the 'coherence of the sites ecological structure and function, across its whole area, or the habitats, complex of habitats and/or population of species for which the site is classified'. It is clear that, given the application of prescribed protective measures for the avoidance of impacts and the implementation of the required mitigation measures, the proposed works will not give rise to adverse effects on the integrity of any of the identified European Sites evaluated herein.

It has been concluded that the development of the proposed project will not adversely affect the integrity of relevant European sites, and there is no reasonable scientific doubt in relation to this conclusion.

Section 10: DECLARATION

It can be objectively concluded that, when the above mitigation(s) are implemented, there will be no direct, indirect or in-combination effects on the Qualifying Interests of the Lough Ree SAC (000440): [3150] Natural Eutrophic Lakes, [6210] Orchid-rich Calcareous Grassland, [7110] Active Raised Bog, [7120] Degraded Raised Bog, [7230] Alkaline Fens, [8240] Limestone Pavement, [91D0] Bog Woodland, [91E0] Alluvial Forests and/or [1355] Otter (*Lutra lutra*).

In addition

It can be objectively concluded that, when the above mitigation(s) are implemented, there will be no direct, indirect or in-combination effects on the Special Conservation Objectives of the Lough Ree SPA (004064): [A004] Little Grebe (*Tachybaptus ruficollis*), [A038] Whooper Swan (*Cygnus cygnus*), [A050] Wigeon (*Anas Penelope*), [A052] Teal (*Anas crecca*), [A053] Mallard (*Anas platyrhynchos*), [A056] Shoveler (*Anas clypeata*), [A061] Tufted Duck (*Aythya fuligula*), [A067] Goldeneye (*Bucephala clangula*), [A125] Coot (*Fulica atra*), [A140] Golden Plover (*Pluvialis apricaria*), [A142] Lapwing (*Vanellus vanellus*), [A193] Common Tern (*Sterna hirundo*).

Therefore, in keeping with Regulation 42(16) of the European Communities (Birds & Natural Habitats) Regulation 2011 (as amended) & based on objective information, I/we declare that the project, either individually or in-combination with other plans or projects, will not adversely affect the integrity of any European site.

I/We declare that this Natura Impact Statement accurately reports on the scientific examination of the project within the context of any relevant Natura site(s), & on the findings of that scientific examination.

Author name(s):	**Signature:**	**Date:**
Sara Sheridan	Sara Sheridan	11/04/2023

Section 11: REFERENCES

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Section 12: APPENDICES

Appendix 1. MAPS & FIGURES

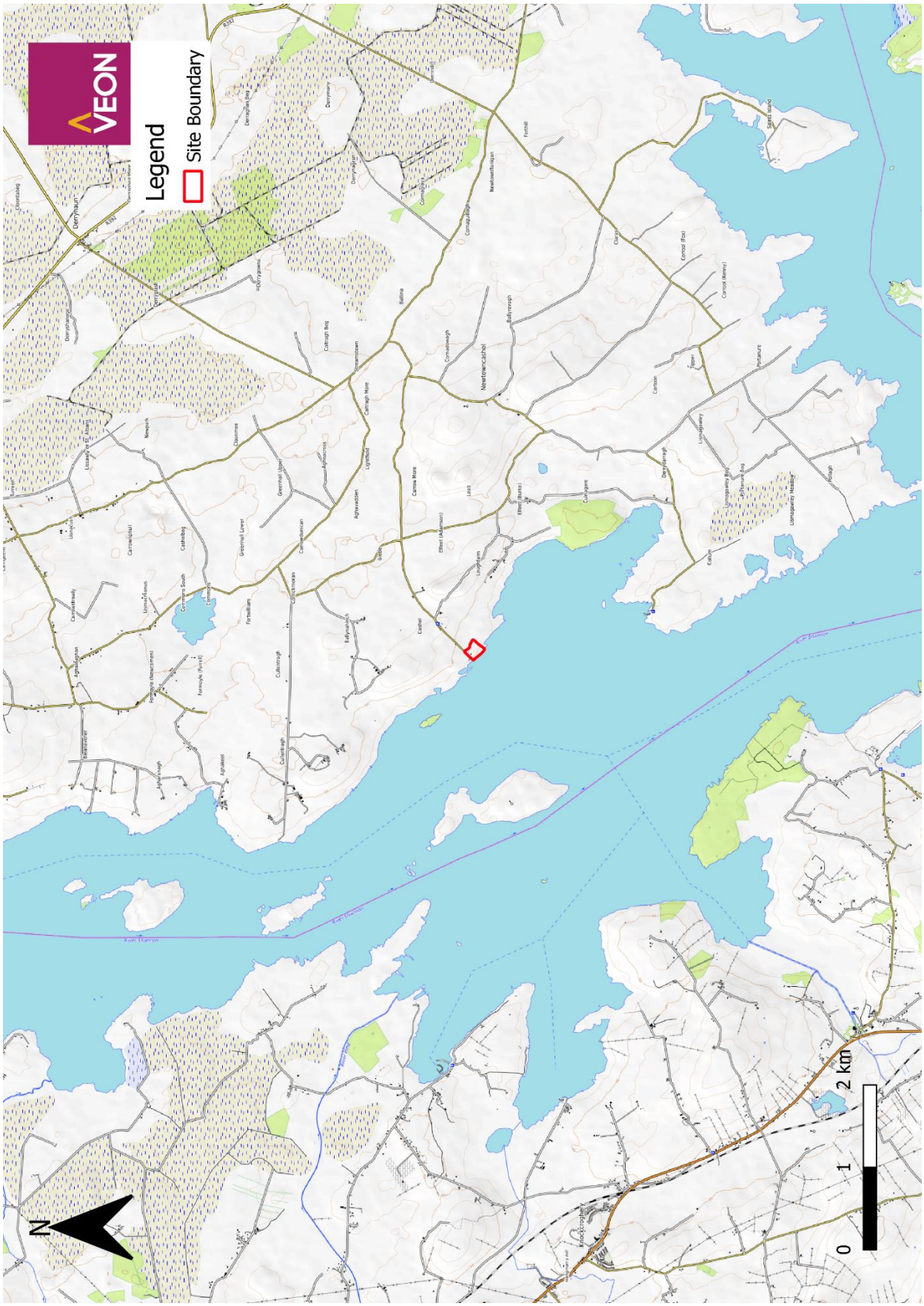

Figure 12.1: Proposed Development Site Location Map and redline boundary.

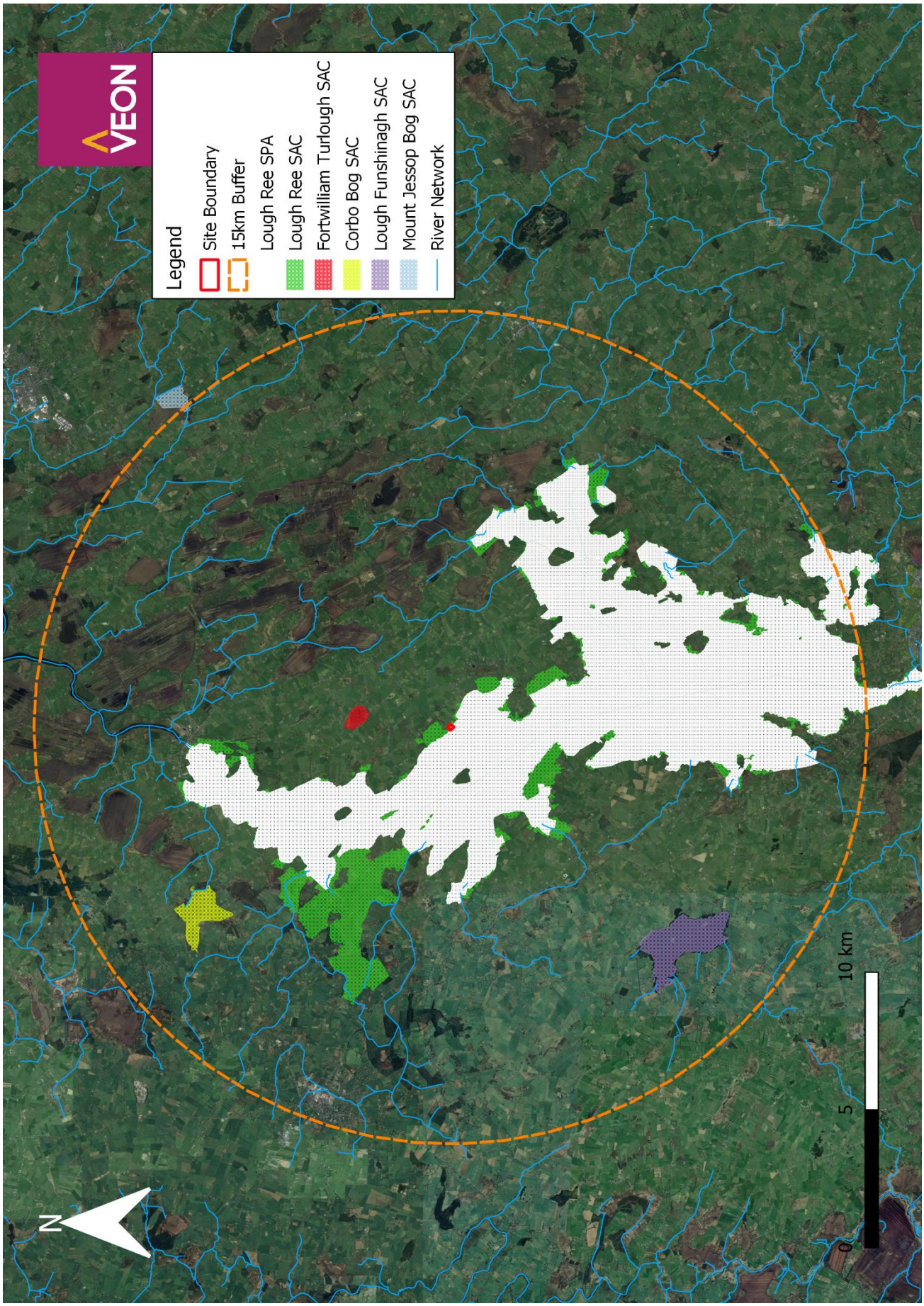

Figure 12.2: Proposed development site and relevant Natura 2000 sites.

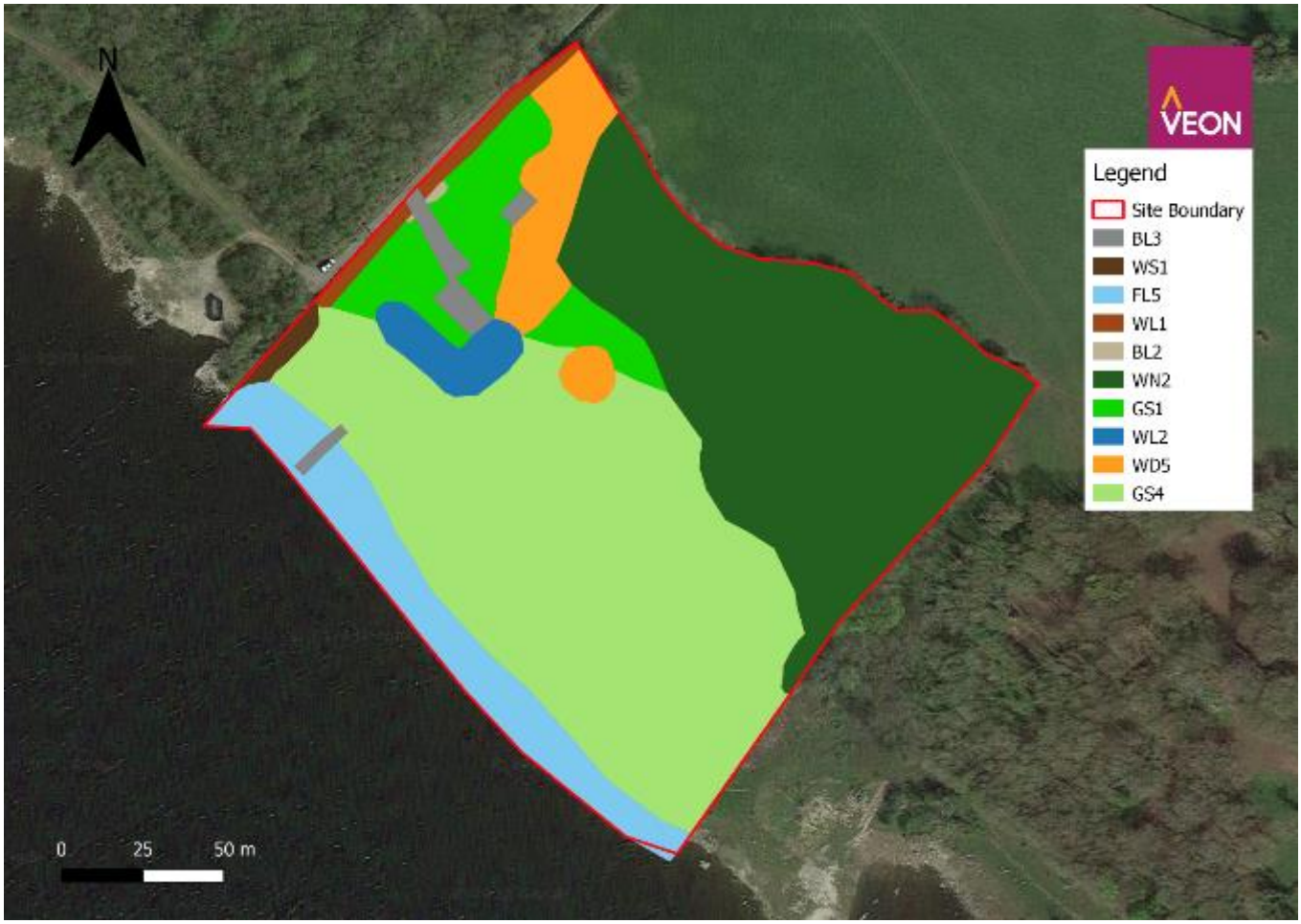

Figure 12.3: Habitat map of the site using Fossitt (2000) classifications.

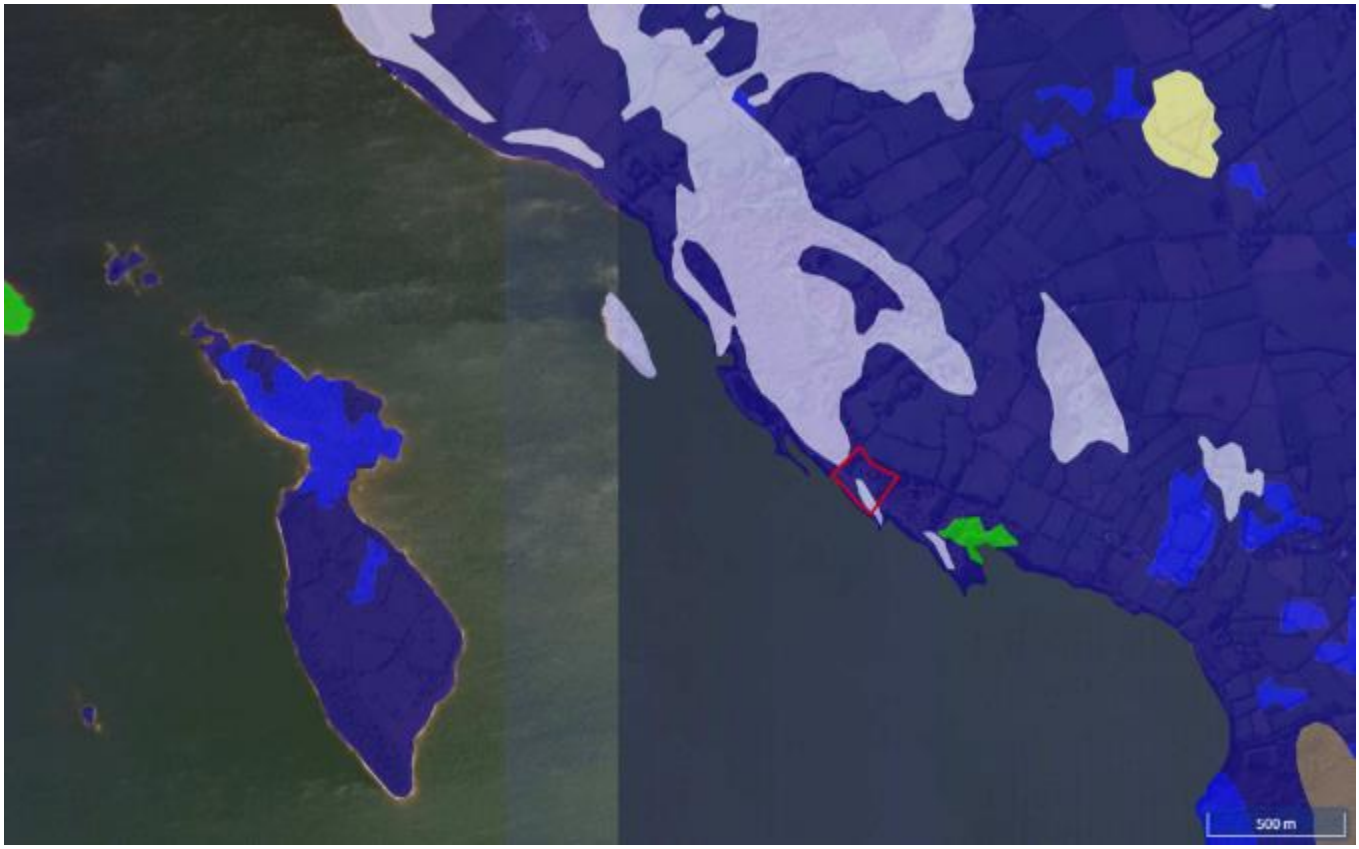

Figure 12.4: Soil Profile, National Soils (EPA, 2023).

Figure 12.5: GSI Bedrock Polygons (EPA, 2023).

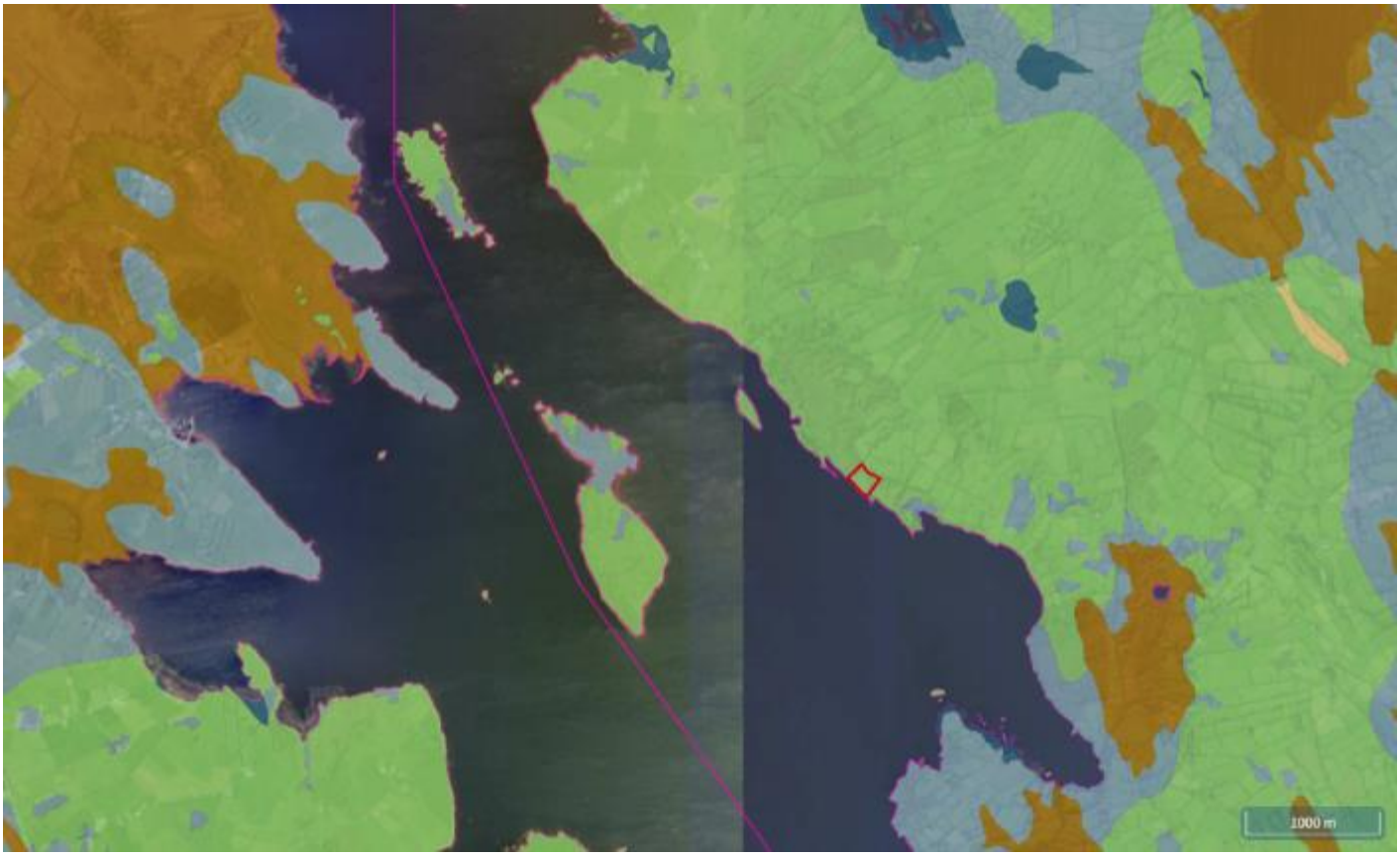

Figure 12.6: Soil hydrology (EPA, 2023).

Figure 12.7: EPA Water Value stations (EPA, 2023).

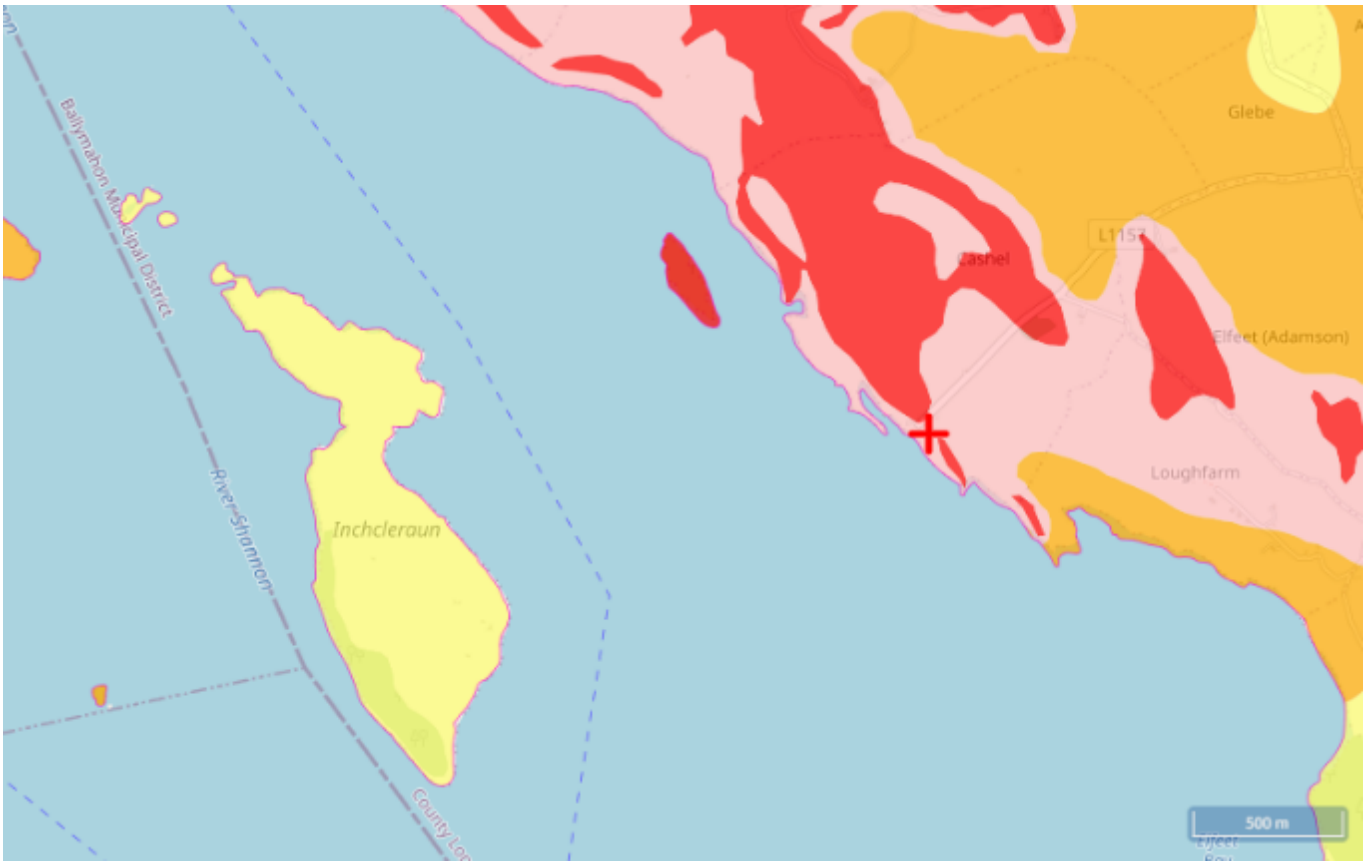

Figure 12.8: Groundwater vulnerability classes (EPA, 2023).

Appendix 2. ECOLOGICAL SURVEYS & INVESTIGATIONS

1. Introduction

An ecological field survey was completed by Daniel Connell, senior ecologist and Sara Sheridan, ecologist with Veon Ecology. A site investigation at the proposed development site located in Cashel, Newtowncashel, Co. Longford, was undertaken on the 23rd of February 2023, following best practice guidance methodologies for multi-disciplinary walkover surveys, as per the National Road Authority (NRA) (2008). Weather conditions on the day of the survey were dry and bright with a moderate breeze, favourable conditions for surveying, which was completed between the hours of 11:00 and 15:00.

The site was searched for evidence of Annex I habitats and Annex II species listed on the EU Habitats Directive (92/43/EEC). The site was also searched for the presence of invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations (2011). Findings of the surveys were used to inform this NIS and are summarised below.

The purpose of the investigation was to define the site in terms of conservation status, habitat type and general composition, to identify any Annex I habitats or Annex II species and to take cognisance of the fact that some Annex species may not be present or easily observed, and as such should identify if suitable habitat for the species is present. It may then be assumed, using the precautionary principle, that the species is potentially present on the site. Note that Annex I habitats may be defined using indicator species which may not be present at time of survey.

1.1 Objective

The Phase 1 Habitat Survey is conducted at early-stage planning and is the core element of a Preliminary Ecological Appraisal. The survey determines whether there is a requirement for additional species-specific surveys. If such a requirement exists, then an extended Phase 1/2 Habitat Survey will be conducted to encompass additional habitat preservation and/or protected species. The primary objective of the phase 1 habitat survey is to record the biodiversity and habitat types present within the site. This ecological report will be used to assess the sites potential habitat suitability for the proposed project. This report gives a summary of the biodiversity and habitat types observed and recorded during the walkover survey.

1.2 Phase One habitat Surveys

The survey identified a variety of different Macro habitat types across the proposed development site, each supporting a variety of different flora and fauna species within them. This phase one habitat and ecological report has been prepared in accordance with the current guidance (Heritage Council, 2011).

The purpose of the phase one habitat survey is to designate the site in terms of conservation status, habitat classification, and to identify any potential Annex I habitats or Annex II species present on site and/or identify the sites suitability for Annex species. Through the application of the precautionary principle, Annex I habitats may still be defined using indicator species which may not be present at the time of surveys. The results of the survey will inform the subsequent relative reports.

The following research has been carried out to inform this report:

- Ecological data search
- Phase 1 habitat survey
- Site specific Habitat mapping

1.3 Survey Methodology

A phase 1 habitat survey was carried out to determine the types of vegetation present, species composition, their extent, and location. Site boundaries within and around the survey area were mapped and their structure (hedge, drain, etc) recorded.

The results of the survey are presented in accordance with the standard Phase 1 habitat survey format with habitat descriptions and mapping provided. In addition, information gathered relating to recorded species, habitat type and structure are also presented in this report.

Desk study

An ecological data search for the survey site and the surrounding area was reviewed through the NBDC and biodiversity Ireland. In addition, aerial mapping and ordnance survey maps were reviewed to identify any features of interest within and surrounding the survey site (e.g., waterbodies).

Field surveys

The phase 1 habitat survey follows the methodology given in "Handbook for Phase 1 Habitat Survey" (JNCC, 2003). The vegetation communities and habitats present are described to level three using Fossitt (2000).

Faunal Surveys

Faunal species were recorded during the habitat survey, including inter alia; birds, mammals and amphibians, observed or heard. Specific attention was also given to the presence of any protected or invasive species.

2. Site Overview

The surveyed area consists of an existing single storey, uninhabited dwelling (BL2), a small shed, areas of semi-natural grasslands (GS1 & GS4), an area of semi-natural woodland (WN2), hedgerows (WL1), a treeline of non-native coniferous trees (WL2) and a length of freshwater lake shoreline (FL5). The wet semi-natural grassland (GS4) consists of species such as Yorkshire-Fog (Holcus lanatus), Common Knapweed (Centaurea nigra), Meadow Buttercup (Ranunculus acris) and some patches of Soft Rush (Juncus effusus). The area of semi-natural dry calcareous/neutral grassland (GS1) on site consists of species such as Meadow grasses (Pao spp.), Yorkshire-Fog, Common Knapweed, Curled Dock (Rumex crispus) and Dandelion (Taraxacum vulgaria).

An area of semi-natural woodland (WN2) is situated along the eastern border of the site. This woodland consists primarily of species such as Hazel (Corylus avellana), Oak (Quercus robur), Ash (Fraxinus excelsior) and Holly (Ilex aquifolium). The ground vegetation of the habitat was low in diversity and consisted of species such as Early Dogs Violet (Viola reichenbachiana), Primrose (Primula vulgaris), Ivy (Hedera helix) and Bramble (Rubus fructicosus). Multiple mature trees throughout the area of woodland showed signs of disease, including scaring on the bark (Figure 3.2). A length hedgerow (WL1) exists along the northwest border of the site. The hedgerow has been cut prior to the commencement of bird nesting season and consists of species such as Hazel, Holly, Ivy and Bramble. Some areas of ruined stone walls, covered with mosses are scattered along the hedgerow. Towards the northern most section of the site is an area of scattered trees consisting of species such as Ash and Oak.

The site borders Lough Ree, a freshwater lake protected under the Lough Ree SAC and SPA. No other hydrological features exist on or near the site.

3. Habitat & Vegetation Description

The habitats identified within and in close proximity to the survey area are outlined below:

Built land (BL)
- Buildings and Artificial Surface (BL3)
- Earth Banks (BL2)

Linear woodland (WL)
- Hedgerows (WL1)
- Treelines (WL2)

Woodland & Scrub (W)
- Scrub (WS1)
- Oak-ash-hazel woodland (WN2)
- Scattered treelines and parkland (WD5)

Freshwater Lakes & Ponds (FL)
- Eutrophic lakes (FL5)

Semi-natural grassland (GS)
- Wet Grassland (GS4)
- Dry calcareous and neutral grassland (GS1)

The features of these habitats and associated micro-habitats are described below with their suitability for biodiversity conservation within the context of the project. Photographs of the individual macro-habitats identified within the survey site are included in **Appendix 3** for illustration purposes.

Freshwater Lakes & Ponds (FL)

Eutrophic lakes (FL5)

The results of the 2nd cycle (2016-2021) of the Water Framework Directive (2000/60/EC) assessment reported that ecological and chemical water quality status of Lough Ree (EU code: IE_SH_26_750a) as 'Good'.

The European Protection Agency (EPA) assessed the biological water quality of the River Shannon (Upper) (WFD code: IE_SH_26S021600) at the Ballyleague Br Lanesboro station (Station code: RS26S021600) in 2020 as being of 'Poor' quality, Q Value 3. This station is located in Lanesborough (Easting 200549 Northing 269361), where the Shannon enters Lough Ree, 9.7km north of the purposed development site.

The EPA also assessed the ecologically water quality of the River Shannon in 2020 at the Athlone: Burgess Park (LHS) station (Station code: RS26S021720) which is just downstream of where the Shannon exits Lough Ree and approximately 19km south of the purposed development site. In 2020 the Shannon was assigned a Q Value of 4, 'Good' quality at the Athlone station.

Semi-natural Grassland (GS)

Improved Agricultural Grassland (GA1)

The proposed development site comprises of agricultural grassland habitats (GA1). At present, these habitats support farming practises and are managed for grazing and silage harvesting purposes. The improved agricultural grassland habitat within the proposed development site is a relatively species poor habitat and includes abundant to frequent Perennial rye grass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), Creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), Creeping thistle (*Cirsium palustre*), Ragwort (*Jacobaea vulgaris*) and Broadleaved dock (*Rumex obtusifolius*). Localised Soft rush (*Juncus effusus*) is found within the improved grassland sward. However, its cover and abundance are not present in significant enough amounts to correspond to areas of wet grassland.

Semi-natural grassland (GS)

Wet Grassland (GS4)

The wet semi-natural grassland (GS4) consists of species such as Yorkshire-Fog (Holcus lanatus), Common Knapweed (Centaurea nigra), Meadow Buttercup (Ranunculus acris) and some patches of Soft Rush (Juncus effusus). This area of semi-natural grassland is of moderate ecological value as it is not highly modified habitat and lies within the Lough Ree SAC. This grassland habitats will likely increase in ecological value as the habitats continue to regenerate in the absence of grazing.

Dry calcareous and neutral grassland (GS1)

The area of semi-natural dry calcareous/neutral grassland (GS1) on site consists of species such as Meadow grasses (Pao spp.), Yorkshire-Fog, Common Knapweed, Curled Dock (Rumex crispus) and Dandelion (Taraxacum vulgaria). This area of semi-natural grassland is of moderate ecological value as it is not highly modified habitat and lies within the Lough Ree SAC. This grassland habitats will likely increase in ecological value as the habitats continue to regenerate in the absence of grazing.

Woodland & Scrub (W)

Oak-ash-hazel woodland (WN2)

An area of approximately 2.45 acres of semi-natural woodland (WN2) is situated along the eastern border of the site. This woodland consists primarily of species such as Hazel (*Corylus avellana*), Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Holly (*Ilex aquifolium*). The ground vegetation of the habitat was low in diversity and consisted of species such as Early Dogs Violet (*Viola reichenbachiana*), Primrose (*Primula vulgaris*), Ivy (*Hedera helix*) and Bramble (*Rubus fructicosus*). Multiple mature trees throughout the area of woodland showed signs of disease, including scaring on the bark.

Scattered treelines and parkland (WD5)

Towards the northern most section of the site is an area of scattered trees consisting of species such as Ash and Oak.

Linear woodland (WL)

Hedgerows (WL1)

A length hedgerow (WL1) exists along the northwest border of the site. The hedgerow has been cut prior to the commencement of bird nesting season and consists of species such as Hazel, Holly, Ivy and Bramble. Some areas of ruined stone walls, covered with mosses are scattered along the hedgerow.

Treelines (WL2)

A line of non-native coniferous trees exists along the southeast and southwest of the dwelling.

Built Land (BL)

Buildings and Artificial Surface (BL3)

This habitat includes the in-situ farmyard, associated buildings and hardstanding area (BL3). The farm buildings comprise of concrete block sheds with galvanise roofs. The edges of the farm buildings support localised coverage of ruderal plant species, commonly associated with built-up areas; including Groundsel (*Senecio vulgaris*), Dandelion (*Taraxacum* agg.), Greater plantain (*Plantago major*), Ivy (*Hedera helix*) and Nettle (*Urtica dioica*). This habitat is of low ecological value.

4. Ecological Appraisal & Species Recorded

The subsequent list of species is based on recordings made during the walkover survey of the site undertaken on 12th of January 2023. A multi-disciplinary ecological survey approach was taken during the walkover survey. The walkover survey was used to record the presence, or likely presence, of a range of protected species, including bats, non-volant mammals, amphibians, and birds. Potential suitable habitats were investigated for any signs of faunal presence. As part of this report the relevant historic records from the National Biodiversity Data Centre (NBDC) will be accessed and the findings included as part of the overall biodiversity summary of a site.

4.1 Volant & Non-Volant Mammals

Historic NBDC records for protected volant and non-volant mammals were reviewed within the 10km and 2km grid squares surrounding the proposed development site and tabulated below in Further Appendices.

Bat Habitat Appraisal

The walkover survey of the site was carried out during daylight hours during the winter season. Relevant features on the site were visually assessed for potential foraging and roosting habitats for bats. Trees on site were surveyed at ground level through exterior inspections.

Results:

Historic records of bats were recorded within the 10km grid square on which the site is located and includes the following species: Lesser Noctule (*Nyctalus leisleri*), Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*) (NBDC, 2023). The overall suitability of the area for bat activity is relatively low (33.44). The habitat suitability index for 'All bats' and for each individual species of bat is presented below (**See Table 12.1 below**). The index ranges from 0 to 100, with 100 being most suitable for bats.

Table 12.1: Bat Suitability Index for the site and its surrounding area (NBDC, 2023).

Suitability index for different bat species:		
Common Name	**Scientific Name**	**Suitability Score**
Soprano pipistrelle	*Pipistrellus pygmaeus*	48
Brown long-eared bat	*Plecotus auritus*	31
Common pipistrelle	*Pipistrellus pipistrellus*	33
Lesser horseshoe bat	*Rhinolophus hipposideros*	3
Leisler's bat	*Nyctalus leisleri*	44
Whiskered bat	*Myotis mystacinus*	15
Daubenton's bat	*Myotis daubentonii*	34
Nathusius' pipistrelle	*Pipistrellus nathusii*	66
Natterer's bat	*Myotis nattereri*	27
Total Score for All Bat Species		33.44

Eurasian Badger (*Meles meles*)

Badgers were recorded within the 2km grid square on which the site is located. Signs of badger activity were observed during the walkover. Due to the signs of activity and suitability of the habitats surrounding the survey area, it cannot be ruled out that badgers may use the site for foraging and/or passageway between sites.

Otter (*Lutra lutra*)

Otters were recorded within the 2km grid squares on which the site is located. The lake shoreline onsite is of relatively poor suitability for the otter commuting, foraging and feeding and it is unlikely that otter would use the site or its associated drainage channels. However, suitable habitats for these species, such as scrub and woodlands, are frequent in the larger geographic area. Thus, it cannot be ruled out that these species may use the site for foraging and/or passageway between areas. However, no otter spraints were identified within the survey area during the site visit and no evidence of any footprints, actual possible or potential resting sites nor slides or other well-used access points to watercourses.

Other non-volant mammals

No evidence of other protected mammal species such as Eurasian red squirrel, Irish hare, stoat and/or pine marten were recorded during the site visit. Suitable habitats for these species are frequent in the larger geographic area. Thus, it cannot be ruled out that these species may use the site for foraging and/or passageway between areas.

4.2 Amphibians

The Common Frog (*Rana temporaria*) and Smooth Newt (*Lissotrition vulgaris*) was recorded in the 10km grid square surrounding the site. Historic NBDC records for amphibians showed that the Common Frog (*Rana temporaria*) and Smooth Newt (*Lissotrition vulgaris*) were not observed within the 2km square grid(s) surrounding the site. During the walkover survey no incidental signs of amphibians were recorded.

4.3 Reptiles

The Common Lizard (*Zootoca vivipara*) was not recorded in the 10km grid square. In addition, no reptiles were recorded in the 2km square grid(s) wherein the site is located, and no observations of reptiles were recorded during the site walkover.

4.4 Birds/Avifauna

A variety of bird species were recorded flying over or within the proposed development area during the site visit (**See Table 12.2**). The majority of the recorded bird species are green-listed and are common throughout Ireland. These birds are typical of Irish farmlands and woodlands and are found in habitats typical of those present in the proposed development area.

No Annex I bird species were recorded utilising the habitats within the site during field surveys. The habitats within and surrounding the site are dominated by improved agricultural grassland and wet grassland habitats and may provide supporting habitat for Annex species. Protected birds recorded in the NBDC 10km grid squares which may utilise the site, wider site, or adjacent habitats are listed below in **Section 8: Further Appendices**.

Table 12.2: Bird species observed and recorded during the phase 1 habitat survey site visit.

Bird species recorded during the phase 1 habitat survey		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Black-billed Magpie	*(Pica pica)*	Green List
Chaffinch	*(Fringilla coelebs)*	Green List
Wren	*(Troglodytes troglodytes)*	Green List
Common Blackbird	*(Turdus merula)*	Green List
Woodpigeon	(*Columba palumbus*)	Green List
Rook	(*Corvus frugilegus*)	Green List
Eurasian Jackdaw	*(Corvus monedula)*	Green List
Hooded Crow	*(Corvus cornix)*	Green List
Song Thrush	*(Turdus philomelos)*	Green List
Great Spotted Woodpecker	*(Dendrocopus major)*	Green list
Black-headed Gull	*(Larus ridibundus)*	Amber list
Blue Tit	*(Cyanistes caeruleus)*	Green list
Great Tit	*(Parus major)*	Green list
Buzzard	*(Buteo buteo)*	Green list

5. Discussion & Conclusion

The Phase 1 habitat survey was conducted on the 23rd of February 2023, following best practice guidance methodologies for multi-disciplinary walkover surveys, as per the National Road Authority (NRA) (2008). Weather conditions on the day of the survey were dry and bright with a moderate breeze, favourable conditions.

The development site is comprised of a mixture of habitat classifications including semi-natural grasslands (GS1 & GS4), semi-natural oak-ash-hazel woodland (WN2), built land (BL 3) and freshwater eutrophic lake (FL5). The connectivity of the site to the wider landscape is relatively good for many species through a network of hedgerows and treelines. There are not drainage channels, streams or minor rivers on site or within the vicinity of the site.

There are no Annex I habitats listed under the EU Habitats Directive present within the site boundary. No botanical species protected under the Flora (protection) Order (1999, as amended 2015), listed in the EU Habitats Directive (92/43/EEC), or listed in the Irish Red Data Books were recorded on the site. In addition, no high impact invasive plant species (as listed by NBDC) were recorded during the site visits at the proposed development site. Likewise, there were no plant species recorded on Third Schedule applying to non-native species subject to restrictions under Regulations 49 of S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011 within the proposed development site or its immediate environs.

No significant evidence of protected Irish mammal species under the Irish Wildlife Act 1976-2018, were recorded during the walkover survey. No significant habitat for protected bat species will be lost as part of the proposed project. The site does host suitable habitat for aquatic species of fauna, such as some of the SCIs of the Lough Ree SPA.

The greater area surrounding the site hosts significant habitat for protected bird species, comprising wintering and/or breeding habitat for Annex I or Birds of Conservation Concern Ireland (BoCCI) red listed species, occurs within the proposed development site.

Regarding the precautionary principle, and in consideration of the above information set out in this report, it can be concluded that the proposed project will not result in the loss of ecologically significant habitats or species and will not have any significant effects on the wider ecology in the surrounding area.

6. Opportunity to Enhance Biodiversity

The undertaken Phase 1 Habitat Survey and Ecological Assessment provides a baseline for future monitoring on this proposed development site. The site incorporates a network of hedgerows and field margins around a matrix of primarily improved agricultural grassland, with surrounding features including stands of mixed woodland and river(s)/stream(s). These features are suitable to provide foraging resources for species occurring in the local area. Specific actions to provide nesting and roosting opportunities for different species, and deliberately encouraging certain host plants for invertebrates are recommended.

The proposed project will follow good practice and adherence to the relevant guidelines with part of the development area considered specifically for biodiversity enhancement. These areas, 'Areas for Biodiversity Enhancement' (ABEs) will comprise of open spaces and retained habitats.

The selected ABEs will aim to encourage diversity of habitats, native flora, fauna and biodiversity within the development site. The biodiversity of the proposed project area can be greatly enhanced by the retention and inclusion of the present supplementary habitats including, hedgerows, semi-natural grasslands and open spaces.

As the proposed development intersects with the Lough Ree SAC and SPA, thus potential habitat disturbance as a result of the proposed works is the principal threat the proposed works pose to biodiversity. The proposed development may directly negatively affect some species through altering or degrading habitat and/or disturbance.

Consequently, if the project is planned and managed strategically, the proposed development can have minimal detrimental environmental impacts and may provide opportunities to enhance ecosystem function, with implications for ecosystem services such as pollination.

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8. Further Appendices (Biodiversity Data)

Table 12.3: Protected bird species recorded in 10km² grid surrounding the site (NBDC, 2023).

Protected Bird species recorded in 10km² in the last 20 years	
Common Name/Scientific Name	**Designations/Conservation Status**
Barn Swallow (*Hirundo rustica*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Black-headed Gull (*Larus ridibundus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Coot (*Fulica atra*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Goldeneye (*Bucephala clangula*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Grasshopper Warbler (*Locustella naevia*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kestrel (*Falco tinnunculus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Kingfisher (*Alcedo atthis*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Linnet (*Carduelis cannabina*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Pheasant (*Phasianus colchicus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Common Pochard (*Aythya ferina*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Redshank (*Tringa totanus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Scoter (*Melanitta nigra*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Common Shelduck (*Tadorna tadorna*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Snipe (*Gallinago gallinago*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Starling (*Sturnus vulgaris*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Swift (*Apus apus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Tern (*Sterna hirundo*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Wood Pigeon (*Columba palumbus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Dunlin (*Calidris alpina*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Curlew (*Numenius arquata*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Eurasian Marsh Harrier (*Circus aeruginosus*)	Protected Species: Wildlife Acts
Eurasian Teal (*Anas crecca*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Wigeon (*Anas penelope*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Eurasian Woodcock (*Scolopax rusticola*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III

	Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
European Golden Plover (*Pluvialis apricaria*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Great Black-backed Gull (*Larus marinus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Great Crested Grebe (*Podiceps cristatus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Hen Harrier (*Circus cyaneus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Herring Gull (*Larus argentatus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
House Martin (*Delichon urbicum*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
House Sparrow (*Passer domesticus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Lesser Black-backed Gull (*Larus fuscus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Lesser Whitethroat (*Sylvia curruca*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Little Grebe (*Tachybaptus ruficollis*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mallard (*Anas platyrhynchos*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Merlin (*Falco columbarius*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mew Gull (*Larus canus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Mute Swan (*Cygnus olor*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Northern Lapwing (*Vanellus vanellus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Northern Pintail (*Anas acuta*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Northern Shoveler (*Anas clypeata*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section III Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List
Pink-footed Goose (*Anser brachyrhynchus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species
Red-breasted Merganser (*Mergus serrator*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species
Sand Martin (*Riparia riparia*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Sky Lark (*Alauda arvensis*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Spotted Flycatcher (*Muscicapa striata*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Stock Pigeon (*Columba oenas*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Tufted Duck (*Aythya fuligula*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Water Rail (*Rallus aquaticus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Whooper Swan (*Cygnus cygnus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List

Table 12.4: Protected Mammal species recorded in 10km² grid surrounding the site (NBDC, 2023).

Protected Mammal species recorded in 10km² in the last 20 years	
Common Name/Scientific Name	**Designations/Conservation Status**
Eurasian Badger (*Meles meles*)	Protected Species: Wildlife Acts
Eurasian Red Squirrel (*Sciurus vulgaris*)	Protected Species: Wildlife Acts
European Otter (*Lutra lutra*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex II || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Fallow Deer (*Dama dama*)	Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts
Pine Marten (*Martes martes*)	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
West European Hedgehog (*Erinaceus europaeus*)	Protected Species: Wildlife Acts

Table 12.5: Protected amphibian species recorded in 10km² grid surrounding the site (NBDC, 2023).

Protected Amphibian species recorded in 10km² in the last 20 years		
Common Name	**Scientific Name**	**Designations/Conservation Status**
Common Frog	*(Rana temporaria)*	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts

Table 12.6: Protected bird species recorded in 2km² grid(s) surrounding the site (NBDC, 2023).

Protected Bird species recorded in 2km²	
Common Name/Scientific Name	**Designations/Conservation Status**
Common Kestrel (*Falco tinnunculus*)	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Common Wood Pigeon (*Columba palumbus*)	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species

Table 12.7: Protected Mammal species recorded in 2km² grid(s) surrounding the site (NBDC, 2023).

Protected Mammal species recorded in 2km²	
Common Name/Scientific Name	**Designations/Conservation Status**
Eurasian Badger (*Meles meles*)	Protected Species: Wildlife Acts

Appendix 3. PHOTOGRAPHS

Photograph 12.1: Buildings and Artificial Surface (BL3) habitat present within the survey site.

Photograph 12.2: Hedgerows (WL1) and Earth Banks (BL2) habitats present within the survey site.

Photograph 12.3: Scattered trees (WD5) habitat present on the development site.

Photograph 12.4: Semi-natural Oak-ash-hazel woodland (WN2) habitat present within the survey site.

Photograph 12.5: Wet Grasslands (GS4) habitat present on site.

Photograph 12.6: Eutrophic Lake (FL5) habitat, Lough Ree adjoining the survey site.

Photograph 12.7: Treeline (WL2) habitat, of non-native coniferous trees in the survey site.

Photograph 12.8: Sign of possible badger activity.

Photograph 12.9: The upgraded boundary fencing.

Photograph 12.10: Mammal scat.

Appendix 4. CONSERVATION OBJECTIVES

4.1 Lough Ree SAC (000440)

Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

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.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

** indicates a priority habitat under the Habitats Directive*

000440	Lough Ree SAC
1355	Otter *Lutra lutra*
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)
7120	Degraded raised bogs still capable of natural regeneration
7230	Alkaline fens
8240	Limestone pavements*
91A0	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
91D0	Bog woodland*

Please note that this SAC overlaps with Lough Ree SPA (004064). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate.

5.2 Lough Ree SPA (004064)

Conservation objectives for Lough Ree SPA [004064]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

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.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A004	Little Grebe	*Tachybaptus ruficollis*
A038	Whooper Swan	*Cygnus cygnus*
A050	Wigeon	*Anas penelope*
A052	Teal	*Anas crecca*
A053	Mallard	*Anas platyrhynchos*
A056	Shoveler	*Anas clypeata*
A061	Tufted Duck	*Aythya fuligula*

A065	Common Scoter	*Melanitta nigra*
A067	Goldeneye	*Bucephala clangula*
A125	Coot	*Fulica atra*
A140	Golden Plover	*Pluvialis apricaria*
A142	Lapwing	*Vanellus vanellus*
A193	Common Tern	*Sterna hirundo*

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, â€œWetland and Waterbirdsâ€ may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a second objective is included as follows:

Objective: To maintain or restore the favourable conservation condition of the wetland habitat at Lough Ree SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Citation: *NPWS (2022) Conservation objectives for Lough Ree SPA [004064]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*

This First Order Site-specific Conservation Objectives Version 1.0 document replaces the Generic Conservation Objectives Version 9.0 document.