VEON Forestry, Ecology & Environment

Remedial Natura Impact Statement

Upgrading and Repair Works
Newtowncashel, Cashel, Co. Longford

Compiled by: Sara Sheridan MSc BSc, Veon Ecology

Prepared for: Will Design Associates

On behalf of: GALRO Unltd

Completion Date: 11/10/23

Table of Contents

Table of Figures

Table of Tables

Table of Photographs

General Details

Details of Author(s)

Name:	Sara Sheridan MSc BSc
Address:	Office 17, Oran House, Oran Town Centre, Station Road, Oranmore, Co. Galway
Company name:	Veon Ltd. Veon Ecology
Phone:	M: +353 87 1127182
E-mail:	ssheridan@veon.ie
Details of relevant qualifications/ affiliations/years of experience	MSc in Ecological Management & Conservation Biology from Queen's University Belfast BSc (Hons) in Environmental Science from University of Galway MSc earned in 2022 from Queen's University Belfast. Extensive experience in ornithology, with practical experience as a member of a field ecology team conducting various surveys. Experience in the completion of ecological reports including Natura Impact Statements and Ecological Impact Assessment. Deep knowledge of environmental legislation and ecological assessment.
Describe scope of contribution in preparing this report	Desktop survey, Phase 1 habitat survey, remedial Ecological assessment, Final report compilation.

Veon Ltd. Veon Ecology							
Revision	**Description**	**Author:**	**Date**	**Reviewed By:**	**Date**	**Authorised by:**	**Date**
1	Draft Report	SS	29/09/23	DP	29/09/23	-	-
2	Final Report	SS	11/10/23	DP	11/10/23	-	-

Executive Summary

This remedial Natura Impact Assessment (rNIS) was completed to accompany an application for leave to apply for Substitute Consent under Section 177C of the Planning and Development Act 2000, for works completed on land owned by Mr Joseph Sheahan at Cashel, Newtowncashel, Co. Longford. The site on which the works occurred is located 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 site (see **Figure 2.1**).

The application seeks to apply for leave to apply for Substitute Consent (hereafter referred to as 'LSC') for the upgrading of existing facilities at existing dwellinghouse, namely the:

- refencing of lands,
- widening of the existing entrance gate,
- commencement of re-surfacing of the existing driveway, and
- repairs to harbour

The aforementioned works were completed in the absence of any environmental assessment and therefore this rNIS will assess the potential impacts the works completed had on the relevant designated Natura 2000 site(s). The site of the upgrading works completed overlaps with the Lough Ree Special Area of Conservation (SAC) and borders the Lough Ree Special Protection Area (SPA) (see **Figure 2.2**).

This rNIS details the results of field surveys and a desktop study which have informed this remedial NIS for completed works. The contents of this report, 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.

Section 1: INTRODUCTION

Veon Limited (Veon Ecology) has been appointed by Will Design Associates, on behalf of Joseph Sheahan and GALRO Unlimited, to carry out a remedial Natura Impact Statement (rNIS) for works completed unknowingly without consent on lands at Cashel, Newtowncashel, Co. Longford. The location of the site is presented in **Figure 2.1.** This rNIS was prepared in support of the application to An Bord Pleanála for leave to apply for Substitute Consent under Section 177C of the Planning and Development Act 2000.

It was previously determined by the Longford County Council that due to the connectivity between the site to sites designated under the Natura 2000 network, and the nature of the works completed, an Appropriate Assessment of the works would have been required. Therefore, this remedial Natura Impact Statement (rNIS) was prepared in support of the Substitute Consent application.

The remedial Screening for Appropriate Assessment and Natura Impact Statement (NIS) has been prepared to provide the competent authority, 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 the relevant authorities to determine, in view of best scientific knowledge, if the completed works, individually or in combination with other plans and projects, likely had a significant effect on a European site and to ascertain whether or not the completed works adversely impacted the integrity of a European site(s).

A remedial screening for Appropriate Assessment for the completed works was prepared and is provided in **Section 4**. The remedial 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 works completed (i.e., refencing of lands, widening of existing entrance gate, commencement of re-surfacing of the existing driveway and repairs to the harbour), individually or in combination with other plans and projects, potentially impacted on the following European Sites: ***Lough Ree SAC*** *(000440) and* ***Lough Ree SPA*** *(004064).*

As a result, a remedial Appropriate Assessment of the project was required, and a remedial Natura Impact Statement was prepared in respect of the works completed (i.e., refencing of lands, widening of existing entrance gate, commencement of re-surfacing of the existing driveway and repairs to the harbour)'.

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 project site 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 completed works, individually or in combination with other plans or projects, is likely to have had a significant effect on European Sites.

In consideration of the findings of the remedial Screening report, a remedial Natura Impact Statement (rNIS) 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 rNIS 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 Report Structure

The information contained in this remedial 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 were any adverse effects on the integrity of any European Site as result of the works completed.

(ii) Whether the completed works, alone or in combination with other plans and/or projects have had an adverse effect on the integrity of any European Sites in view of their conservation objectives.

The works that were completed are described in detail in **Section 2.1** of this report. Following on from this, the results of the desk and field surveys that were undertaken are presented in **Section 3,** which provides the necessary details of the ecological baseline conditions of the site for the completed works. The completed operations were 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 identified potential pathways for effects on each individual QI. 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 completed works, 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 works completed is considered cumulatively and in combination with other plans and/or projects is detailed in **Section 5** of this report.

Finally, a concluding statement is provided in **Section 7** 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 project either individually or in combination with other projects will not adversely affect the integrity of any European Site.'

1.3 Guidance and Legislation

This remedial screening for AA and 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 Desk 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 project area through the identification of potential pathways/links from the project 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 project (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).

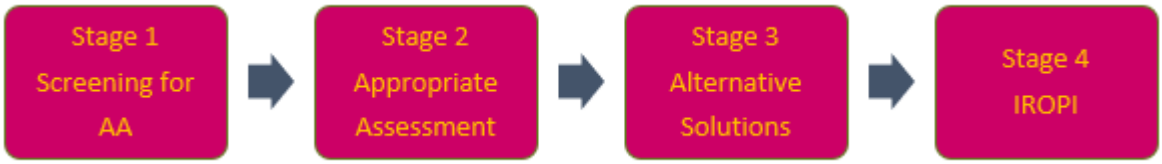
In addition, aerial photography (Google Earth, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance.

1.5 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.

Stage 3: Assessment of Alternative Solutions.

This stage examines all potential alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site(s).

Stage 4: Consideration of Imperative Reasons of Overriding Public Interest (IROPI).

When no alternative solutions are identified and adverse impacts as a result of project still remain, then imperative reasons of overriding public interest (IROPI) are considered, in conjunction with possible compensatory measures. It is then deemed whether or not the project can proceed due to IROPI.

Section 2: PROJECT DESCRIPTION

2.1 Project Location

The project site is located at Cashel, Newtowncashel, Co. Longford. The site of the completed operations was located 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 site of the completed operations (**Location Map, Figure 2.1**). The site of the completed operations lies in the Cashel townland, which is flanked by Loughfarm, Elfeet, Glebe and Ballynahinch townlands.

The site on which the works were completed is approximately 7.67 acres in size and is bounded by improved agricultural pastures, scrub and a freshwater lake. There is an existing unoccupied dwelling on the site, which 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 project site adjoins Lough Ree (European code: IE_SH_26_750a) to the southwest. The wider landscape surrounding the project site is comprised of improved agricultural grassland, scrub, semi-natural grassland and scattered buildings. 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 project site was comprised of an existing dwelling, areas of semi-natural woodland, semi-natural grassland and hedgerows prior to the operations were conducted (**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 project 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 site sits on a bedrock aquifer which is defined as 'regionally important'.

Two European designated Natura 2000 sites intersect with the project site. The Lough Ree Special Area of Conservation (SAC) (000440) overlaps the project 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 project 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.

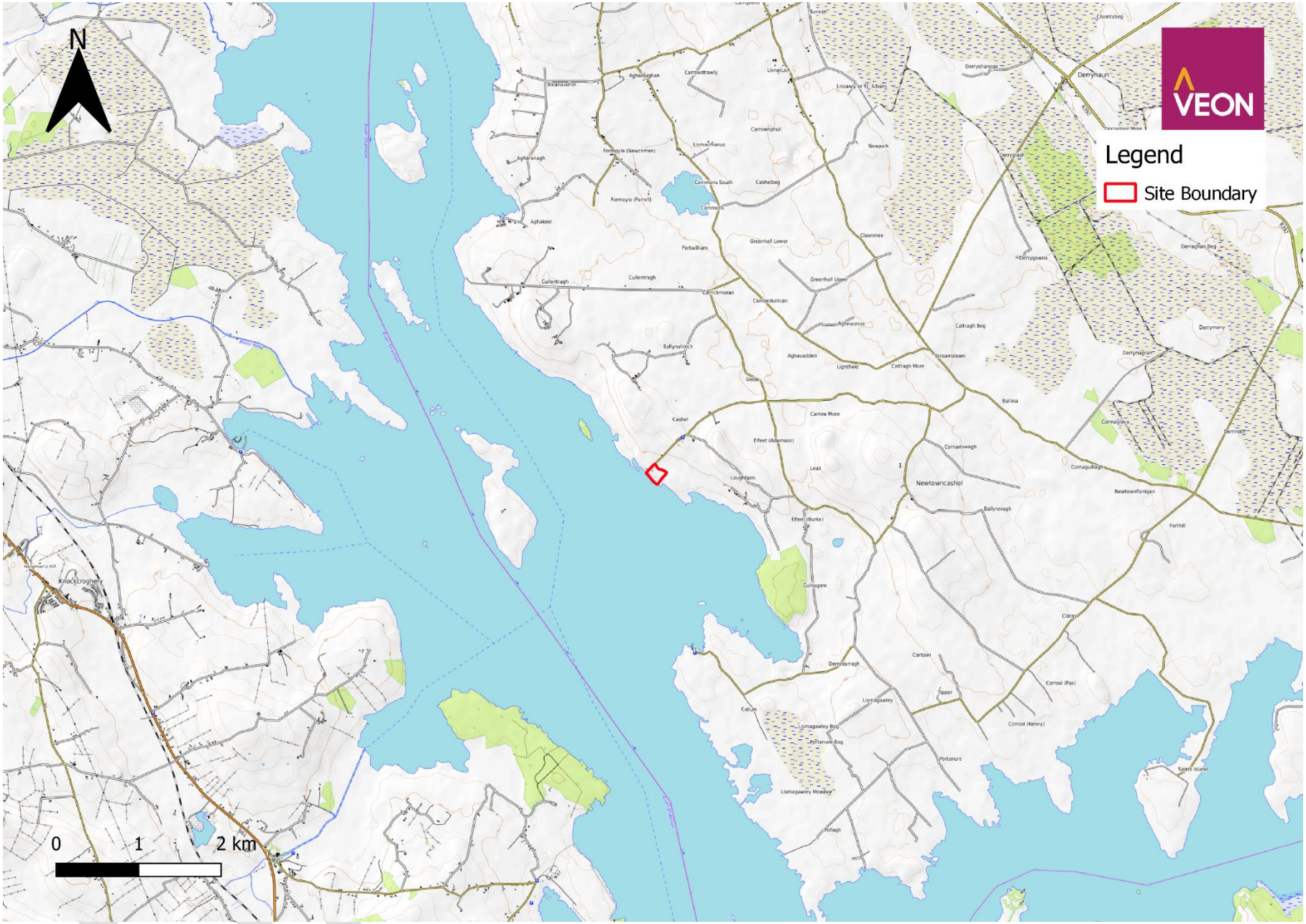


Figure 2.1: Application site location.

2.2 Description of Works

An application is being made to An Bord Pleanála for Substitute Consent under Section 177E of the Planning and Development Act 2000 for works undertaken in Cashel, Newtowncashel, Co. Longford. The development on the site which is the subject of the current application for substitute consent consists of the following:

- The re-fencing of the site was commenced on the 2nd of November 2021. The new fencing was placed inside the original fence. The original fence was a traditional barbed wire fence which had become eroded and completely broken down and/or removed in places prior to GALRO's purchasing of the site. The fencing was installed along the northeast and southeast boundaries of the site. Metal grid rail fencing was installed instead of barbed wire fencing in the interest of Health and Safety, as the new fencing type reduced and/or eliminates the risk of injury to the potential future services users of the planned respite home. This is common practice for GALRO, as health and safety is a fundamental consideration for their respite homes and service users.
- Widening of existing entrance gate to greater than that permitted under the parent permission. Existing dwelling gateway was narrow and the works to re-fence the site and re-gravel the driveway required machinery which could not access the site through the existing entrance. The existing pillars/ piers on either side of the site entrance were removed in order to gain access to carry out these works.
- Commencement of the re-surfacing of the existing driveway with fresh gravel due to the existing driveway having become very overgrown, and with the existing gravel surfacing having been worn down to soil in places.
- Repairs to the rock harbour on the Lough Ree shore. Rocks were protruding from the top of the harbour and therefore Joe Sheahan asked the contractor to track out onto the harbour with a track digger to level the protruding stones. However, misunderstanding between parties meant that the contractor instead commenced moving some stones from the waterside end of the harbour, placing them in the water near the shoreline. Approximately a third of the rock harbour was removed before the misunderstanding was established and the works ceased.

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 project site. Each Natura 200 site within the ZoI was assessed to determine if direct physical or hydrological connection exists between them and the project site. The Special Areas of Conservation (SAC) and Special Protection Areas (SPAs) within 15km of the subject site are shown in **Figure 2.2**.

Six Natura 2000 sites fall with the project 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 project site. The Lough Ree SAC directly overlaps the site, and the Lough Ree SPA intersects with the site (**see Figure 2.3**).

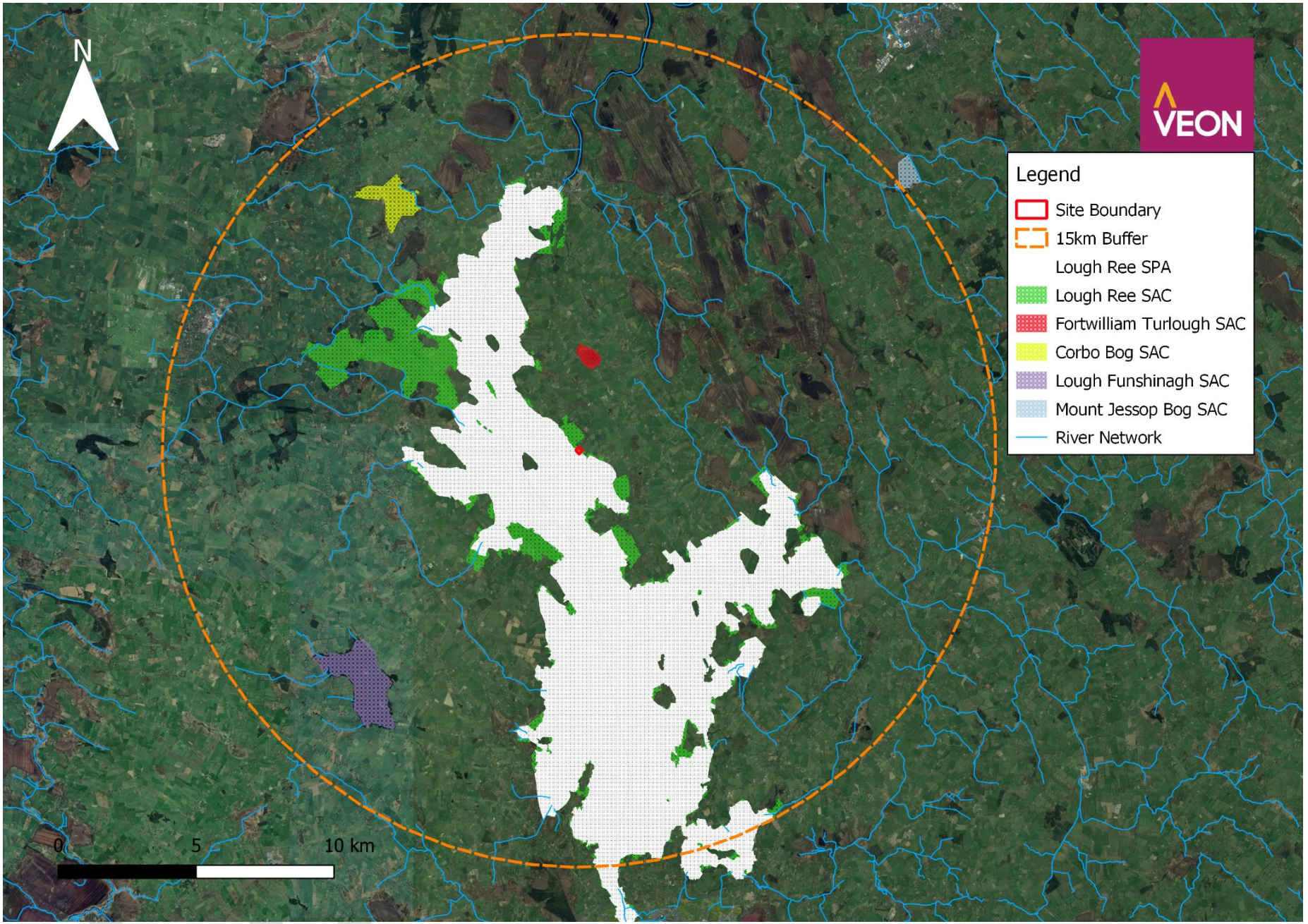


Figure 3.2: Natura 2000 sites within the 15km ZoI

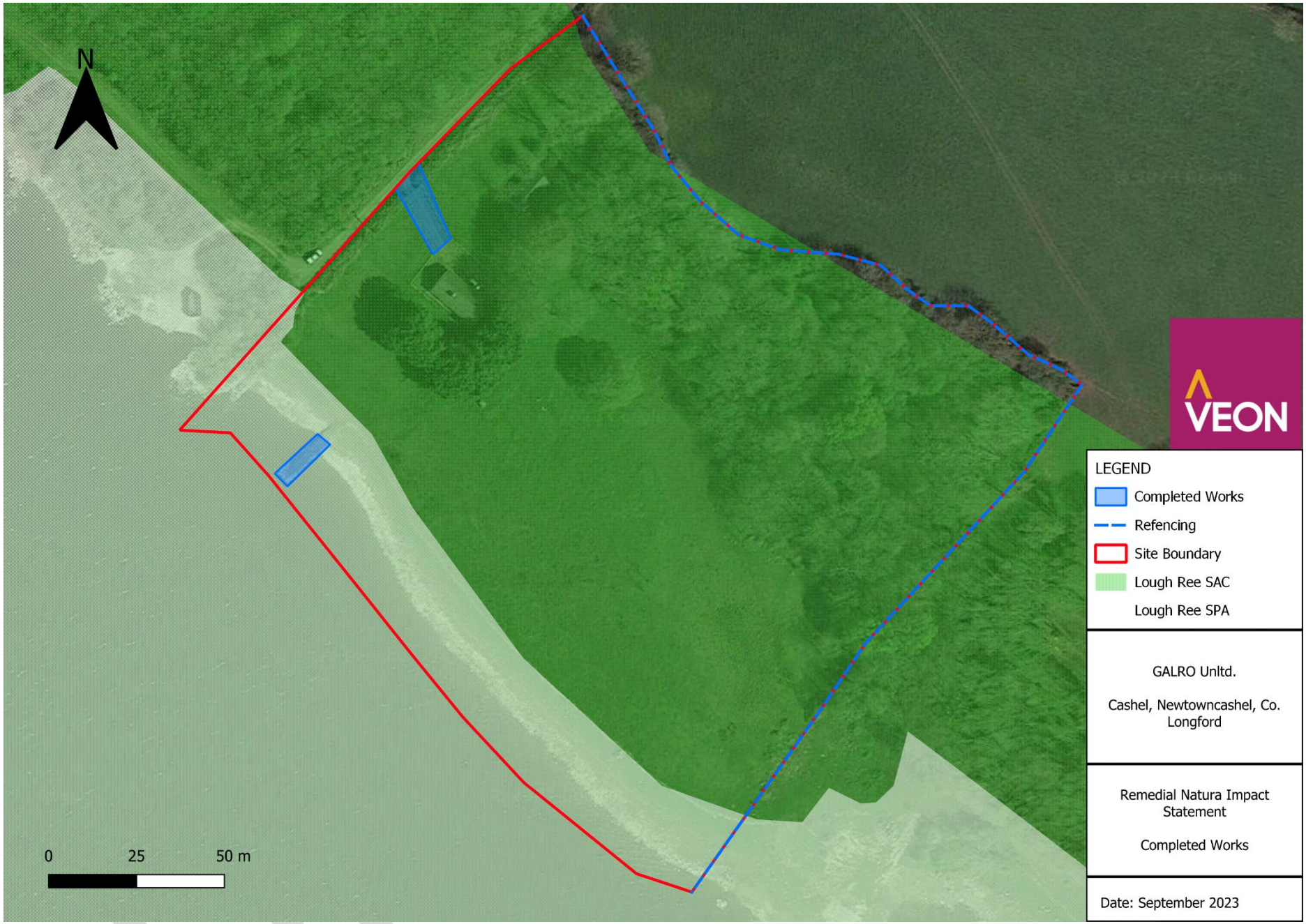


Figure 4.3: Lough Ree SAC & SPA and the application site.

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 project site are presented in **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 project 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.

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.

3.3 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 project 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 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.

Habitat Overview

The surveyed area consisted 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 project site was comprised 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) was 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. 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.

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 project site. The bird did not appear to be within the site boundary, however there was 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 project 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 project 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 project 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 project 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 project 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 project site. In 2020 the Shannon was assigned a Q Value of 4, 'Good' quality at the Athlone station.

3.5 Geology, Hydrology and Hydrogeology

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

The most immediate hydrological features in the vicinity of the project site is 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 project site would naturally either absorb into the soil or filter into the Lough.

The project 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 project 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 project 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).

Section 4: STAGE 1. REMEDIAL SCREENING FOR APPROPRIATE ASSESSMENT

4.1 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 a 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 project 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 project. It is vital that an assessment of potential pathways is undertaken to assess potential impact links between the receptor (European sites) and source (project) 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 project is considered to include receiving water bodies adjacent to, or downstream of, the project 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 project site.

Noise from construction activities had 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 project during the Construction Phase. The works during the construction phase generated relatively low levels of noise and only during permitted construction hours. In general, machinery is designed to ensure that the maximum noise level 10m outside the site boundary does 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 were carried out.

4.2 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 have potentially affected the 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 would be no likelihood for the effect to occur. In the context of the development, the model comprises:

- Source (s) – e.g., Sediment run-off from project 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 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 development and source – pathway - receptor relationships. 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.

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

Designated Site	Site Code	Approximate distance from the site (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

4.3 Screening of Relevant European Sites

4.3.1 Special Areas of Conservation (SACs)

Natura site(s)	Potential effects to Natura Site	Rationale
Lough Ree SAC (000440) 0km	Yes	The project 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 project site is located outside and at a significant distance from the European site. Therefore, there is no potential for director or indirect 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 project site is located outside and a distance from the European site. Therefore, there is no potential for direct or infdirect 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 project site is located outside and a distance from the European site. Therefore, there is no potential for direct or indirect 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 project site is located outside and a distance from the European site. Therefore, there is no potential for direct or indirect 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)*

4.3.2 Special Protection Areas (SPAs)

Natura site(s)	Potential effects to Natura Site	Rationale
Lough Ree SPA (004064) 0km	Yes	The project 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.

4.3.3 SPR Model for European Sites within the ZoI

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 project 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 site is considered a potential receptor.
000448	Fortwilliam Turlough SAC	[3180] Turloughs*	~2.99km north	No source pathway connectivity via surface water, groundwater or environmental vectors exists between the source site and the SAC and therefore this Natura 2000 site is not considered a potential receptor.

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 exists between the source site and the SAC and therefore this Natura 2000 site is not considered a potential receptor.
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 exists between the source site and the SAC and therefore this Natura 2000 site is not considered a potential receptor.
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 exists between the source site and the SAC and therefore this Natura 2000 site is not considered a potential receptor.
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 project 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 SPA could be affected. Therefore, this Natura 2000 site is considered a potential receptor.

4.4 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 project site: Lisnanarriagh Bog, Mount Jessop Bog and Forthill Bog. There are ten proposed Natural Heritage Areas (pNHAs) located within 15km of the project 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)).

4.5 Identification & Significance of Potential Impacts

The project site at Cashel, Newtowncashel is physically and hydrologically connected to the Lough Ree SAC and Lough Ree SPA. Having regard for the tenets of the precautionary principal and how it guides the AA process, as source-pathway-receptor connectivity exists, and in the absence of mitigation, it cannot be ruled out that the works completed did not or will not have impacts upon these designated sites.

Only the elements of completed works that have the potential to affect the integrity and conservation objectives of the identified Natura 2000 sites and protected species have been considered. Each factor of the works completed (outlined in Section 2.2) were examined at this stage and either dismissed or carried forward for Appropriate Assessment as appropriate.

The potential impacts as a result of the works completed were identified was:

- Deterioration in water quality in designated areas arising from pollution due to the disturbance of the stone harbour with the removal of stone from water end of the harbour and the redeposition of the stone in the water. The harbour protrudes out into Lough Ree, included in the Lough Ree SAC and SPA. The movement of the stone likely resulted in a level of sedimentation, siltation, and disturbance to the water of Lough Ree which would have consequently impacted on the Lough Ree SAC and SPA.
- Negative impacts to water quality as result of sedimentation from dry concrete used to secure the new fencing into place within 5m of the water's edge. Runoff from the dry concrete would have been highly alkaline and potentially impacted on the water pH.
- Potential impacts on the Qualifying Interests (QIs) of the Lough Ree SAC and SPA as a result of the installation of new steel grid fencing along the northeast and southeast boundaries of the site. Potential disturbance and obstruction of fauna species through the site as a result of the refencing was also considered. Impacts on the QIs of Natura 2000 designated sites had the potential to impact undermine the Conservation Objectives of the Natura 2000 sites.
- Cumulative impacts with other projects or developments that were undergoing at the time that the works were completed.

It can be considered that with the exception of the Lough Ree SAC and the Lough Ree SPA, that the remainder of the sites identified in Section 4.3 can be excluded from the Appropriate Assessment process. This is based on their distance from the application site, the fact that they are outside of its Zone of Influence and the lack of connectivity between

the protected site and the project site. The remaining concerns will therefore focus upon the protected habitats and species of the Lough Ree SAC and SPA.

4.6 Screening Conclusion

There is connectivity between the project site and the Lough Ree SAC (000440) and Lough Ree SPA (004064). Any works on the site must not undermine the conservation objectives or integrity of the designated sites but the site is not specifically essential or key to the conservation management of the designated sites. There is both potential physical and hydrological pathways between the site of works and the designated sites via groundwater, surface water and/or environmental vectors.

Therefore, following consideration of the location of the Lough Ree SPA and SAC in relation to the application site at Cashel in Newtowncashel, and considering the potential impacts that may have occurred in the past, or those that could arise in the future, this application must proceed to the next stage of Appropriate Assessment, namely the Natura Impact Assessment.

Section 5: STAGE 2. APPROPRIATE ASSESSMENT (REMEDIAL NIS)

5.1 Introduction

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the application for Substitute Consent and its associated activities at Cashel, Newtowncashel (either alone or in combination with other plans, programmes and projects) have or will result in significant adverse impacts to the integrity of the Lough Ree SAC and the Lough Ree SPA, with respect to these site's structures, species, functions and/or conservation objectives. These effects may have arisen in the past, they may still be ongoing and in the absence of mitigation, they may occur in the future. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this application, should it receive substitute consent.

In this section, the Natura 2000s site identified in the previous section will be described in greater detail in terms of their site characteristics and conservation objectives.

5.2 Conservation Objectives (Generic)

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.

5.3 European Site Descriptions

5.3.1 Lough Ree SAC (Site code: 000440)

Site Description

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 lake has been classified as mesotrophic in quality, but the size of the system means that the conditions varies depending on factors such as rock type.

A wide range of habitats associated with the lake are included within the designated site, including extensive areas of reedbeds of Common Reed (*Phragmites australis*), lowland wet grasslands, dry calcareous grasslands, limestone pavements, broadleaved semi-natural woodland, some wet alluvial woodland, small areas of raised bog and bog woodland. Many of these habitats supported by the SAC are Annex I habitats and Priority Habitats according to the Habitats Directive (2009/147/EC). The designated site also supports many rare plant species that are listed in the Irish Red Data Book including Alder Buckthorn (*Frangula alnus*) and Bird Cherry (*Prunus padus*) (Wyse *et al*., 2016). The SAC also hosts a population of Otter (*Lutra lutra*), a species listed as 'Near Threatened' by the Ireland Red List for terrestrial mammals (Marnell, Looney & Lawton, 2019).

Lough Ree is a popular location for recreation activities such as boating, angling, water sports and camping. Many sites on the shoreline of the lake are used for agricultural purposes including livestock grazing and hay harvesting. Many of these activities are damaging but predominantly only on a local level. The site synopsis for the SAC identifies the main threat to the aquatic life of the lake as artificial enrichment from agriculture runoff, domestic waste and peat silt suspension (NPWS, 2019).

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

Lough Ree SAC (Site Code: IE0000440)			
Threat Code*	**Threat Type**	**Rank^**	**i (inside) / o (outside) / b (both)**
I01	Invasive non-native species	H	b
J02.11.02	Siltation rate changes	H	o

Lough Ree SAC (Site Code: IE0000440)			
Threat Code*	**Threat Type**	**Rank^**	**i (inside) / o (outside) / b (both)**
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
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

*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

^H = High, M = Medium, L = Low

Non-Relevant Qualifying Interests (Screened-out)

The Lough Ree SAC covers an extensive area in the midlands of Ireland. It lies in three counties and covers an area of over 143km^2, and therefore inevitably some Qualifying Interests (QI's) of the SAC were not at risk of being impacted by the project as a result of their location relevant to the site. These QI's that were not at risk of being impacted therefore can be screened out from further appropriate assessment. These features and the reason for their exclusion are listed below.

Table 5.2: Lough Ree SAC QI's Screened-out.

Qualifying Interest	Reason for Exclusion
Active Raised Bog [7110]	Any change in water quality will not impact upon this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. Potential impacts upon this habitat are not likely to occur.
Degraded Raised Bog [7120]	Any change in water quality will not impact upon this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. Potential impacts upon this habitat are not likely to occur.
Alkaline Fens [7230]	Any change in water quality will not impact upon this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. Potential impacts upon this habitat are not likely to occur.

Limestone Pavement [8240]	This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. This habitat is not water dependent and potential changes in water quality will not impact this habitat. Potential impacts upon this habitat are not likely to occur.
Bog Woodland [91D0]	Any change in water quality will not impact upon this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. Potential impacts upon this habitat are not likely to occur.
Alluvial Forests [91E0]	Any change in water quality will not impact upon this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site, i.e. does not lie downstream of the project. Potential impacts upon this habitat are not likely to occur.
Orchid-rich Calcareous Grassland [6210]	This habitat is not water dependent and potential changes in water quality will not impact this habitat. This habitat does not occur on the project site and is not within the zone of influence of the site. Potential impacts upon this habitat are not likely to occur.

Relevant Qualifying Interests (Screened-in)

Table 5.3 below describes the QIs of the Lough Ree SAC that potential impacts upon are likely to occur as a result of the works completed. These QIs have therefore been screened-in for further appropriate assessment. The NPWS Site Specific Conservation Objectives (SSCOs) and Article 17 reports (2019) were consulted for the following information.

Table 5.3: Lough Ree SAC QI's Screened-in.

Qualifying Interest	Reason for Exclusion
Natural Eutrophic Lakes [3150]	The habitat is characterised by the high abundance of species of pondweed and nutrient content. The greatest pressure on the habitat since the 1970's is eutrophication and therefore this habitat type is vulnerable to impacts on water quality. Because the habitat is sensitive to pollution that could have arisen in the past and could arise in the future, and mitigation may be required to protect this habitat, it therefore has been screened in for further assessment.
Otter (*Lutra lutra*) [1355]	The presence of this species is positively correlated with good water quality and deterioration of it would lead to impacts upon this species. Therefore, as otters exhibit a wide territory range overall, it is possible that application site and its surrounding lands fall into the territory of the otter. Significant effects could have arisen in the past on this species, and they could arise in the future if there is any decrease in water quality or increase in sedimentation levels in the Lough Ree SAC.

Site Specific Conservation Objectives of Relevant Qualifying Interests

In 2016, the NPWS published Site Specific Conservation Objectives (SSCOs) for the Lough Ree SAC (000440). The SSCO's are supported by a number of documents relating to the protected habitats and species, including national and targeted surveys. The attributes, measures and targets of the SSCO's for the relevant QI's are outlined in the tables below.

Table 5.4: SCCO's for Natural eutrophic lakes with Magnopotamion or Hydrocharition [3150].

SCCO's for Natural Eutrophic Lakes		
Attribute	**Measure**	**Target**
Habitat area	Hectares	Area stable or increasing, subject to natural processes.
Habitat distribution	Occurrence	No decline, subject to natural processes.
Typical species	Occurrence	Typical species present, in good condition, and demonstrating typical abundances and distribution.
Vegetation composition	Occurrence	All characteristic zones should be present, correctly distributed and in good condition.
Vegetation distribution	Metres	Maintain maximum depth of vegetation, subject to natural processes.
Hydrological regime	Metres	Maintain appropriate natural hydrological regime necessary to support the habitat.
Lake substratum quality	Various	Maintain appropriate substratum type, extent and chemistry to support the vegetation.
Water quality (transparency)	Metres	Maintain/restore appropriate Secchi transparency. There should be no decline in Secchi depth/transparency.
Water quality (nutrients)	µg/l P; mg/l N	Maintain the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species.
Water quality (phytoplankton biomass)	µg/l Chlorophyll *a*	Maintain appropriate water quality to support the habitat, including good chlorophyll *a* status.
Water quality (phytoplankton composition)	EPA phytoplankton composition metric	Maintain appropriate water quality to support the habitat, including good phytoplankton composition status.
Water quality (attached algal biomass)	Algal cover and EPA phytobenthos metric	Maintain trace/absent attached algal biomass (<5% cover) and good phytobenthos status.
Water quality (macrophyte status)	EPA macrophyte metric	Restore good macrophyte status.
Acidification status	pH units; mg/l	Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes.
Water colour	mg/l PtCo	Maintain appropriate water colour to support the habitat.

Dissolved organic carbon (DOC)	mg/l	Maintain appropriate organic carbon levels to support the habitat.
Turbidity	Nephelometric turbidity units/ mg/l SS	Maintain appropriate turbidity to support the habitat.
Fringing habitat	Hectares	Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of the lake habitat.

Table 5.5: SCCO's for Otter [1355].

SCCO's for Otter		
Attribute	**Measure**	**Target**
Distribution	Percentage of positive survey sites	No significant decline.
Extent of terrestrial habitat	Hectares	No significant decline. Area mapped and calculated as 330.6ha along riverbanks/lake shoreline/around pools.
Extent of freshwater (river) habitat	Kilometres	No significant decline. Length mapped and calculated as 22.7km.
Extent of freshwater (lakes) habitat	Hectares	No significant decline. Area mapped and calculated as 2097.4ha.
Couching sites and holts	Number	No significant decline.
Fish biomass available	Kilograms	No significant decline.
Barriers to connectivity	Number	No significant increase.

Potential Impacts

Potential impacts to the Lough Ree SAC as a result of the works completed on-site in the absence of planning include impacts on water quality and disturbance to fauna. The widening of the existing site entrance and upgrading of the driveway is not likely to have had an impact on the SAC as it did not result in the loss of protected habitats or disturbance to fauna. Similarly the refencing of two of the site boundaries would not have impacted on the SCCOs of the Lough Ree SAC. 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.

The repair works that were conducted to the rock harbour on-site potentially resulted in some sedimentation and siltation to the lake water as a result of the movement of the rocks. However, the impacts to water quality were likely minor, localised, and temporary. Although the works likely impacted on the SCCOs and QIs of the SAC, the impacts were not significant and are not ongoing.

5.3.2 Lough Ree SPA (Site code: 004064)

Site Description

The Lough Ree SPA largely overlaps with the Lough Ree SAC. The Lough Ree SPA covers a surface area of 123.48km^2 in three different counties. The SPA mostly follows the footprint of the Lough but also extends slightly beyond it. The rivers Shannon, Inny and Hind are the main inflowing rivers into the Lake. The highly indented shoreline of the lake creates many sheltered bays. 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 (NPWS, 2015).

Lough Ree is a popular location for recreation activities such as boating, angling, water sports and camping. Many sites on the shoreline of the lake are used for agricultural purposes including livestock grazing and hay harvesting. Many of these activities are damaging but predominantly only on a local level.

Lough Ree is of high ornithological importance for both wintering and breeding birds, including Annex I listed species and Red listed species. Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of many species, such as Whooper Swan (*Cygnus cygnus*), Goldeneye (*Bucephala clangula*), and Golden Plover (*Pluvialis apricaria*) (NPWS, 2015). The SPA is home to a nationally important breeding populations of Common Tern (*Sterna hirundo*) and Common Scoter (*Melanitta nigra*).

Table 5.6: Negative Threats, Pressures and Activities for the Lough Ree SPA.

Lough Ree SPA (Site Code: IE0004064)			
Threat Code*	**Threat Type**	**Rank^**	**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

*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

^H = High, M = Medium, L = Low

Qualifying Interests & SCCOs

As previously mentioned all Qualifying Interests (QIs) of the Lough Ree SPA are aquatic birds and waterfowl, indicating the importance of water quality and the integrity the aquatic habitats on the SPA and it's QIs. As a result of the association between the lake and the QIs, and the bird species' tendency to move between various parts of the lake, none of the QIs of the SPA can be excluded from further appropriate assessment.

The SPA supports nationally important populations of many protected species including Little Grebe (*Tachybaptus ruficollis*), Shoveler (*Anas clypeata*), and Goldeneye (*Bucephala clangula*) (NPWS, 2016). The I-WeBS data for the Lough Ree site supports the statement that the site is extremely ornithologically important, with great numbers of many protected species frequenting the site each winter, including Annex I species.

The NPWS have not yet authored Site-Specific Conservation Objectives (SSCOs) for the Lough Ree SPA. The main COs for the site are general protection and restoration of the QIs and their habitats.

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

And

"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."

The QIs and their conservation status are outlined below.

Table 5.7: Lough Ree SPA QIs and designations.

Qualifying Interest	Designation
Little Grebe (*Tachybaptus ruficollis*) [A004]	Protected Species: Wildlife Acts Threatened Species: Birds of Conservation Concern - Amber List
Whooper Swan (*Cygnus cygnus*) [A038]	Protected Species: Wildlife Acts Protected Species: EU Birds Directive EU Birds Directive: Annex I Bird Species Threatened Species: Birds of Conservation Concern - Amber List
Wigeon (*Anas penelope*) [A050]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Amber List
Teal (*Anas crecca*) [A052]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Amber List
Mallard (*Anas platyrhynchos*) [A053]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III
Shoveler (*Anas clypeata*) [A056]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Red List
Tufted Duck (*Aythya fuligula*) [A061]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Amber List
Common Scoter (*Melanitta nigra*) [A065]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Red List
Goldeneye (*Bucephala clangula*) [A067]	Protected Species: Wildlife Acts EU Birds Directive: Annex II Threatened Species: Birds of Conservation Concern - Red List
Coot (*Fulica atra*) [A125]	Protected Species: Wildlife Acts EU Birds Directive: Annex II, Annex III Threatened Species: Birds of Conservation Concern - Amber List
Golden Plover (*Pluvialis apricaria*) [A140]	Protected Species: Wildlife Acts EU Birds Directive: Annex I, Annex II, Annex III Threatened Species: Birds of Conservation Concern - Red List
Lapwing (*Vanellus vanellus*) [A142]	Protected Species: Wildlife Acts

	EU Birds Directive: Annex II Threatened Species: Birds of Conservation Concern - Red List
Common Tern (*Sterna hirundo*) [A193]	Protected Species: Wildlife Acts EU Birds Directive: Annex I Threatened Species: Birds of Conservation Concern - Amber List

Potential Impacts

Potential impacts to the Lough Ree SPA include impacts on water quality and disturbance to the avifauna. The widening of the existing site entrance and upgrading of the driveway would not have had an impact on the SPA, as it did not result in the loss of any wetland habitat or habitat important to aquatic birds and waterfowl. The work may have caused disturbance to birds on the shore of the lake at the time however, the disturbance was likely minor and temporary. Similarly the upgrading of the fence along two of the site boundaries is not likely to have impacted on the SCCOs of the Lough Ree SPA. The height and design of the fence means it is not likely to deter birds inflight or cause collisions of flying birds commuting to and from the lake.

The repair works that were conducted to the rock harbour on-site potentially resulted in some sedimentation and siltation to the lake water as a result of the movement of the rocks and disturbance. However, the impacts to water quality were likely minor, localised, and temporary. A decrease in water quality would have a negative impact on the QIs of the SPA. Disturbance of birds as a result of the repairs to the harbour would have been minor and temporary as the work did not extend beyond a single day. Although the works did likely impact on the QIs of the SPA, the impacts were not significant and would not have undermined the SCCOs.

5.4 Assessment of Potential Impacts & Potential Mitigation

Table 5.8: Assessment of potential impacts on Lough Ree 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 project.	**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 project.	**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 project.	**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 project.	**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 project.	**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 project.	**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 project.	**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.

Table 5.9: Assessment of potential impacts on Lough Ree 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	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.	**Precautionary Measures**: Water quality measures including silt and sediment control and control of use of fertilisers, chemicals.

Birds of Conservation Concern: Amber	Whooper swans were recorded in the locality by I-WeBS in 2018/19.	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 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	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.

Birds of Conservation Concern: Red		
[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.

5.5 Summary of Potential Impacts

The identification of impacts and the assessment of their significance requires the identification of the type and magnitude of the impacts. For example, are the impacts short term or long term, direct or indirect, or cumulative with other planning projects permitted at the time. This section will establish whether the potential impacts and subsequent effects of the application at Cashel, Newtowncashel identified in the previous section, are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the conservation objectives of the Natura 2000 site identified.

The possible impacts to the Lough Ree SAC and Lough Ree SPA are listed below.

1. Potential impacts to the water quality of Lough Ree and subsequently the Lough Ree SAC and SPA. Water quality may be impacted as a result of sedimentation and siltation as a result of the repair works conducted on the rock harbour on the shore of the lake. The potential for the works to have impacted on the lake's water quality would have been greater if there was high levels of rainfall at the time or directly following the works. Negative impacts to the water quality as result of sedimentation from dry concrete used to secure the new fencing into place within 5m of the water's edge. Runoff from the dry concrete would have been highly alkaline and potentially impacted on the water pH.
2. Potential disturbance to local fauna, including Otter (Lough Ree SAC QI), as a result of the works completed onsite, particularly the repairs to the rock harbour. Noise disturbance from machinery and human activity onsite on the day(s) of the works potentially disturbed fauna in the area, temporarily.
3. Potential disturbance to aquatic birds and wildfowl, including the QIs of the SPA, as a result of the works completed onsite, particularly repairs to the rock harbour. Disturbance from the machinery and human presence onsite was likely physical, visual, and audible. These potential disturbances were likely temporary and localised.

All proposed developments considered in the Zone of Influence of the project 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.

5.6 In-Combination Effect

5.6.1 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.

5.6.2 Cumulative Impact Assessment

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

The application was considered in combination with other plans and projects in the locality that could have resulted 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 focusing on projects that were likely to be taking place at the time of the works included in this application. Finalised applications lodged within the vicinity of the project within the last 5 years were examined (See **Table 5.10**).

In-combination and cumulative impacts of the project and plans within the project Zone of Influence are considered in **Table 5.10** below.

Table 5.10: In-combination Assessment with regards to the project.

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)

5.7 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 have resulted in cumulative impacts in conjunction with this 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 project, will likely not have had a significant effect on any European site(s), it can therefore be concluded that the project did not contribute to any possible cumulative effects when considered with the other developments at the time 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 project site were subject to the statutory planning process and when necessary were 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.

Section 6: MITIGATION MEASURES

Measures potentially carried out during the works at the application site in Cashel, Newtowncashel which would have mitigated against the potential for significant effects to have arisen on the Lough Ree SAC and SPA include:

- The site entrance lies on the northern side of the incline on-site with the incline sloping away from the entrance and the location of works with machinery (i.e. the removal of pillars from entrance and widening).
- The existing driveway also lies on the northern side of the incline on-site with the incline sloping away from the driveway. Therefore, any suspended sediment in groundwater coming from the stone deposited on the driveway would not enter the lake, filtering through the water table instead.
- The installation of the upgraded fence was conducted manually by hand and without heavy machinery, therefore protecting the integrity of the soil profile, excluding the risk of run-off into the lake. Additionally no habitats were lost or fragmented as a result of the fence installation.
- The short timespan of the works also minimised potential impacts on the SAC and SPA. Limiting the works to minimal number of days meant there was less of a risk of prolonged disturbance and/or risk of increased water run off as a result of poor weather conditions. Additionally these works were a one-off occurrence and were not repeat and will not be repeated in the absence of approval.
- The use of dry concrete to install the uprights of the new fencing reduced the risk of sedimentation and impacts on water pH as dry concrete does not require mixing and is ready to pour, therefore mitigating against the risk of concrete sediment entering the local watercourses. The quick drying nature of dry concrete (24 to 48 hours) further reduces the risk of sedimentation and increasing of the water's pH.

Section 7: APPROPRIATE ASSESSMENT CONCLUSION

This remedial NIS has been undertaken to evaluate the potential impacts of the development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the Lough Ree SAC (000440) and Lough Ree SPA (004064). Impacts were considered as either having potentially occurred or having the potential to occur.

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. No other plans or projects were identified by this rNIS that would have resulted in the cumulative significant impacts on the relevant Natura sites.

The works completed had the potential to result in siltation, sedimentation and contaminated run-off reaching Lough Ree and thus impacting negatively on water quality. However the mitigation measures outlined in Section 6 outline measures that were adopted to minimise the potential impacts on water quality. The works also had the potential to result in the disturbance of the local fauna including QIs of the SAC and SPA. However, again Section 6 outlines how the process of the works meant that risk of negatively impacting on fauna was low, temporary and localised.

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'. This rNIS has identified that given the nature of the works completed and the implementation of mitigation measures, the completed works did not give rise to adverse effects on the integrity of any of the identified European sites.

The rNIS identifies mitigation measures that were in place which ensured avoidance of the potential effects identified and ensured that the structure and functions of the SAC and SPA were not significantly affected, thus demonstrating that mitigation was sufficient to avoid adverse impacts throughout the time period of the application project.

The implementation of the mitigation measures on site and the nature of the works completed means that it can be concluded, in the light of best scientific knowledge, that there has been no, nor will there be any significant effects upon the Lough Ree SAC and SPA and the QIs for which these sites have been designated.

Section 8: DECLARATION

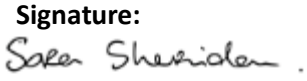
It can be objectively concluded that considering for the mitigation measures adopted and the nature of the works completed, there were no significant direct, indirect or in-combination effects on the Qualifying Interests of the Lough Ree SAC (000440): [3150] Natural Eutrophic Lakes, [6210] Orchid-rich 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, considering for the mitigation measures adopted and the nature of the works completed, there were no significant 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, did not adversely affect the integrity of any European site.

I/We declare that this remedial 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		11/10/2023

Section 9: REFERENCES

Aughney, T., Roche, N. and Langton, S. (2022) *Irish Bat Monitoring Programme 2018-2021*. Irish Wildlife Manuals, No. 137. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. & Fuller, R.J. (2013). *Bird Atlas 2007-11: The breeding and wintering birds of Britain and Ireland*. BTO Books, Thetford.

Burke, B., Lewis, L. J., Fitzgerald, N., Frost, T., Austin, G. & Tierney, D. T. (2018) *Estimates of waterbird numbers wintering in Ireland, 2011/12 – 2015/16*. Irish Birds. 11:1-12

Chanin, P. (2003) *Ecology of the European Otter*. Conserving Natura 2000. Rivers Ecology Series No. 10. English Nature, Peterborough.

Chilibeck, B., G. Chislett, and G. Norris (1992) *Land development guidelines for the protection of aquatic habitat*. Department of Fisheries and Oceans, Canada. Habitat management division. Ministry of Environment Lands and Parks. Integrated Management Branch.

CIEEM, (2018) *The Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.2. Chartered Institute of Ecology and Environmental Management, Hampshire, UK.

Cleave, A. (1995) *Birds of Britain & Europe*. Chancellor Press, Hong Kong.

Crisp, D.T. (1996) *Environmental requirements of common riverine European salmonid fish species in fresh water with particular reference to physical and chemical aspects*. Hydrobiologia 323: 201 – 221.

Curtis, T., Downes, S., and Ní Chatháin, B. (2009). *The ecological requirements of water-dependant habitats and species designated under the Habitats Directive*. Biology and Environment: proceeding of the Royal Irish Academy: 109B: 261-319.

DEHLG, (2010). *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities*. Department of Environment, Heritage & Local Government. Available at: https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

EPA, (2023) *EPA Maps*. European Protection Agency. Available Online at: https://gis.epa.ie/EPAMaps/default

Fitzgerald, N., Burke, B. & Lewis, L. J. (2021) *Irish Wetland Bird Survey: Results of waterbird monitoring in Ireland in 2016/17 and 2017/18*. BirdWatch Ireland, Wicklow.

Fitter, R., Fitter, A., & Farrer, A. (1984) *Grasses, sedges, rushes and ferns of Britain and Northern Europe*. Harper Collins, London.

Fossitt, J.A. (2000) *A Guide to Habitats in Ireland*. The Heritage Council, Kilkenny.

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

Hendry, D. and Cragg-Hine, K. (2003) *Ecology of the Atlantic Salmon*. Conserving Natura 2000 Rivers Monitoring Series No. 7, English Nature, Peterborough.

Hubbard, C.E. (1992) *Grasses: A Guide to their Structure, Identification, Uses and Distribution in the British Isles*. Penguin Books, Middlesex.

Jermy, A.C., Chater, A.O. & David, R.W. (1982) *Sedges of the British Isles*. BSBI Handbook No. 1. Botanical Society of Britain and Ireland, London.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., Fitzpatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011) *Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Lundy, M. G., Aughney, T., Montgomery, W. I., & Roche, N. (2011) *Landscape conservation for Irish bats & species-specific roosting characteristics*. Bat Conservation Ireland.

Marnell, F., Looney, D. & Lawton, C. (2019) *Ireland Red List No. 12: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

NBDC, (2023) *Biodiversity Maps*, National Biodiversity Data Centre. Available at: https://maps.biodiversityireland.ie/Map

NPWS, (2015*). Site Synopsis: Lough Ree SPA 004064*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS, (2016). *Conservation Objectives: Lough Ree SAC 000440*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS, (2019). *Site Synopsis: Lough Ree SAC 000440*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

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.

NPWS, (2009) *Threat Response Plan: Otter (2009-2011)*. National Parks & Wildlife Service, Department of Housing, Local Government and Heritage.

NRA, (2005) *Guidelines for the Crossing of Watercourses During the Construction of National Road Schemes*. National Road Authority, Dublin.

NRA, (2009) *Guidelines for the Assessment of Ecological Impacts*. National Roads Authority. Available Online at: http://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf.

Olsen, L. H. (2013) *Tracks and Signs of the Animals and Birds of Britain and Europe*. Princeton University Press, Oxfordshire.

OPR, (2021) *Appropriate Assessment Screening for Development Management*. Office of the Planning Regulator. Department of Housing, Local Government and Heritage, Ireland.

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) *National Otter Survey of Ireland 2010/12*. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Scholefield D. & Stone A.C. (1995) *Nutrient losses in runoff water following application of different fertiliser to grassland cut for silage*. Ag Env 55: 181–191.

Skinner, A, Young M. & Hastie L. (2003). *Ecology of the Freshwater Pearl Mussel*. Conserving Natura 2000 Rivers Ecology Series No. 2 English Nature, Peterborough.

Smith, A. J. E. 2004. *The Moss Flora of Britain & Ireland*. 2nd Ed. Cambridge.

Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council, Kilkenny.

Stace, C. (1991) *New flora of the British Isles*. Cambridge University Press.

Svobodova, Z., Lloyd, R. & Machova, J. (1993) *Water Quality and Fish Health*. EIFAC Technical Paper 54. European Inland Fisheries Advisory Commission.

The Birds Directive, (2009) *Council Directive 2009/147/EC on the Conservation of wild birds*. The European Union.

The Habitats Directive, (1992) *Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora*. The European Union.

Webb, D. A., Parnell, J. and Doogue, D. (1996) *An Irish Flora*. Dundalgan Press, Dundalk.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) *Ireland Red List No. 10: Vascular Plants*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

Section 10: APPENDICES

Appendix 1. MAPS & FIGURES

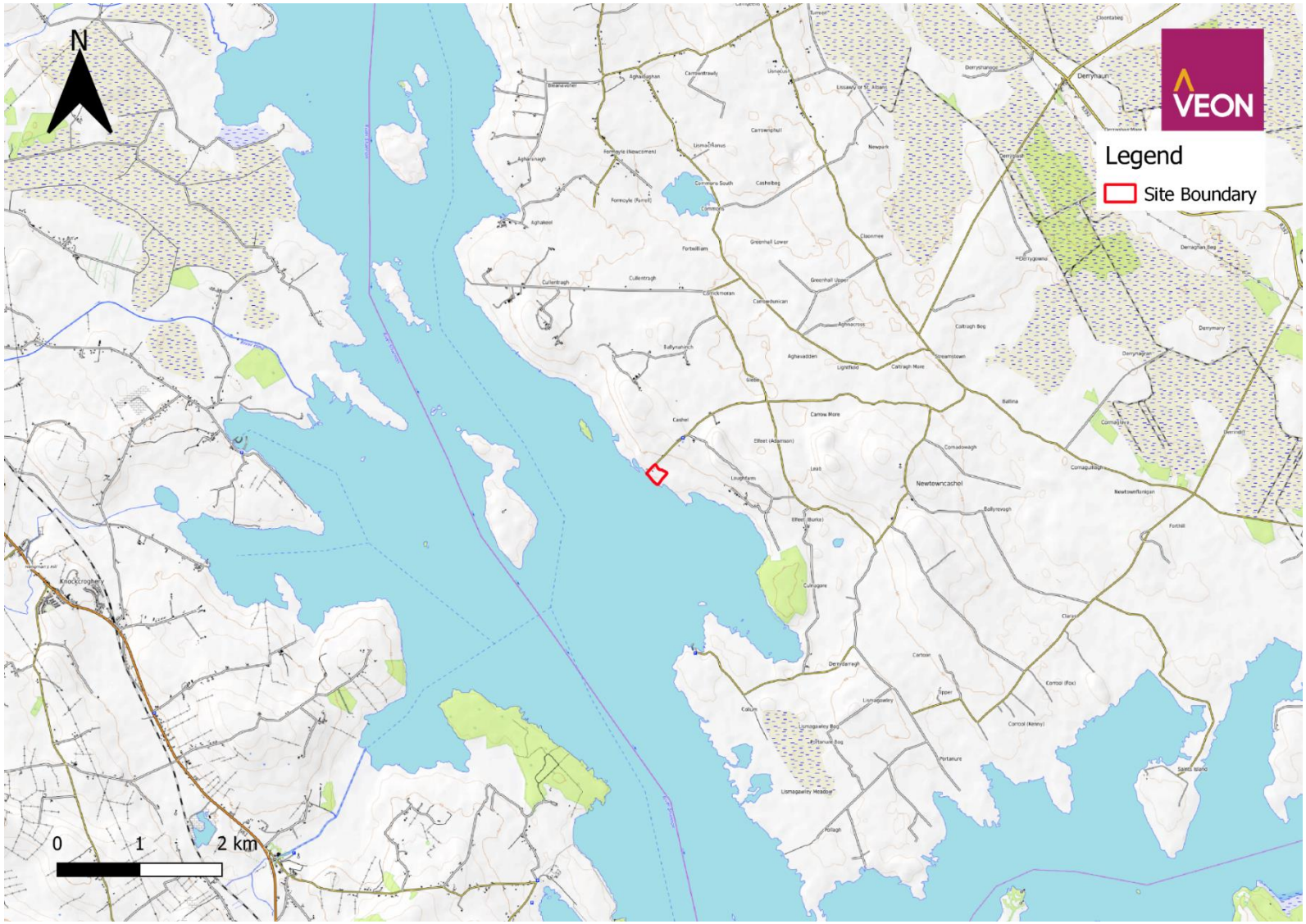


Figure 10.1: Application Site Location Map and redline boundary.

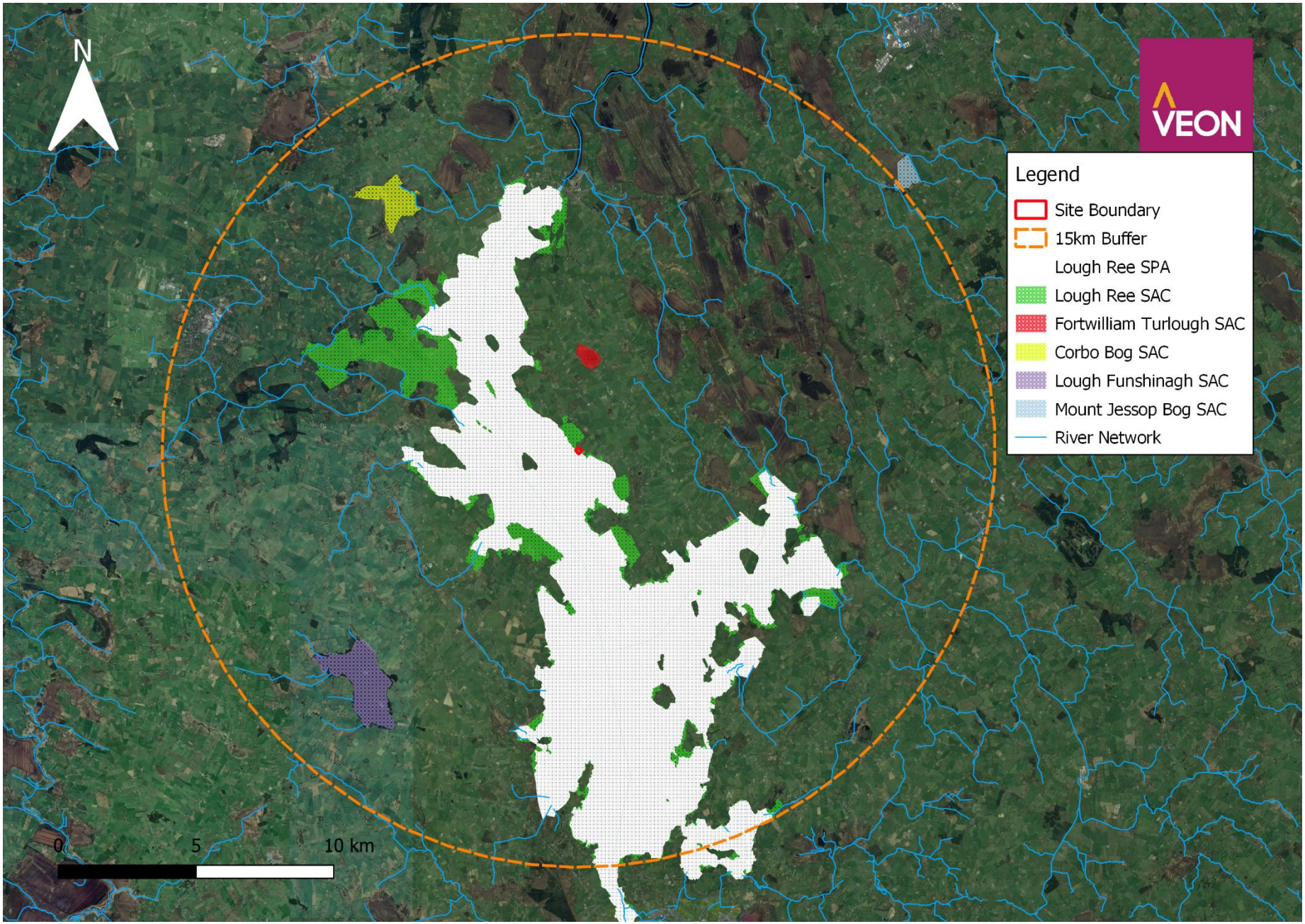


Figure 10.2: Application site and relevant Natura 2000 sites.

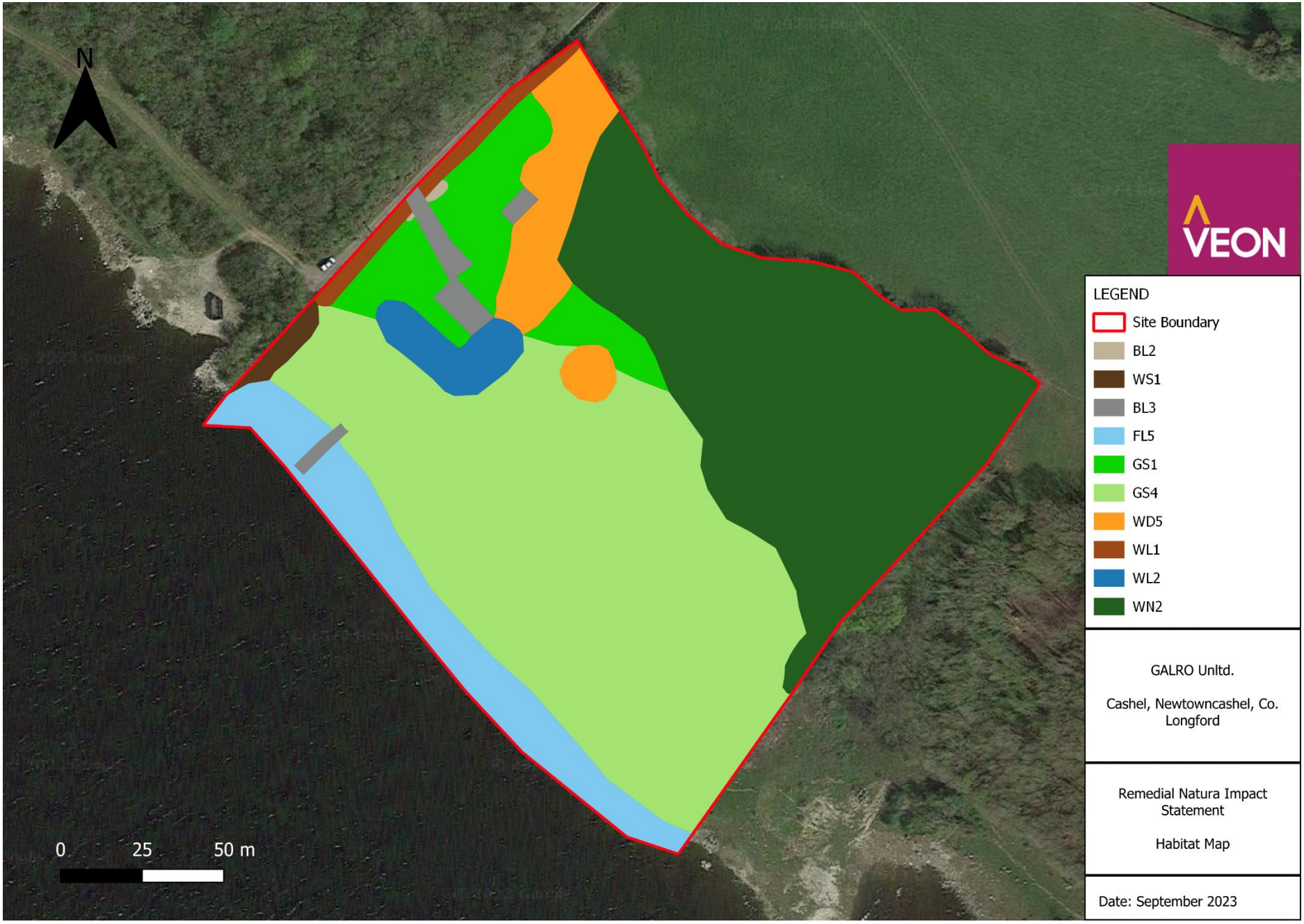


Figure 10.3: Habitat map of the site using Fossitt (2000) classifications.

Figure 10.4: Map of the application site and works completed.

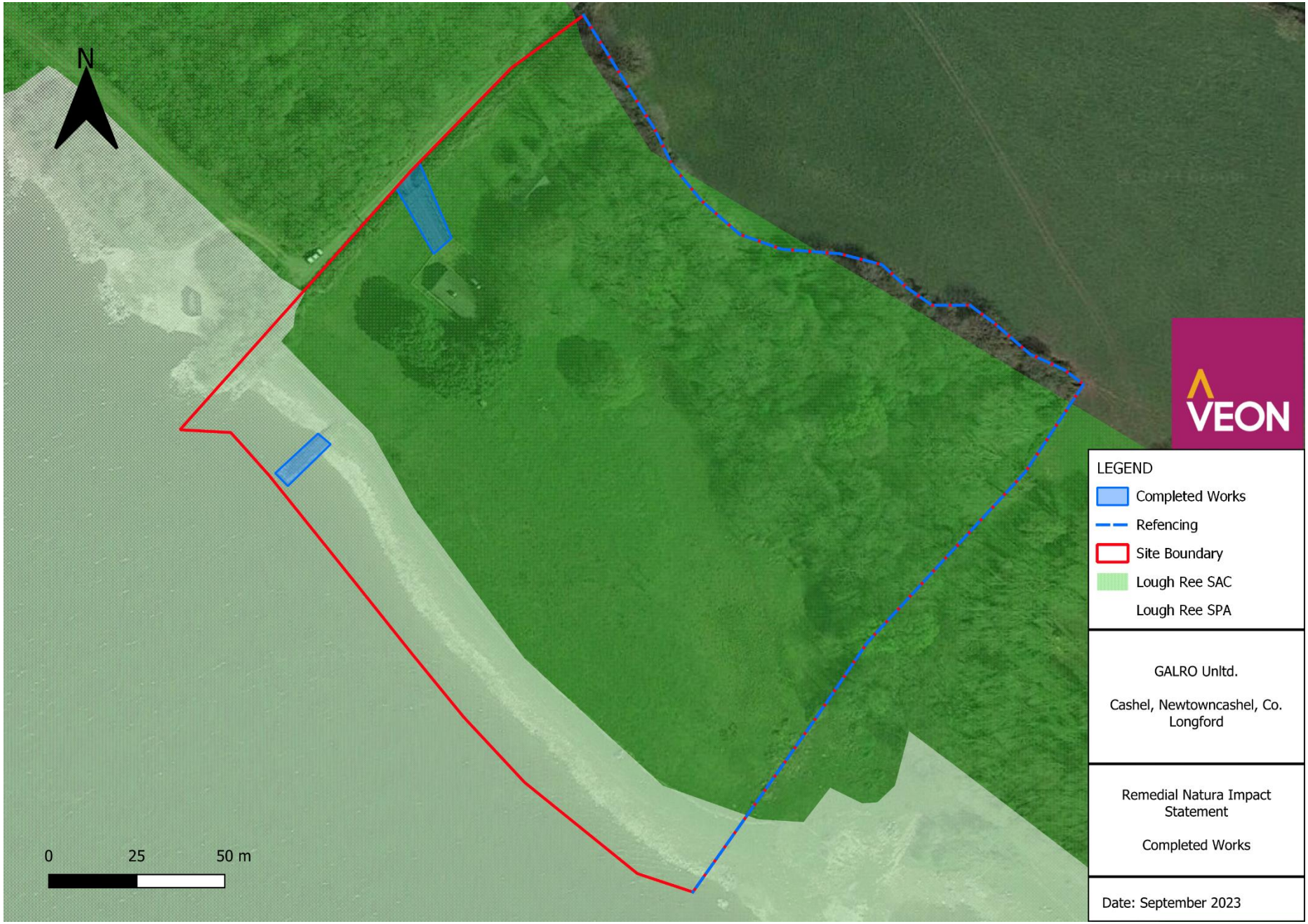


Figure 10.5: The relevant Nature 2000 sites and works completed.

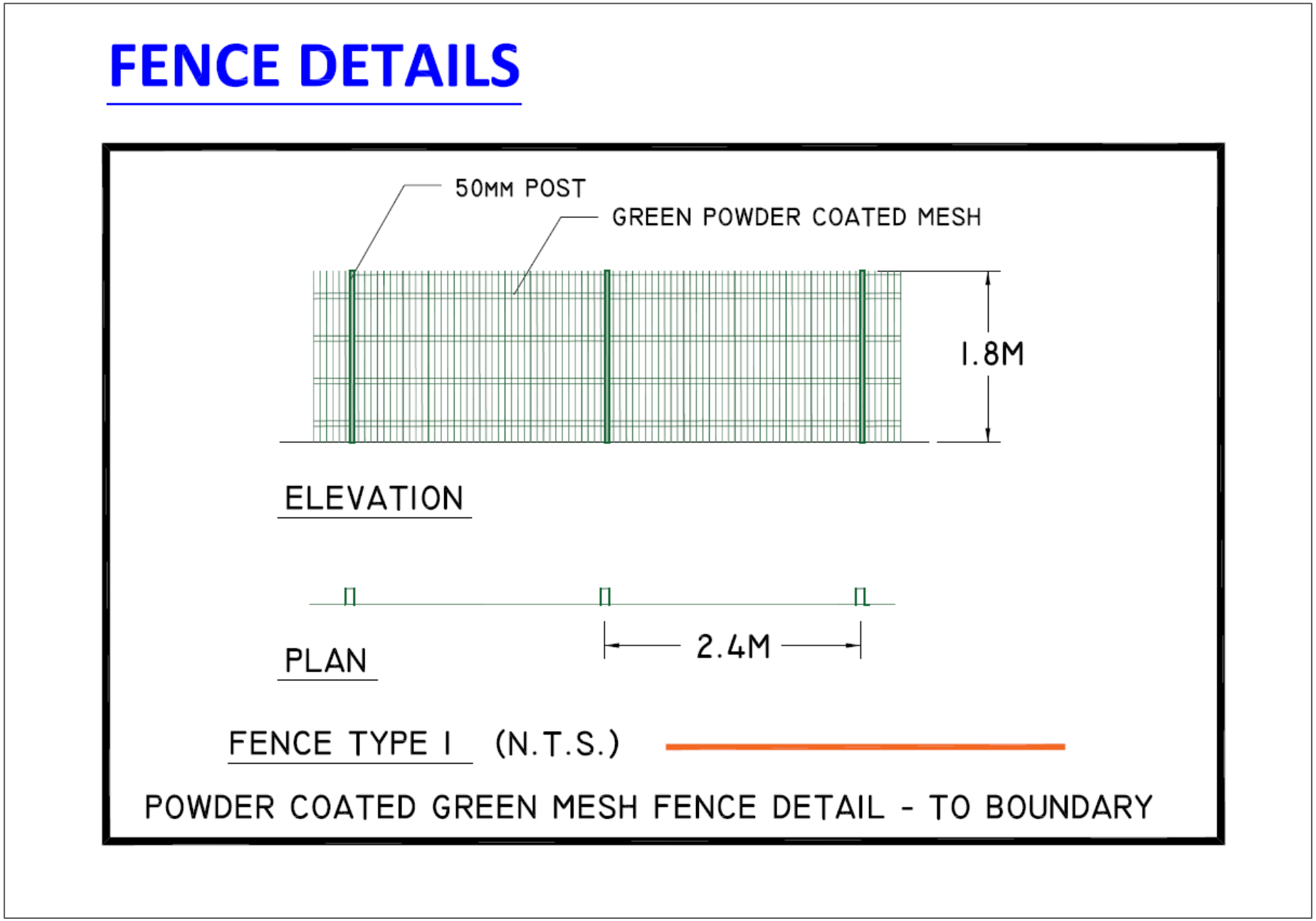


Figure 10.6: New fencing details.

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 10.1: 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 10.2: 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.

7. Further References

Brooker, M. P. (1985). *The Ecological Effects of Channelization*. The Geographical Journal 151, 63- 69.

CIEEM, (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester.

Cleave, A. (1995). *Birds of Britain & Europe*. Chancellor Press, Hong Kong.

DAFM, (2019) Appropriate Assessment Procedure: Guidance Note & iFORIS SOP for DAFM Forestry Inspectors (v.05Nov19) (DAFM, 2019).

DoEHLG, (2010) *Appropriate Assessment of Plans & Projects in Ireland. Guidance for Planning Authorities*. Department of Environment, Heritage & Local Government. Available at: www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

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.

EC, (2018) *Managing Natura 2000 sites: the provisions of Article 6 of the habitat's directive 92/43/EECA*. European Commission, Luxembourg: Office for official publications of the European Communities.

EPA, (2023) *Appropriate Assessment Tool*. European Protection Agency. Available at: https://gis.epa.ie/EPAMaps/AAGeoTool

Fossitt, J. A. (2000) *A Guide to Habitats in Ireland*. The Heritage Council, Kilkenny.

Gardiner, M. J. & Radford, T. (1980) *Soil Associations of Ireland and Their Land Use Potential: Explanatory Bulletin to Soil Map of Ireland*. An Foras Taluntais, Dublin.

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

Hubbard, C. E. (1992) Grasses: A Guide to their Structure, Identification, Uses and Distribution in the British Isles

NBDC, (2023) *Biodiversity Maps*. National Biodiversity Data Centre. Available at: https://maps.biodiversityireland.ie/Map.

NIFM, (2023). *Flood Maps*. National Indicative Fluvial Mapping. Office of Public Works, Ireland. Available at: https://www.floodinfo.ie/map/floodmaps/#

NPWS, (2015) *Site Synopsis: Lough Ree SPA 004064*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS, (2016) *Conservation Objectives: Lough Ree SAC 000440*. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS, (2019) *Site Synopsis: Lough Ree SAC 000440*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

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. Smith, A. J. E. 2004. The Moss Flora of Britain & Ireland. 2nd Ed. Cambridge

NRA, (2009) *Guidelines for the Assessment of Ecological Impacts*. National Roads Authority. Available Online at: http://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf.

Olsen, L. H. (2013) *Tracks and Signs of the Animals and Birds of Britain and Europe*. Princeton University Press, Oxfordshire.

OSI, (2023) *Geohive*. Ordinance Survey Ireland, Department of Housing, Local Government and Heritage. Available at: https://webapps.geohive.ie/mapviewer/index.html

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013*) National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Smith, G. F., O'Donoghue, P., O'Hora, K. & Delaney, E., (2011) *Best Practice Guidance for Habitat Survey and Mapping*. The Heritage Council, Kilkenny.

Stace, C. A. (2010) *New Flora of the British Isles*. 3rd Edition. Cambridge University Press.

Svensson, L., Mullarney, K. and Zetterstrom, D. (2022) *Collins Bird Guide*. 3rd Ed. Collins Publisher, London.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) *Ireland Red List No. 10: Vascular Plants*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

8. Further Appendices (Biodiversity Data)

Table 10.3: 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 10.4: 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 10.5: 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 10.6: 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 10.7: 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 10.1: Buildings and Artificial Surface (BL3) habitat present within the survey site.

Photograph 10.2: Hedgerows (WL1) and Earth Banks (BL2) habitats present within the survey site.

Photograph 10.3: Scattered trees (WD5) habitat present on the development site.

Photograph 10.4: Semi-natural Oak-ash-hazel woodland (WN2) habitat present within the survey site.

Photograph 10.5: Wet Grasslands (GS4) habitat present on site.

Photograph 10.6: Eutrophic Lake (FL5) habitat, Lough Ree adjoining the survey site.

Photograph 10.7: Treeline (WL2) habitat, of non-native coniferous trees in the survey site.

Photograph 10.8: New fencing installed on-site.

Photograph 10.9: The upgraded boundary fencing.

Photograph 10.10: Repaired rock harbour.