Natura Impact Statement

For
Louise Corrigan at Aclare, Co. Sligo

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1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

In September 2022, Coyle Environmental were appointed by Louise Corrigan to provide the necessary information to allow the competent authority (in this case Sligo County Council) to conduct an Article 6 (3) Appropriate Assessment for proposed works at Gortersluin, Aclare, Co. Sligo. This information is being submitted as a Natura Impact Statement (NIS), which was requested by the Planning Authority at pre-planning stage.

The purpose of this NIS is to determine the appropriateness of the proposed project, in the context of the conservation status of the site or sites. In Ireland, an Appropriate Assessment takes the form of a Natura Impact Statement (NIS), which is a statement of the likely impacts of the plan or project on a Natura 2000 site. The NIS comprises an assessment of the plan or project and it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans or projects on one or more Natura 2000 sites in view of the sites' conservation objectives.

1.2 THE AIM OF THE REPORT

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (DoEHLG, 2009, Revised February 2010). An NIS should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated.

Accordingly, a comprehensive assessment of the potential impacts of this application on Natura 2000 sites was carried out in September 2022 by Noreen McLoughlin, MSc, MCIEEM. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

1.3 REGULATORY CONTEXT

RELEVANT LEGISLATION

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special

Protection Areas (SPAs) for the conversation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2027 and that status does not deteriorate in any waters.

Appropriate Assessment and the Habitats Directive

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 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 Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the site 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 in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

The Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site's conservation objectives.

The 'Appropriate Assessment' itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

'(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.'

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity of the European site. If adverse impacts on the integrity of a European site cannot be avoided, then mitigation measures should be applied during the appropriate assessment process to the point where no adverse impacts on the site remain. Under the terms of the Habitats Directive consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there

is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This NIS has been prepared with reference to the following:

- European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2021). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four-stage process is:

Stage 1: Screening – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

Stage 2: Appropriate Assessment – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: **Assessment where no alternative solutions exist and where adverse impacts remain –** An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

2.2 STATEMENT OF COMPETENCY

The site survey and NIS was carried out by Noreen McLoughlin. Noreen holds a BA (Hons) in Natural Science (Mod) Zoology and an MSc in Freshwater Ecology (TCD). She has been a full member of the CIEEM (Chartered Institute of Ecology and Environmental Management) for over 16 years. Noreen has over 17 years' experience as a professional ecologist in Ireland and she has undertaken an extensive number of Ecological Impact Assessments and Appropriate Assessments for various types of developments in recent years.

2.3 DESK STUDIES & CONSULTATION

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View – High quality aerials and street images;
- Simon Beale and Associates / Coyle Environmental – Plans and Information Pertaining to the Development.
- Sligo County Council – Information on planning history in the area for the assessment of cumulative impacts.

2.4 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (ZoI) of the proposed development was defined. Based on the potential impacts and their ZoI, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected", and for SPAs "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is 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 favourable conservation status of a species is achieved when:

- The 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.

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

Ms. Louise Corrigan is applying to Sligo County Council for planning permission for the upgrading of the existing septic tank at his residential dwelling at Gortersluin, Aclare, Co. Sligo. Planning permission is being sought here for the decommissioning of the existing septic tank on the site and the installation of a new wastewater treatment plant and percolation area. An extract from the planning drawings is shown in Figure 1.

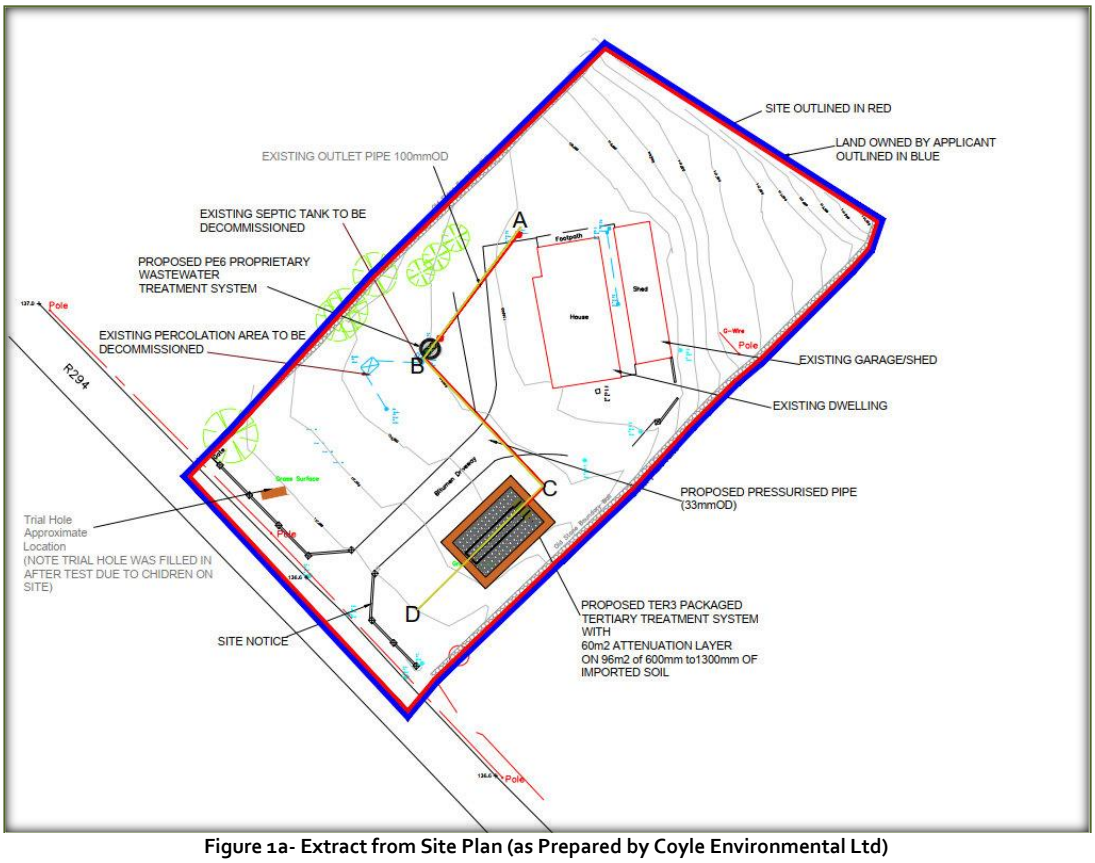


Figure 1a- Extract from Site Plan (as Prepared by Coyle Environmental Ltd)

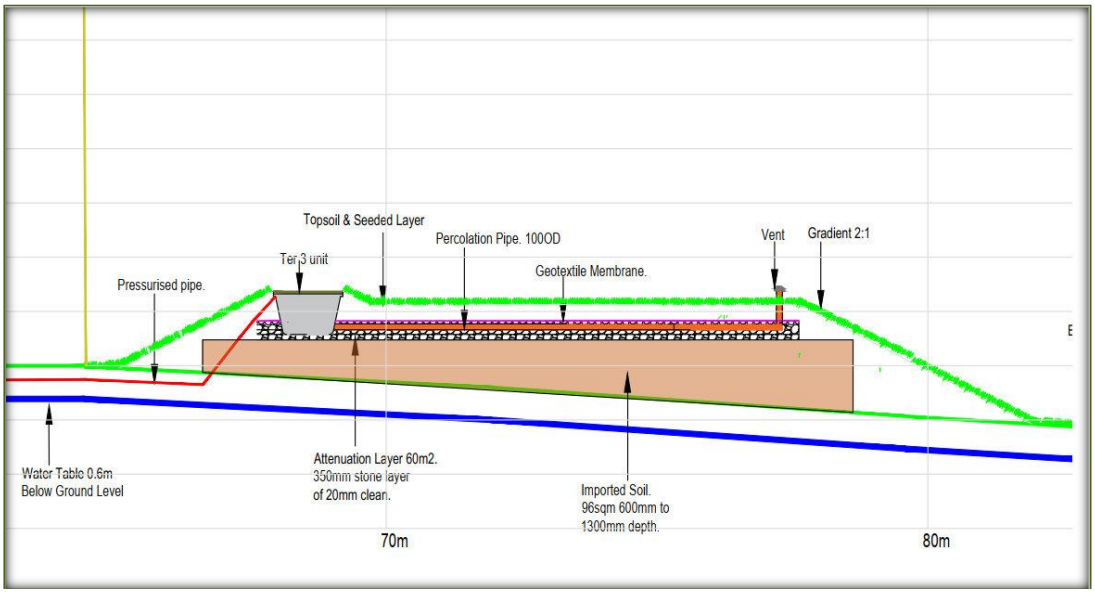


Figure 1b- Cross Section of Proposed System (as Prepared by Coyle Environmental Ltd)

Proposed Wastewater Treatment Plant Details

The application site is located within a Poor Aquifer (Pi) with high vulnerability. It has an R1 groundwater protection response, which means that the proposed risk, i.e., the treatment system and polishing filter, is suitable subject to normal good practice. The Site Characterisation Report (as prepared by Coyle Environmental) has concluded that a tertiary wastewater treatment system and infiltration / treatment area is suitable for the conditions on the site. A PE6 EuroTank TER3 (concrete packaged tertiary treatment system) has been recommended. It has a treatment efficiency of 96.6% COD, 99.3% BOD, 99.3% NH_4-N and 98.9% suspended solids. This will be constructed and operated in accordance with the EPA 2009 Guidelines. It will discharge to groundwater, which in this area is likely to flow in a southerly direction. The proposed system will be more efficient and will treat wastewater to a higher standard than the existing septic tank.

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The application site is approximately 0.3 hectares and it is located in a rural area, in the townland of Gortersluin. It will be accessed via the existing entrance into the applicant's house and garden and this entrance is just off a Regional Road (R294). The site is 5.4km north of Aclare and 7.2km south-east of Bunnyconnellan.

The site is located in the Lough Talt Valley of the Slive Gamph or Ox Mountains. The site is approximately at 150mOD, with the elevated ridges of the Ox Mountains lying to the north-east and south-west of the site. The site is located within a visually scenic area, and it is across the road from Lough Talt. The habitats surrounding the site consist of semi-improved grasslands, wet grasslands, blanket bog and heath. Coniferous forestry plantains are also common on the uplands surrounding the site. Other habitats represented locally include scrub, hedgerows, oligotrophic lakes and drains and streams. Site location maps are shown in Figures 2 and 3, whilst aerial photographs of the site and its surrounding habitats are shown in Figure 4.

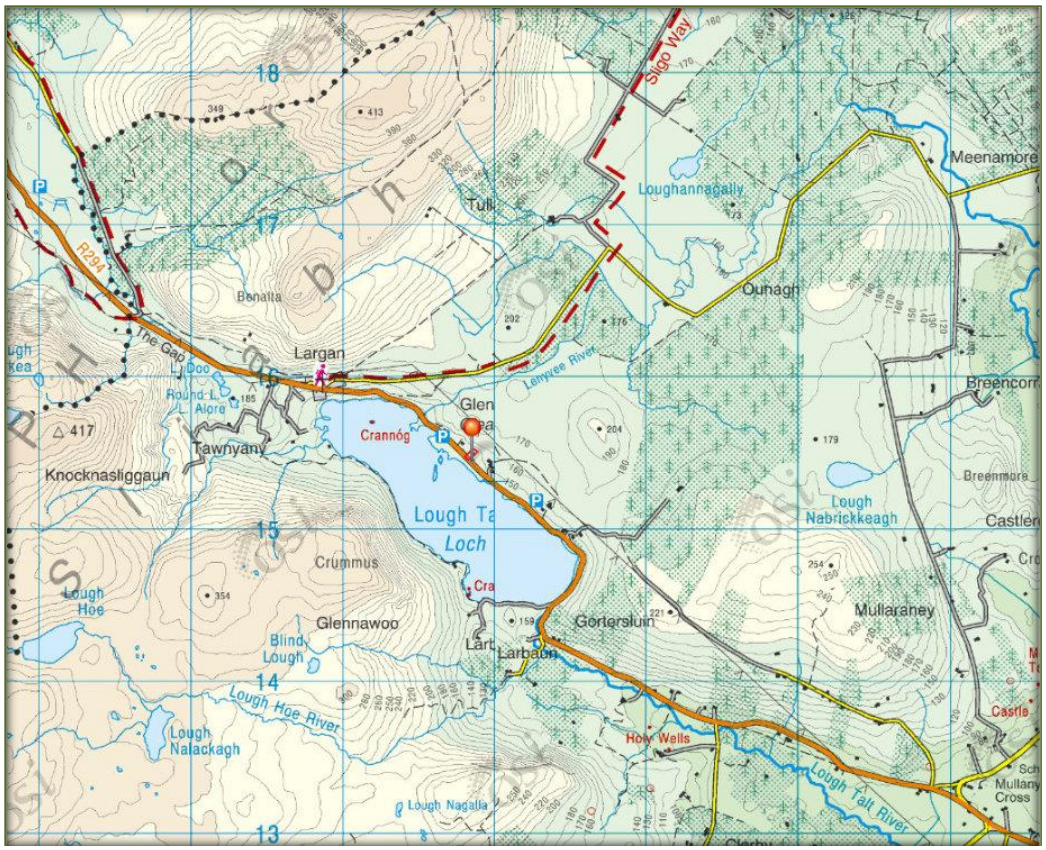


Figure 2 – Site Location Map (Site Pinned)

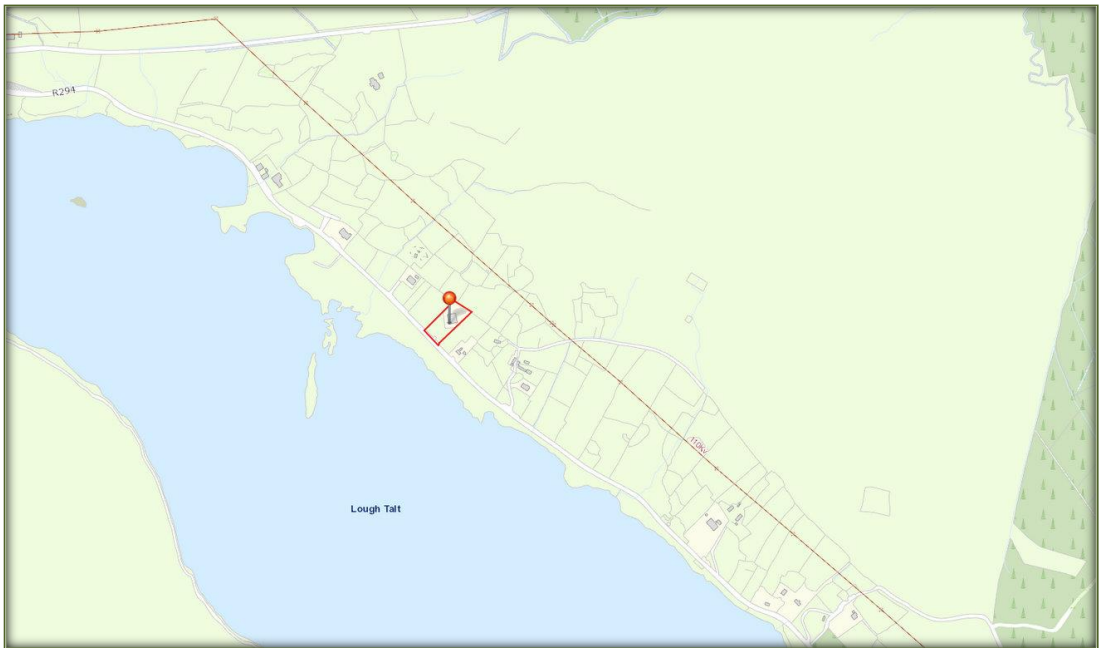


Figure 3 – Site Location Map (Site Outlined in Red)

HABITATS WITHIN THE APPLICATION SITE

The application site does not lie immediately within any area that has been designated for nature conservation purposes. The proposed works will be confined to an existing domestic site where the dominant habitats include buildings and artificial surfaces (the existing house and driveway) and amenity grasslands. The proposed new treatment plant and percolation area will be installed within an existing area of amenity grassland (lawn).

WATER FEATURES AND QUALITY

The application site is located within the Moy and Killala Bay Hydrometric Area (34) and Catchment (34), the Moy Sub-Catchment (020) and the Eignagh Sub-Basin (100). The are no watercourses within the site itself, however the site is across the road from Lough Talt, which is an upland, oligotrophic lake. This lake flows out into the Lough Talt River, which flows south through the town of Aclare to join the Eighnagh River. The Eighnagh River is a tributary of the River Moy.

The EPA have defined the ecological status of Lough Talt as good, whilst the streams that feed into it are of high status. The Lough Talt River varies from good status to hight status, and the Eighnagh River and the River Moy are also noted to be of good status in this area. Under the requirements of the Water Framework Directive, this is satisfactory and this good status must be maintained.

Figure 4a – Aerial Photograph Showing Habitats Surrounding the Application Site (Outlined in Red)

Figure 4b – Drone Shot of the Site (Courtesy of Coyle Environmental)

3.3 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 15km of the proposed development have been identified and described according to their site synopses, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

For significant effects to arise, there must be a potential impact facilitated by having a *source*, i.e., the proposed development and activities arising out of its construction or operation, a *receptor*, i.e., the European site and its qualifying interests and a subsequent *pathway* or *connectivity* between the source and receptor, e.g., a water course. The likelihood for significant effects on the European site will largely depend on the characteristics of the source (e.g., nature and scale of the construction works), the characteristics of the existing pathway and the characteristics of the receptor, e.g., the sensitivities of the Qualifying Interests (habitats or species) to changes in water quality.

The proposed works are within 15km of six sites that have been designated under the EU Habitats Directive and the EU Birds Directive. These designated areas and their closest points to the development are outlined in Table 1 and maps and aerial photographs showing their locations relative to the application site are shown in Figures 5 and 6. A full description of these sites can be read on the website of the National Parks and Wildlife Service (npws.ie).

Site Name & Code	Distance	Qualifying Interests	Screened In / Out
Lough Hoe Bog SAC 000633	6m south	• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) • Blanket bogs (* if active bog) • *Vertigo geyeri* (Geyer's Whorl Snail) • *Austropotamobius pallipes* (White-clawed Crayfish)	*Screened In – Having regards to the proximity of the proposed development site to this SAC, significant effects upon the site cannot be ruled out and will be considered further.*
Lough Nabrickkeagh Bog	158m north	• Blanket bogs (* if active bog)	*Screened In – Having regards to the proximity of*

SAC 000634			*the proposed development site to this SAC, significant effects upon the site cannot be ruled out and will be considered further.*
River Moy SAC 002298	1.1km south	• Active raised bogs • Degraded raised bogs still capable of natural regeneration • Depressions on peat substrates of the Rhynchosporion • Alkaline fens • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) • *Austropotamobius pallipes* (White-clawed Crayfish) • *Petromyzon marinus* (Sea Lamprey) • *Lampetra planeri* (Brook Lamprey) • *Salmo salar* (Salmon) • *Lutra lutra* (Otter)	*Screened Out – Having regards to the small size and scale of the development within an existing domestic site, combined with the overall separation distance and lack of direct connectivity between the application site and this SAC, then significant effects upon this site and its QIs can be screened out.*
Ox Mountains Bog SAC 002006	1.9km north	• Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae)* • Natural dystrophic lakes and ponds • Northern Atlantic wet heaths with *Erica tetralix* • Blanket bogs (* if active bog) • Depressions on peat substrates of the Rhynchosporion • *Vertigo geyeri* (Geyer's Whorl Snail)	*Screened Out - There is no hydrological or ecological connectivity between the application site and this SAC, therefore significant effects upon this site or its QIs will not arise.*
Turloughmore (Sligo) SAC 000637	14.1km east	• Turloughs	*Screened Out - There is no hydrological or ecological connectivity between the application site and this SAC, therefore significant effects upon this site or its QIs will not arise.*

Killala Bay/Moy Estuary SAC 000458	14.9km north-west	• Estuaries • Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Embryonic shifting dunes • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Humid dune slacks • Vertigo angustior (Narrow-mouthed Whorl Snail) • *Petromyzon marinus* (Sea Lamprey) • *Phoca vitulina* (Common Seal)	*Screened Out - Having regards to the small size and scale of the development combined with the overall separation distance, it is considered that significant effects upon this site and its QIs will not arise.*

Table 1 – Natura 2000 Sites Within 15km of the Proposed Site

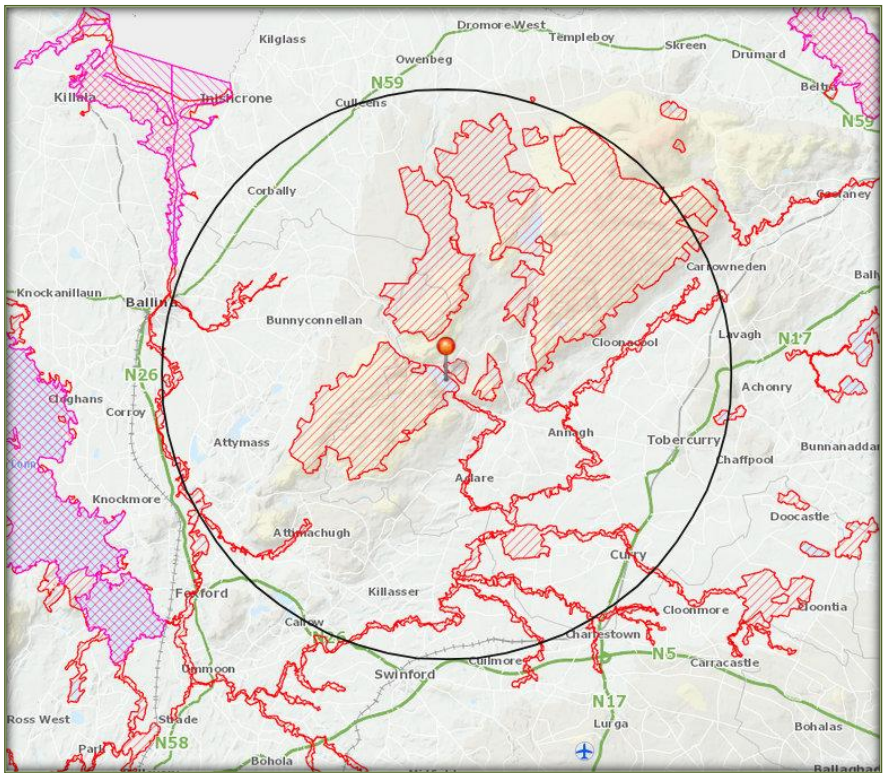


Figure 5 – The Application Site (Pinned) in relation to the Designated Sites within 15km. SACs - Red Cross Hatching, SPAs – Red Vertical Hatching.

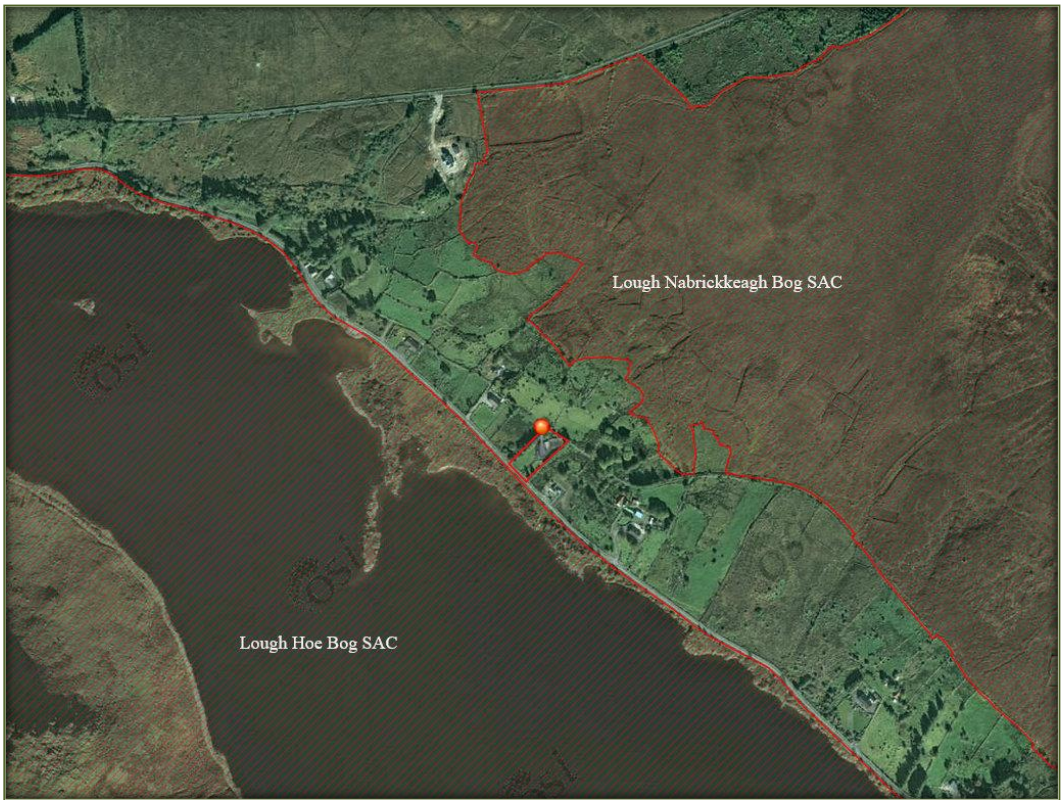


Figure 6 – The Application Site (Outlined in Red) in relation to European Sites

3.4 IDENTIFICATION OF POTENTIAL IMPACTS

The proposed development at Gortersluin will occur on a site that is within close proximity to Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC. The development is not directly connected with or necessary for the management of these sites, therefore impacts upon these designated sites arising from the installation and operation of proposed treatment plant cannot be ruled out in the absence of mitigation.

Only those features of the development that have the potential to affect the integrity and conservation objectives of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC have been considered. A number of factors were examined at this stage and dismissed or carried forward for Appropriate Assessment as relevant. The following areas were examined in relation to potential impacts from the proposed development on the Natura 2000 sites identified:

1. Pollution of surface water or groundwater in the SACs during the installation phase of the proposed treatment plant. This could lead to significant effects upon the relevant habitat and species that are listed as qualifying interests of these sites.

2. Risks to the SACs arising from the operation of the site, including from pollution to groundwater due to inadequate management or operation of the proposed treatment plant. This could lead to significant effects upon the relevant habitat and species that are listed as qualifying interests of these sites.

3. Habitat loss or fragmentation within the SACs.

4. Cumulative impacts with other proposed/existing developments.

3.5 ASSESSMENT OF SIGNIFICANCE

This section considers the list of sites identified in Section 3.3. It can be considered that all sites, with the exception of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC can be excluded from the remainder of the Appropriate Assessment process. The proposed development is very small and scale and having regards to the overall separation distance and lack of direct connectivity between the application sites and these European sites, significant effects can be ruled out.

3.6 SCREENING CONCLUSIONS

The proposed development is not directly connected with or necessary to the nature conservation management of the designated site. Therefore, following consideration of the location of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC in relation to the proposed development at Gortersluin, and the potential impacts that may occur, this project must proceed to the next stage of Appropriate Assessment, namely the Natura Impact Assessment.

4 STAGE II – APPROPRIATE ASSESSMENT

4.1 INTRODUCTION

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the proposed development at GORTERSLUIN, (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC with respect to these site's structures, species, functions and/or conservation objectives. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this application, should it receive 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.

4.2 SITE SPECIFIC CONSERVATION OBJECTIVES

For the sites that has been screened in, if Site Specific Conservation Objectives were available these were reviewed in light of the proposed development and the potential impacts that might occur. These Site Specific Conservation Objectives (SSCOs) aim to define the favourable conservation condition for the particular habitats or species at that site. They outline certain attributes (e.g., distribution, population structure, water quality) for different species and habitats with targets, which define favourable condition for a habitat or species at a particular site. The maintenance of habitats and species within the Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at national level. Where available, these SSCOs can be downloaded on the NPWS website. Any potential threats to the attributes and targets as defined in these SSCOs were assessed and where necessary, mitigated for. Where SSCOS were not available, then the SSCOs of other Natura 2000 sites with comparable QIs were referred to.

For each Qualifying Interest of the SAC, the specific conservation objective is either to *maintain or restore* the favourable conservation condition of that interest, by defining a list of attributes and targets which are indicative of the conservation status of that interest. For habitats, the main attributes include habitat area; habitat and community distribution; vegetation structure/composition and physical structure. The main target is to ensure that the habitats are stable or increasing in area and that the other attributes are maintained or restored. For the Annex II species of the SAC, the main attributes are population trend and distribution, whilst the targets aim to ensure that the long term population trends of the

species are stable or increasing and that there is no significant decrease in the numbers or range of areas used by the species, other than that occurring from natural patterns of variation.

4.3 NATURA 2000 SITES IDENTIFIED

LOUGH HOE BOG SAC

Site Summary

Lough Hoe Bog is an extensive area of undulating montane blanket bog and heath- covered rocky ridges on a lake-studded plateau in the Ox (Slieve Gamph) Mountains. It straddles the Mayo/Sligo county boundary. Lough Hoe Bog contains a large area of good quality blanket bog, a habitat that is becoming increasingly rare in Ireland. The site also contains good quality examples of oligotrophic lakes. Both of these habitats are listed on Annex II of the E.U. Habitats Directive. The presence of several rare species, and in particular the E.U. Habitats Directive Annex II listed *Vertigo geyeri* and *Austropotamobius pallipes*, adds to the conservation significance of the site.

Site Specific Conservation Objectives

In 2017, the NPWS published Site Specific Conservation Objectives (SSCOs) for the Lough Hoe Bog SAC. These SSCOs are outlined in Tables 2 – 6.

Oligotrophic Waters Containing Very Few Minerals of Sandy Plains 3110

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat area	Ha	Area stable 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: characteristic zonation	Occurrence	All characteristic zones should be present, correctly distributed and in good condition
Vegetation distribution: maximum depth	Metres	Maintain maximum depth of vegetation, subject to natural processes
Hydrological regime: water level fluctuations	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 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 high chlorophyll a status

Water quality: phytoplankton composition	EPA phytoplankton composition metric	Maintain appropriate water quality to support the habitat, including high phytoplankton composition status
Water quality: attached algal biomass	Algal cover and EPA phytobenthos metric	Restore/maintain trace/absent attached algal biomass (<5% cover) and high phytobenthos status
Water quality: macrophyte status	EPA macrophyte metric (The Free Index)	Restore high 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	Restore/maintain appropriate water colour to support the habitat
Dissolved organic carbon (DOC)	mg/l	Restore/maintain appropriate organic carbon levels to support the habitat
Turbidity	Nephelometric turbidity units/ mg/l SS/ other appropriate unit	Maintain appropriate turbidity to support the habitat
Fringing habitat: area and condition	Hectares	Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of habitat 3110.

Table 2 – SSCOs for Oligotrophic Waters

Blanket Bogs (if active bog) 7130

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline, subject to natural processes
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil nutrient status within natural range
Ecosystem function: peat formation	Active blanket bog as a proportion of the total area of Annex I blanket bog habitat	At least 99% of the total Annex I blanket bog area is active
Ecosystem function: hydrology	Flow direction, water levels, occurrence of drains and erosion gullies	Natural hydrology unaffected by drains and erosion
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes
Vegetation composition: positive indicator species	Number of species at a representative number of 2m x 2m	Number of positive indicator species present at each monitoring stop is at least seven

	monitoring stops	
Vegetation composition: lichens and bryophytes	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of bryophytes or lichens, excluding Sphagnum fallax, at least 10%
egetation composition: negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Total cover of negative indicator species less than 1%
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%
Vegetation composition: potential dominant species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of each of the potential dominant species less than 75%
Vegetation structure: signs of browsing	Percentage of shoots browsed at a representative number of 2m x 2m monitoring stops	Last complete growing season's shoots of ericoids, crowberry (Empetrum nigrum) and bog-myrtle (Myrica gale) showing signs of browsing collectively less than 33%
Vegetation structure: burning	Occurrence in local vicinity of a representative number of monitoring stops	No signs of burning in sensitive areas, into the moss, liverwort or lichen layer or exposure of peat surface due to burning
Vegetation structure: Sphagnum condition	Condition at a representative number of 2m x 2m monitoring stops	Less than 10% of the Sphagnum cover is crushed, broken and/or pulled up
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground less than 10%
Physical structure: drainage	Percentage area in local vicinity of a representative number of monitoring stops	Area showing signs of drainage from heavy trampling, tracking or ditches less than 10%
Physical structure: erosion	Percentage area in local vicinity of a representative number of monitoring stops	Less than 5% of the greater bog mosaic comprises erosion gullies and eroded areas
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat

Table 3 – SSCOs for Blanket Bogs

Geyer's Whorl Snail *Vertigo geyeri* 1013

The SSCO for this species is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: Occupied Sites	Number of Occupied 1km Grid Squares	Restore at least one sub-population
Occurrence in suitable habitat	Number of positive records in a representative number of samples	No decline, subject to natural processes
Habitat area	Hectares	Area of suitable habitat stable or increasing, subject to natural processes; at least 1ha of suitable habitat in at least sub-optimal condition
Habitat quality: soil wetness	Percentage of a representative number of sampling stops	At least 67% of a representative number of sampling stops in areas of optimal habitat should be classified as optimal wetness as defined by Moorkens and Killeen (2011); at least 25% should be optimal wetness in areas of sub-optimal habitat

Table 4 – SSCOs for *Vertigo geyeri*

White-clawed crayfish (1092)

The SSCO for this species is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	Number of Occupied 1km Grid Squares	No decline
Population structure: recruitment	Occurrence of juveniles and females with eggs	Juveniles and/or females with eggs should be present in all occupied 1km squares, subject to natural processes and availability of suitable habitat
Negative indicator species	Occurrence	No alien crayfish species
Disease	Occurrence	No instances of disease
Water quality	EPA Q value	At least Q3-4 at all sites sampled by the EPA
Habitat quality: heterogeneity	Occurrence of positive habitat features	No decline in habitat quality

Table 5 – SSCOs for Crayfish

LOUGH NABRICKKEAGH BOG SAC

Site Summary

Lough Nabrickkeagh Bog is located in the Ox Mountains, approximately 0.5 km north-west of Lough Talt in Co. Sligo. This site has been selected for blanket bog, which is an increasingly rare habitat, and as such, receives priority status on Annex I of the E.U. Habitats Directive. Lough Nabrickkeagh is a good example of an intact highland blanket bog and is of considerable conservation value.

Site Specific Conservation Objectives

In 2019, the NPWS published Site Specific Conservation Objectives (SSCOs) for the Lough Nabrickkeagh Bog SAC.

Blanket Bogs (if active bog) 7130

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the same attributes, measures and targets that were presented for this QI for Lough Hoe Bog in Table 3.

4.4 SUMMARY OF POTENTIAL IMPACTS

INTRODUCTION

In the screening section of this report, in the absence of mitigation, the following possible impacts on the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC were listed. These impacts are summarised below.

1. Pollution of surface water or groundwater in the SACs during the installation phase of the proposed treatment plant. This could lead to significant effects upon the relevant habitat and species that are listed as qualifying interests of these sites.

2. Risks to the SACs arising from the operation of the site, including from pollution to groundwater due to inadequate management or operation of the proposed treatment plant. This could lead to significant effects upon the relevant habitat and species that are listed as qualifying interests of these sites.

3. Habitat loss or fragmentation within the SACs.

4. Cumulative impacts with other proposed/existing developments.

Pollution of Surface / Groundwater Features

The proposed site works will involve the excavation of soil for the new treatment plant and percolation area. These works will take place on a site that is directly across the road from Lough Talt, which is part of the Lough Hoe Bog SAC and it is designated as it qualifies as an oligotrophic lake habitat.

If appropriate mitigation measures are not taken during the proposed works, then there is the possibility that water quality in Lough Talt may be negatively impacted upon. Potential direct impacts include the pollution of the water during construction with silt or soil which could mobilise from the site across the road to Lough Talt.

Risks due to the Operation of the WWTP

Inadequate management of the new treatment plant and / or percolation area could result in a deterioration of local ground water, which could indirectly lead to a decrease in surface water quality locally.

However, conversely the proposed treatment plant and percolation area will provide a greater level of treatment of wastewater compared to the existing septic tank and percolation area. The upgrading of the system is generally considered to be a positive impact and will provide less risk to local groundwater resources compared to the current septic tank.

CUMULATIVE IMPACTS

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first; through persistent additions or losses of the same materials or resource, and second,-through the compounding effects as a result of the coming together of two or more effects (Bowers-Marriott, 1997).

As part of the Appropriate Assessment, in addition to the proposed works, other relevant projects and plans in the region must also be considered. This step aims to identify at this stage any possible significant in-combination or cumulative effects / impacts of the proposed works on the Natura 2000 sites with other such plans and projects.

Relevant Current Plans

- Sligo County Development Plan 2021-2027 – AA (NIS) prepared for this plan
- NPWS Conservation Management Plans – No AA needed as they relate to the management of a Natura 2000 sites

Other Current Projects

The Sligo County Council planning map tool was used to identify any current plans or projects which may potentially impact in combination with the proposed works on any Natura 2000 sites. A search of the planning portal of Sligo County Council for planning applications in the Gortersluin / Aclare area for the past five years was undertaken. In this time, a number of domestic /agricultural applications were granted planning permission. Where necessary, these developments were either screened for AA and where necessary a Natura Impact Statement was submitted to mitigate against potential impacts that may arise.

Future Plans / Projects

In relation to current and future planning applications, Sligo County Council, as the competent authority, will screen each application/plan for AA. Any new application will be examined and the requirement for screening for AA (NIS) will be determined on a case by case basis to comply with the requirements of Article 6 of the Habitats Directive. Therefore, it is not considered that there will be any significant adverse in combination effects with the proposed works and any other development.

In summary, it is considered that with the implementation of effective mitigation (see Section 6) to avoid/negate any potential adverse impacts, there will be no potential for cumulative impacts arising in combination with any other plans or project which would be of

significance in respect of impacts affecting the conservation objectives or integrity of Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC.

5 MITIGATION MEASURES

In order to prevent any impacts upon the qualifying interests of the European sites, a number of mitigation measures must be implemented and followed. These measures will protect the water quality and integrity of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC. These mitigation measures are site specific and their implementation will ensure the protection of Natura 2000 habitats and species, and the local non-designated ecological receptors.

Protection of Water Quality

- Prior to the commencement of any site works, the applicant and the contactors must be made aware of the overall sensitivity of this site. They must be made familiar with the overall content of this NIS and they must be made aware of the mitigation measures contained in this NIS. A statement signed by personnel on site to say that they will adhere to the mitigation measures as outlined in this NIS must be presented to the Local Authority prior to the commencement of any works.

- Site preparation and construction should be confined to the development site only and should adhere to all the mitigation measures outlined in this NIS. No disturbances to any areas of the two SACs identified should occur during the installation or operation of the WWTP.

- The proposed treatment plant and percolation area must be installed and operated in accordance with the design specifications of the plant. It must be installed in full compliance with the EPA's Code of Practice 2021. All works must be supervised by an environmental engineer. The plant must be signed off upon and certified before use.

- The treatment plant must be serviced and emptied annually be a registered contractor.

- It is vital that there is no deterioration in water quality in Lough Talt or other watercourses close to the site. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the installation should be implemented to reduce and intercept sediment release where necessary. All silt and soil must be prevented from leaving the site and running off across the road, especially in periods of heavy rain. The driveway should be kept clean and swept daily during all works.

- It is recommended that the site works are done in a short a time period as possible and that the lawn area is re-instated and seeded immediately upon completion of installation.

- There must be no discharges of contaminated waters to ground or surface waters from this works, at any phase of the development. The control and management of hydrocarbons on site will be vital to prevent deteriorations in surface and groundwater quality locally. The following measures must be employed on site:

    - A dedicated re-fuelling location should be established on the site in a suitable compound area away from the proposed locations of excavations and groundworks. If possible, the re-fuelling of machines on site should be avoided.
    - The risk of fuel spillages on a construction site is at its greatest when refuelling plant. Therefore, only designated trained and competent operatives should be authorised to refuel plant on site. Plant and equipment should be brought to a designated refuelling area rather than refuelling at numerous locations about the site.
    - Spill kits stations should be provided at the fuelling location for the duration of the works.
    - Workers should be provided with training on spill control and the use of spill kits.
    - All fuel storage containers must be appropriately bunded, roofed and protected from vehicle movements. These bunds will provide added protection in the event of a flood event on site.
    - All chemicals must be stored as per manufacturer's instructions. A dedicated chemical bund should be provided on site if chemicals are to be stored on site. Any chemicals used on site should be returned to the site compound and secured in a lockable and sealed container overnight in proximity to the fuel storage area.
    - Procedures and contingency plans should be established on site to address cleaning up small spillages as well as dealing with an emergency incident. A stock of absorbent materials such as sand, spill granules, absorbent pads and booms should be kept on site, on plant working near the water and at the refuelling area.
    - Daily plant inspections will be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, the applicant should remove the plant from operations for repairs.
    - All personnel shall observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where conditions warrant, emergency spill containment supplies should be available for immediate use.

Protection of Habitats and Species

- All construction waste must be removed from site by a registered contractor to a registered site. Evidence of the movement and safe disposal of the construction waste will be retained and presented to Local Authority upon request. The applicants and construction contractors will be responsible for the safe removal of any construction waste generated on site. There must be no disposal of construction waste or spoil in areas outside of the application site or within any SAC / SPA.

6 APPROPRIATE ASSESSMENT CONCLUSION

This current NIS has been undertaken to evaluate the potential impacts of the proposed development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the Lough Hoe Bog SAC and Lough Nabrickkeagh Bog SAC. It is considered that following mitigation, that the proposed project does not have the potential to significantly affect the conservation objectives of these aforementioned Natura 2000 sites and the integrity of these sites as a whole will not be adversely impacted.

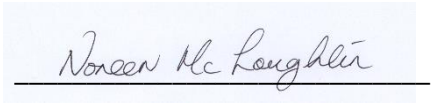
The qualifying interests of the site and their potential to be impacted upon from the potential development were listed in Section 4.2. It is considered that these potential impacts can be successfully mitigated against. With implementation of the mitigation measures there will be no deterioration in water quality or impacts upon any designated habitat or any species dependent on these designated habitats.

In light of the above, it is considered beyond reasonable scientific doubt that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the Natura 2000 sites. The integrity of the site will not be adversely affected. Table 6 follows the integrity of the SAC / SPA checklist, which shows that the integrity of the site would not be affected by the proposed development.

Conservation Objective: Does the project have the potential to:	**Yes / No**
Cause delays in progress towards achieving the conservation objectives of the site?	N
Interrupt progress towards achieving the conservation objectives of the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	N
Other Objectives: does the project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N
Interfere with predicted or expected natural changes to the site (such as water dynamics	N

or chemical composition)?	
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce diversity of the site?	N
Result in disturbance that could affect population size or density or the balance between key species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)	N

Table 6 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002)



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