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NATURA IMPACT STATEMENT OF A PROPOSED DEVELOPMENT IN UNION TD., COLLOONEY, CO. SLIGO



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TABLE OF CONTENTS

1	INTRODUCTION	3
1.1	Requirement for an Appropriate Assessment	3
1.2	The Aim of the Report	3
1.3	Regulatory Context	4
2	METHODOLOGY	8
2.1	Appropriate Assessment	8
2.2	Statement of Competency	10
2.3	Desk Studies & Consultation	10
2.4	Assessment Methodology	11
3	SCREENING	12
3.1	Development Description	12
3.2	Site Location and Surrounding Environment	14
3.3	Natura 2000 Sites Identified	17
3.4	Identification of Potential Impacts	22
3.5	Assessment of Significance	23
3.6	Screening Conclusions	23
4	STAGE II – APPROPRIATE ASSESSMENT	24
4.1	Introduction	24
4.2	Natura 2000 Sites Identified	25
4.3	Summary of Potential Impacts	42
5	MITIGATION MEASURES	46
6	APPROPRIATE ASSESSMENT CONCLUSION	51
	APPENDIX I - REFERENCES AND FURTHER READING	53

1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

This Natura Impact Assessment was prepared for a proposed development at Union Td., Collooney, Co. Sligo. Having regard to the location of the proposed development site and its proximity to sites designated under the Natura 2000 network, an Appropriate Assessment of the proposed development was prepared in accordance with Article 6 of the Habitats Directive. This NIS will allow the Competent Authority, in this case Sligo County Council, to undertake an Appropriate Assessment of the proposed development, as required under Article 6(3) of the Habitats Directive. This NIS followed on from a Request for Further Information made by Sligo County Council with regards this proposed development (Planning Reference No: 21/436).

The purpose of the assessment 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 a comprehensive 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), and it provides an assessment of the potential effects of a proposed development at Union Td., Collooney, Co. Sligo on certain European sites.

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 was carried out in June 2022 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. 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 Directive 2009/147/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 conservation 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

This NIS was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over 16 years. Noreen has over 18 years' experience as a professional ecologist in Ireland.

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.
- Inland Fisheries Ireland – A submission made by IFI regarding this proposed development was considered.
- Davitt Plan and Design Ltd – Flood Risk Assessment for the Site.
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area.
- Ciaran McIntyre – Plans and information regarding the proposed development.
- Sligo County Council – Information on planning history in the area.

2.4 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (Zol) of the proposed development was defined. Based on the potential impacts and their Zol, 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 SSCO should be considered in detail.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

In November 2021, Michelle Grey applied to Sligo County Council for planning permission for a residential development on a site in Union Td., Collooney, Co. Sligo. Planning permission is being sought here for the following:

The demolition of part of an existing dwelling house with the construction of a new 2 storey and single storey extension including alterations to existing dwelling and all associated site works including proprietary sewage treatment system and percolation area.

An extract from the planning drawings is shown in Figure 1.

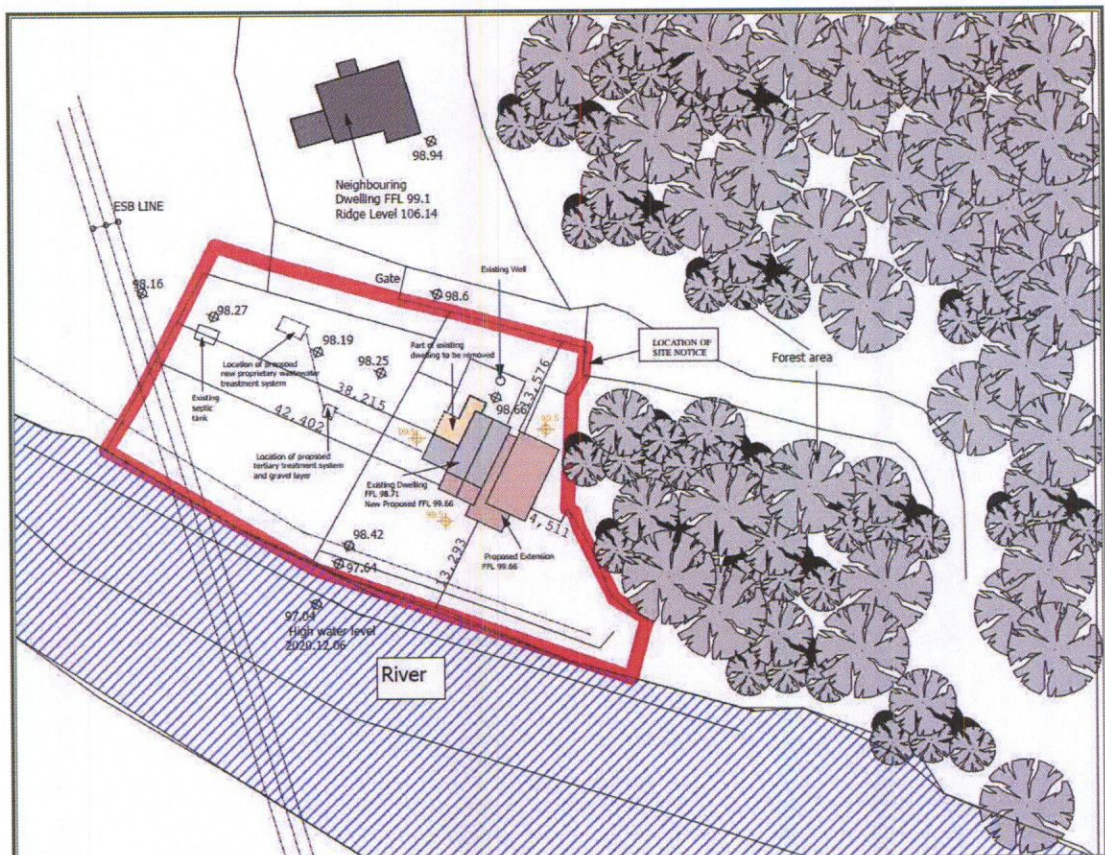


Figure 1 – Extract from Planning Drawings Submitted (Ciaran McIntyre)

Wastewater Treatment

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 is acceptable subject to normal good practice and as long as certain additional criteria are met. The site characterisation form pertaining to this development (as prepared by F. Davitt Planning and Design Engineers) has recommended that the existing septic tank on site is decommissioned and replaced with a tertiary treatment system and distribution area. A Tricel Nova Package Plant with Tricel Puraflo Tertiary Treatment system has been recommended. This system has a performance efficiency of 91.6% for COD, 95.9% BOD, 79.9% NH₄-N and 95.3% suspended solids. This system will discharge to groundwater which in this area is likely to flow to the north-west.

Surface Water Treatment

Excess surface water from the site will be discharged to a soak pit. In order to achieve attenuation on site, the hard standing areas will remain as open stone hardcore for the short term. If in the future, these areas are upgraded to a finished product, a permeable pavement which will help reduce run-off rates and flow volumes from parking areas as well as the access road will be utilised.

Flood Risk

A Flood Assessment of the site has been carried out by Davitt Plan and Design. This assessment concluded that the site is contained within Flood Zone A, i.e., high probability of flooding from the Ballysadare River. In order to reduce probability of flooding of the house in the future, the finished floor level of the existing house and extension will be raised by 900mm.

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The application site is 0.236 hectares and it is located in a rural area in the townland of Union. The site encompasses an existing cottage and the garden surrounding it. It will be accessed via an existing private cul-de-sac, which is located just off a local, third class road. The site is 1.2km north of Collooney and 1.8km south of Ballysadare. The site is bounded to the south-west by the Ballysadare River, to the east by Union Wood, to the north-west by agricultural land and to the north-east by a separate residential site. The site is 100m east of the N4 corridor.

The land-use surrounding the site predominantly consists of agricultural lands and woodlands and the dominant habitats in the lands surrounding the site include improved and semi-improved agricultural grasslands, along with the habitats associated with Union Wood which includes oak woodlands, scrub and heath. Other habitats represented in the area include wet grasslands, coniferous woodlands, hedgerows and treelines. The site is adjacent to the Ballysadare River and its riparian habitats, which include wet grasslands, marsh habitats and treelines.

Site location maps are shown in Figures 2 and 3, whilst an aerial photograph of the site and its surrounding habitats is shown in Figure 4.

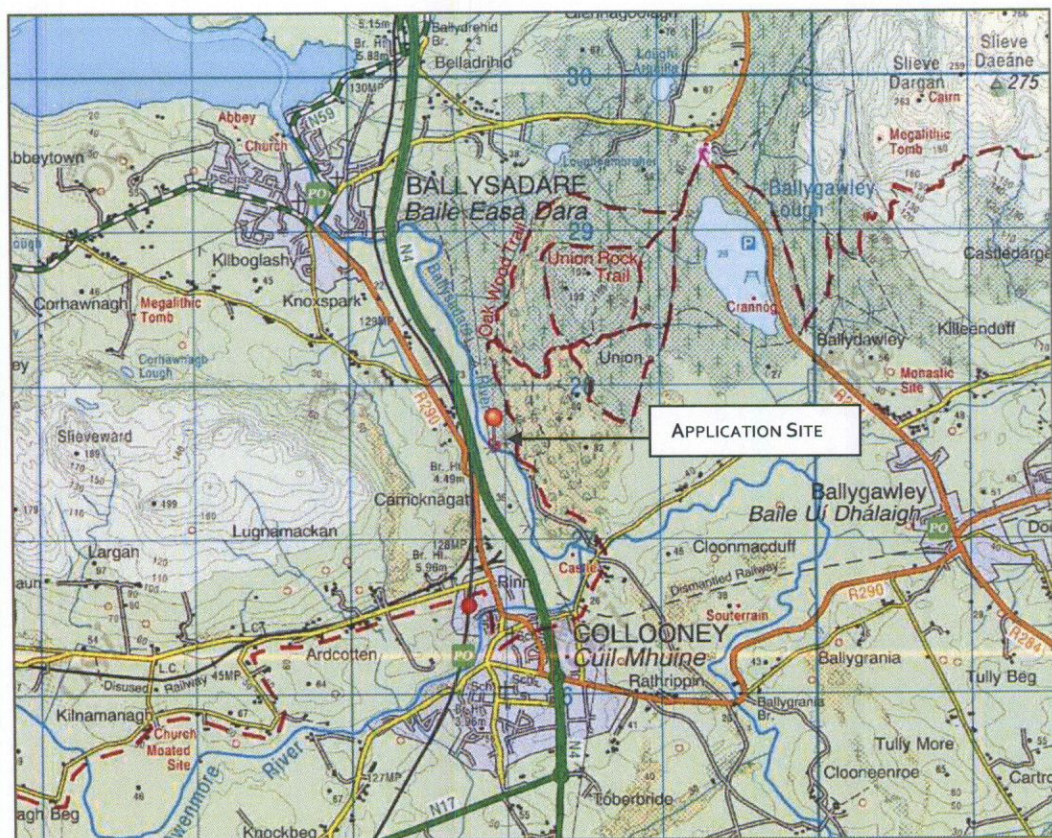


Figure 2 – Site Location Map



Figure 3 – OSI Map Showing Location of the Application Site (Outlined in Red)

HABITATS AND NOTABLE SPECIES

The site encompasses an existing cottage and its surrounding garden habitats. The dominant habitats within the application site include buildings and artificial surfaces, along with amenity grasslands and gardens. The Ballysadare River flows along the southern boundary of the site. This is a depositing lowland river. Its riparian habitats within the application site consist of an unimproved grassland habitat with some scattered trees along the banks. There is an existing fence between the house and garden and the banks of the river. The site also includes an area of agricultural grassland on the land to the immediate west of the site. The protected woodland habitats of Union Wood extend to the eastern perimeter of the site.

Records from the National Biodiversity Data Centre revealed the presence of one protected mammal species from within the 1km square (G6727) of this proposed development. This species is the badger *Meles meles* and it is fully protected under the Irish Wildlife Acts. A custom polygon that was generated for the site revealed that these records do not pertain to the application site itself.

A bat survey which was carried out on site (Wild on Foot, 2022) noted the presence of two species of bat roosting in the existing lodge. No exclusion of bats will take place with the proposed works.

WATER FEATURES AND QUALITY

The application site is located within the Sligo Bay and Drowse Hydrometric Area and Catchment, and the Owenmore Sub-Catchment and Sub-Basin. The site is adjacent to the Ballysadare River, which flows along the southern boundary of the application site. This river forms downstream of the confluence of the Owenmore River and the River Unshin, which is 1km upstream of the application site. The Ballysadare River flows north for a short distance until it enters Ballysadare Bay, at a point 3.3km downstream of the application site.

EPA have defined the ecological status of the Ballysadare River as good status at points adjacent to the application site and for its entire length. The Owenmore River is noted to be of moderate status, whilst the River Unshin is of high ecological status. In 2021, the EPA recorded a Q value of 4 from the Ballysadare River in Ballysadare, and this is indicative of good status. Under the requirements of the Water Framework Directive, this is satisfactory and good status must be maintained here.



Figure 4 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats © Zoom Earth)

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.

There are fourteen Natura 2000 designated sites within 15km of the application site. These designated areas and their closest points to the application site are summarised in Table 1 and a map and an aerial photograph showing their locations relative to the application site are shown in Figures 5 and 6. A full description of all these sites can be read on the website of the National Parks and Wildlife Service (npws.ie).

European Site	Distance	Qualifying Interests	Screened In / Out
Unshin River SAC 001898	Adjacent with Partial Overlap	<ul style="list-style-type: none"> • Otter (<i>Lutra lutra</i>) • Salmon (<i>Salmo salar</i>) • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and Callitriche-Batrachion vegetation • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • Molinia meadows on 	<i>Screened In - Having regard to the connectivity and proximity of this SAC to the application site it can be concluded that significant effects upon this SAC and its QIs arising from the construction and operation of the proposed development cannot be ruled out at this stage.</i>

		calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	
Union Wood SAC 000638 (this site is also a proposed Natural Heritage Area)	Adjacent with Partial Overlap	<ul style="list-style-type: none"> • Old sessile oak woods with Ilex and Blechnum in the British Isles 	Screened In - Having regard to the connectivity and proximity of this SAC to the application site it can be concluded that significant effects upon this SAC and its QI arising from the construction and operation of the proposed development cannot be ruled out at this stage.
Ballysadare Bay SAC 000622	2.3km north/ 3km downstream	<ul style="list-style-type: none"> • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Embryonic shifting dunes • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> • Fixed coastal dunes with herbaceous vegetation • Humid dune slacks • <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) • <i>Phoca vitulina</i> (Common Seal) 	Screened In - Having regard to the hydrological connectivity of this SAC to the application site it can be concluded that significant effects upon this SAC and its QIs arising from the construction and operation of the proposed development cannot be ruled out at this stage.
Ballysadare Bay SPA 004129	2.4km north / 3.1km downstream	<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) • Grey Plover (<i>Pluvialis squatarola</i>) • Dunlin (<i>Calidris alpina</i>) • Bar-tailed Godwit (<i>Limosa lapponica</i>) • Redshank (<i>Tringa totanus</i>) • Wetland and Waterbirds 	Screened In - Having regard to the hydrological connectivity of this SPA to the application site it can be concluded that significant effects upon this SPA and its QIs arising from the construction and operation of the proposed development cannot be ruled out at this stage.
Lough Gill SAC 001976	5.4km north	<ul style="list-style-type: none"> • Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation • Old sessile oak woods with Ilex and <i>Blechnum</i> in the British Isles • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> • <i>Austropotamobius pallipes</i> (White-clawed Crayfish) • <i>Petromyzon marinus</i> (Sea Lamprey) • <i>Lampetra planeri</i> (Brook Lamprey) • <i>Lampetra fluviatilis</i> (River Lamprey) • <i>Salmo salar</i> (Salmon) • <i>Lutra lutra</i> (Otter) 	Screened Out - This SAC is in a separate catchment to the application site. There is no hydrological connectivity between these two areas and therefore significant effects upon this site will not arise.

Cummeen Strand/Drumcliff Bay SAC 000627	8.5km north	<ul style="list-style-type: none"> • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Embryonic shifting dunes • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> • Fixed coastal dunes with herbaceous vegetation • <i>Juniperus communis</i> formations on heaths or calcareous grasslands • Petrifying springs with tufa formation (Cratoneurion) • <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) • <i>Petromyzon marinus</i> (Sea Lamprey) • <i>Lampetra fluviatilis</i> (River Lamprey) • <i>Phoca vitulina</i> (Common Seal) 	Screened Out - This SAC is in a separate catchment to the application site. There is no hydrological connectivity and therefore significant effects upon this site will not arise.
Cummeen Strand SPA 004035	8.8km north	<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) • Oystercatcher (<i>Haematopus ostralegus</i>) • Redshank (<i>Tringa totanus</i>) • Wetland and Waterbirds 	Screened Out - This SPA is in a separate catchment to the application site. There is no hydrological connectivity and therefore significant effects upon this site will not arise.
Templehouse And Cloonacleigha Loughs SAC 000636	10km south	<ul style="list-style-type: none"> • Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and Callitriche-Batrachion vegetation 	Screened Out - This SAC is hydrologically upstream of the application site. Therefore, it is outside of its Zone of Influence and significant effects will not arise.
Drumcliff Bay SPA 004013	13.1km north	<ul style="list-style-type: none"> • Bar-tailed Godwit (<i>Limosa lapponica</i>) • Sanderling (<i>Calidris alba</i>) 	Screened Out - There is no ecological or hydrological connectivity between the application site and this SPA, therefore significant effects upon this SPA and its QIs will not arise during construction or operation.
Sligo/Leitrim Uplands SPA 004187	13.8km north	<ul style="list-style-type: none"> • Peregrine (<i>Falco peregrines</i>) • Chough (<i>Pyrrhocorax pyrrhocorax</i>) 	Screened Out - There is no ecological or hydrological connectivity between the application site and this SPA, therefore significant effects upon this SPA and its QIs will not arise during construction or operation.
Ox Mountains Bog SAC 002006	14.3km west	<ul style="list-style-type: none"> • Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) • Natural dystrophic lakes 	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

		<ul style="list-style-type: none"> and ponds Northern Atlantic wet heaths with <i>Erica tetralix</i> Blanket bogs (* if active bog) Depressions on peat substrates of the Rhynchosporion <i>Vertigo geyeri</i> (Geyer's Whorl Snail) 	arise.
Bricklieve Mountains & Keishcorran SAC 001656	14.4km south-east	<ul style="list-style-type: none"> Turloughs Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) Calcareous and calc-shist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) Marsh Fritillary <i>Euphydryas aurinia</i> White-clawed Crayfish <i>Austropotamobius pallipes</i> 	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.
Lough Arrow SAC 001673	14.7km north-east	<ul style="list-style-type: none"> Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. 	Screened Out - This SAC is in a separate catchment to the application site. There is no hydrological connectivity and therefore significant effects upon this site will not arise.
Lough Arrow SPA 004050	14.7km south-east	<ul style="list-style-type: none"> Little grebe (<i>Tachybaptus ruficollis</i>) Tufted duck <i>Aythya fuligula</i> Wetlands & Waterbirds 	Screened Out - This SPA is in a separate catchment to the application site. There is no hydrological connectivity and therefore significant effects upon this site will not arise.

Table 1 – Designated Sites within 15km of the Proposed Development

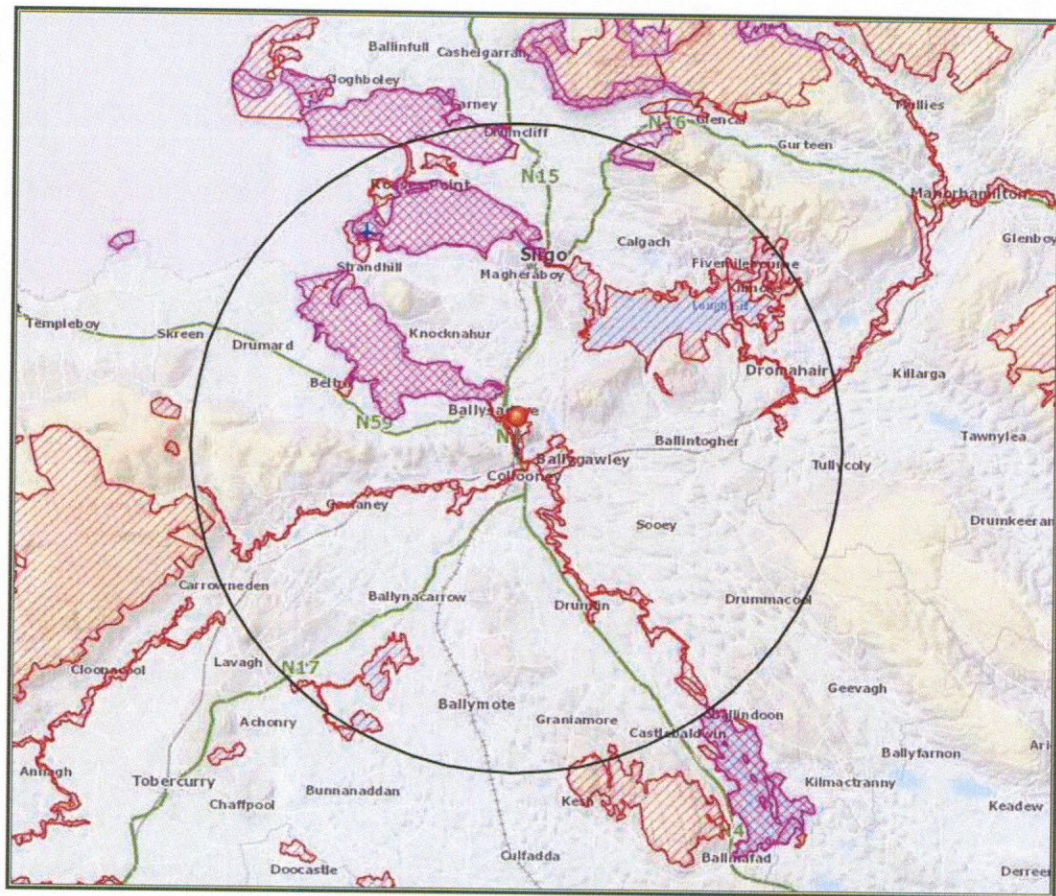


Figure 5 – The Application Site (Pinned) in relation to Natura 2000 Sites within 15km

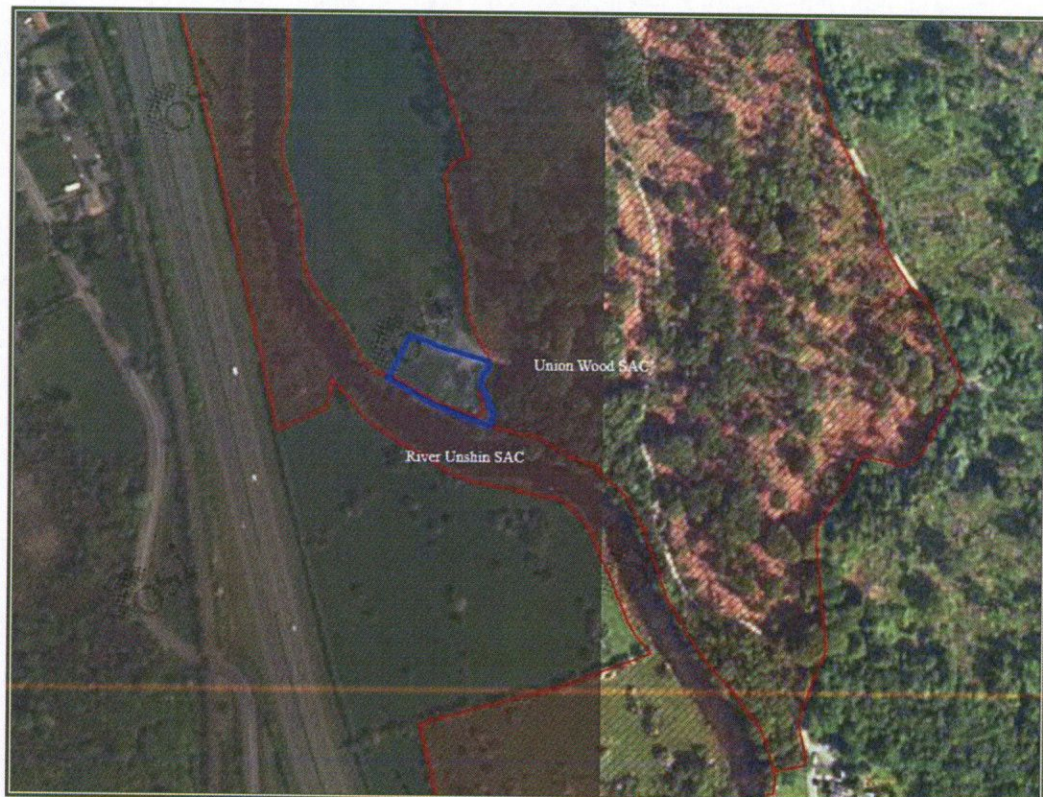


Figure 6 – The Application Site (Outlined in Blue) in relation to the Unshin River SAC and Unshin Wood SAC.

3.4 IDENTIFICATION OF POTENTIAL IMPACTS

The application site is adjacent to the Unshin River SAC and Union Wood SAC. It is also hydrologically upstream of the Ballysadare Bay SAC and the Ballysadare Bay SPA. In the absence of mitigation, a pollution event of a sufficient duration and/or magnitude either during construction or operation, either alone or in-combination with other pollution sources, could potentially affect the water quality in the Ballysadare River to an extent that subsequently undermines the conservation objectives of the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA. A reduction in either surface or groundwater quality locally has the potential to affect the aquatic habitats and natural conditions that are required to maintain or achieve the specific attributes and targets of the qualifying interests and the conservation objectives that have been defined for these qualifying interests. In addition, as the site is partially overlapping with Union Wood SAC, impacts upon the QIs of this site arising from habitat loss or fragmentation cannot be ruled out.

Therefore, following an evaluation of the relevant information including the characteristics of the proposed development and the likelihood of significant effects on the sites and with regards to the tenets of the precautionary principal, it is considered in the opinion of this author that it is not possible to exclude, on the basis of objective information, that the proposed development, either individually or in combination with other plans or projects, will have a likely significant effect on the above European sites.

Only those features of the development that have the potential to affect the integrity and conservation objectives of the identified Natura sites and protected species 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. Deterioration of water quality in designated areas identified arising from pollution to surface or groundwater during construction of the application site.
2. Deterioration in water quality in designated areas arising from pollution during the operation of the proposed development, including pollution due to the operation of the waste water treatment plant or from potential flood events on the site.
3. Habitat loss and fragmentation.

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 Union Wood SAC, the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA can be excluded from the remainder of the Appropriate Assessment process. This is based on their distance from the proposed development and the fact that they are outside of the zone of influence of the application site and that no direct or indirect significant effects are likely to arise. The remaining concerns will therefore focus upon the protected habitats and species of Union Wood SAC, the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA.

3.6 SCREENING CONCLUSIONS

The proposed development is not directly connected with or necessary to the nature conservation management of Union Wood SAC, the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA. Therefore, following consideration of the location of these Natura 2000 sites in relation to the proposed development at Union Td., 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 Union Td. (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of Union Wood SAC, the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA 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 2000 site identified in the previous section will be described in greater detail in terms of their site characteristics and conservation objectives.

SITE SPECIFIC CONSERVATION OBJECTIVES

For the Natura 2000 sites that were 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.

4.2 NATURA 2000 SITES IDENTIFIED

UNION WOOD SAC 000638

NPWS Site Summary

Union Wood is located on the eastern bank of the Ballysadare River between Ballysadare and Collooney in Co. Sligo. The site contains old oak woodland which is typical of western Oak wood (Blechno-Quercetum) and one of the best remaining in the region.

Part of Union Wood consists of fairly pure, open woodland dominated by Sessile Oak (*Quercus petraea*), and with some Downy Birch (*Betula pubescens*), Holly (*Ilex aquifolium*) and Rowan (*Sorbus aucuparia*). Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*) also occur. The soils of the area are acidic and the ground flora is typical of an acidic wood. Great Wood-rush (*Luzula sylvatica*) is abundant, but Bilberry (*Vaccinium myrtillus*), Wood-sorrel (*Oxalis acetosella*), Bluebell (*Hyacinthoides non-scripta*), Hard Fern (*Blechnum spicant*) and Broad Buckler-fern (*Dryopteris dilatata*) are present too. Epiphytes are well developed with polypody fern (*Polypodium vulgare* agg.) and numerous lichens occurring. The presence of an area of heath at Union Rock adds diversity to the site. This hilltop section is dominated by Heather (*Calluna vulgaris*) and has a well-developed moss cover (*Sphagnum* spp. and *Hypnum cupressiforme*).

Site Specific Conservation Objectives

Site specific conservation objectives for this site have been prepared by the National Parks and Wildlife Service¹. These SSCOs are outlined in Table 2.

Old sessile oak woods with Ilex and Blechnum in the British Isles g1A0

The SSCO for this habitat is to *restore* its favourable conservation condition which is generally 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
Woodland Size	Ha	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size
Woodland Structure:	Percentage, Metres;	Total canopy cover at least 30%; median

¹ NPWS (2021) Conservation Objectives: Union Wood SAC 000638. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

cover and height	Centimetres	canopy height at least 11m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20 cm; bryophyte cover at least 4%
Woodland Structure: Community Diversity and Extent	Ha	Maintain diversity and extent of community types
Woodland Structure: Natural Regeneration	Seedling: sapling: pole ratio	Seedlings, saplings and pole age-classes of target species for g1Ao woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy
Woodland Structure: Dead Wood	Number per hectare	At least 19 stems/ha of dead wood of at least 20cm diameter
Woodland Structure: Veteran Trees	Number per hectare	No decline
Woodland Structure: Indicators of Local Distinctiveness	Occurrence	No decline
Woodland Structure: Indicators of Overgrazing	Occurrence	All four indicators of Overgrazing Absent
Vegetation Composition: Native Tree Cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy
Vegetation Composition: Typical Species	Occurrence	At least 1 target species for g1Ao woodlands present; at least 6 positive indicator species for g1Ao woodlands present
Vegetation Composition: Negative Indicator Species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent

Table 2 – SSCOs for Old Sessile Oak Woodlands

Potential Impacts

Map 3 of the SSCO document shows the location of this habitat within the SAC (See Figure 7). This QI is approximately 20m north of the application site, on the northern side of the access road into the site. Whilst the site works on the house and extension themselves are not likely to directly affect this habitat through habitat loss, any widening of the access road or any disposal of soil or other waste within this habitat could give rise to significant effects upon this QI. Therefore, mitigation measures will be required to ensure the protection of this QI within the SAC.

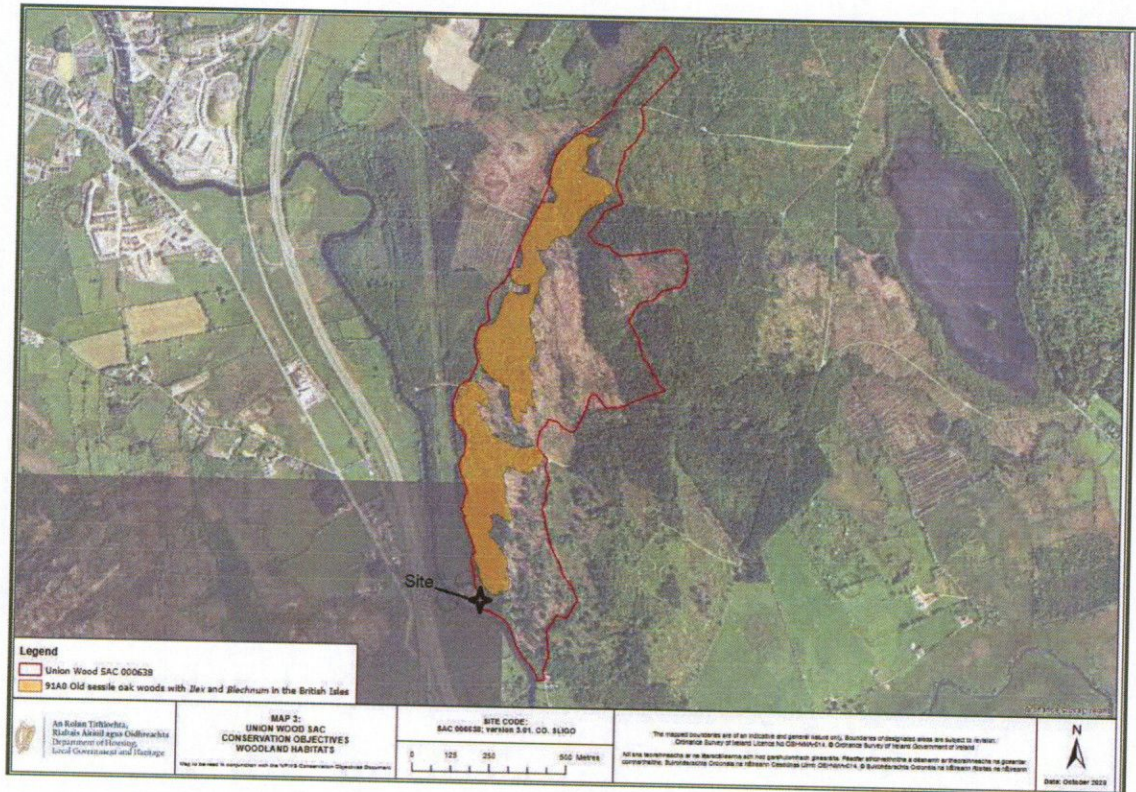


Figure 7 – The Application Site (Outlined in Blue) in relation to the Unshin River SAC and Unshin Wood SAC.

UNSHIN RIVER SAC 001898

NPWS Site Synopsis

The Unshin River has a spring-fed lake, Lough Arrow, as its source and flows north-westwards for some 24 km to reach the sea at Ballysadare Bay. The river supports a rich aquatic and emergent flora and runs beside or through a wide variety of habitats. The site also includes the Ballysadare and Owenboy/Owenbeg rivers. The whole site is underlain by Carboniferous limestone.

The Unshin River is an excellent example of a pristine, unmanaged, undrained lowland limestone river and is extremely important as it represents one of only four remaining undrained limestone rivers in Ireland. Such rivers as this are otherwise almost unknown in Europe. It is unpolluted for almost its entire length and supports a species-rich, diverse aquatic flora, several important bird species, fish and several rare riverbank plant species, including *Poa palustris*. Of particular importance is the population of *Salmo salar*. The site is used by *Lutra lutra*. A good diversity of adjacent habitats is found along its length, including alluvial woodland.

The full NPWS synopsis for this site can be read online on the website of the National Parks and Wildlife Service.

Site Specific Conservation Objectives

Site specific conservation objectives for this site were prepared in 2021 (NPWS, 2021²). These SSCOs are outlined in Tables 3 – 8.

Water Courses of Plain to Montaine Levels (3260)

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	Km	Area stable or increasing, subject to natural processes
Habitat Distribution	Occurrence	No decline, subject to natural processes
Hydrological regime: river flow	m/s	Maintain appropriate hydrological regimes
Hydrological regime: groundwater discharge	m/s	Maintain appropriate hydrological regimes
Substratum composition: particle size range	Mm	Maintain appropriate substratum particle size range, quality and quantity, subject to natural processes.
Water Quality	Various	Maintain/Restore appropriate water quality to support the natural structure and functioning habitat.
Typical species	Occurrence	Typical species of the relevant habitat sub-types should be present and in good condition.
Floodplain connectivity: area	Hectares	Maintain/Restore the area of active floodplain at and upstream of the habitat.
Riparian habitat: area	Ha	Maintain the area and condition of fringing habitats necessary to support the habitats and its sub-types.

Table 3 – Water Courses of Plain to Montaine Levels

Potential Impacts

Potential impacts upon this QI have been considered. This habitat potentially occurs upstream and downstream of the application site, along the main channel of the Ballysadare River. In the absence of mitigation, significant effects upon this QI cannot be ruled out. Any deterioration in surface or groundwater quality locally arising from pollution caused during the construction and operation of the proposed development could affect the attributes, measures and targets that have been set for the maintenance of this habitat at good status within the SAC.

Semi-Natural Dry Grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) [6210]

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	The area should be stable or increasing, subject to natural processes.
Habitat Distribution	Occurrence	No decline, subject to natural processes.
Vegetation composition: positive indicator species	Number at a representative number of 2m x 2m	At least 7 positive indicator species present in monitoring stop or, if 5–6 present in stop, additional species within 20m of stop; this includes at least two

² NPWS (2021) Conservation Objectives: River Unshin SAC. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

	monitoring stops; within 20m surrounding area of monitoring stops	'high quality' positive indicator species present in stop or within 20m of stop
Vegetation composition: negative indicator species %	Percentage cover at a representative number of 2m x 2m monitoring stops	Negative indicator species collectively not more than 20% cover, with cover of an individual species not more than 10
Vegetation composition: non-native species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of non-native species not more than 1%
Vegetation composition: woody species and bracken	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of woody species (except certain listed species) and bracken (<i>Pteridium aquilinum</i>) not more than 5%
Vegetation structure: broadleaf herb:grass ratio	Percentage at a representative number of 2m x 2m monitoring stops	Broadleaf herb component of vegetation between 40% and 90%
Vegetation structure: sward height	Percentage at a representative number of 2m x 2m monitoring stops	At least 30% of sward between 5cm and 40cm tall
Vegetation structure: litter	Percentage cover at a representative number of 2m x 2m monitoring stops	Litter cover not more than 25%
Physical structure: bare soil	Percentage cover at a representative number of 2m x 2m monitoring stops	Not more than 10% bare soil
Physical structure: grazing or disturbance	Area in local vicinity of a representative number of monitoring stops	Area of the habitat showing signs of serious grazing or disturbance less than 20m ²

Table 4 – SSCOs for Semi-Natural Dry Grasslands

Potential Impacts

Potential impacts upon this QI have been considered. This is a terrestrial habitat which does not occur within the Zone of Influence of the application site, as indicated in Map 3 of the SSCO document. Significant effects upon this habitat QI will not arise.

Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]

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	The area should be stable or increasing, subject to natural processes.
Habitat Distribution	Occurrence	No decline, subject to natural processes.
Vegetation composition: positive indicator species	Number at a representative number of 2m x 2m monitoring stops; within 20m surrounding area of	At least 7 positive indicator species present in monitoring stop or, if 5–6 present in stop, additional species within 20m of stop; this includes at least two 'high quality' positive indicator species present in stop or within 20m of stop

	monitoring stops	
Vegetation composition: negative indicator species%	Percentage cover at a representative number of 2m x 2m monitoring stops	Negative indicator species collectively not more than 20% cover, with cover of an individual species not more than 10%
Vegetation composition: non-native species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of non-native species not more than 1%
Vegetation composition: moss species	Percentage cover at a representative number of 2m x 2m monitoring	Hair mosses (<i>Polytrichum</i> spp.) not more than 25% cover
Vegetation composition: woody species and bracken	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of woody species (except certain listed species) and bracken (<i>Pteridium aquilinum</i>) not more than 5%
Vegetation structure: broadleaf herb:grass ratio	Percentage at a representative number of 2m x 2m monitoring stops	Broadleaf herb component of vegetation between 40% and 90%
Vegetation structure: sward height	Percentage at a representative number of 2m x 2m monitoring stops	At least 30% of sward between 10cm and 80cm tall
Vegetation structure: litter	Percentage cover at a representative number of 2m x 2m monitoring stops	Litter cover not more than 25%
Physical structure: bare soil	Percentage cover at a representative number of 2m x 2m monitoring stops	Not more than 10% bare soil
Physical structure: grazing or disturbance	Area in local vicinity of a representative number of monitoring stops	Area of the habitat showing signs of serious grazing or disturbance less than 20m ²

Table 5 – SSCOs for Molinia Meadows

Potential Impacts

Potential impacts upon this QI have been considered. This is a terrestrial habitat which does not occur within the Zone of Influence of the application site, as indicated in Map 3 of the SSCO document. Significant effects upon this habitat QI will not arise.

Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* g1EO

The SSCO for this habitat is to *restore* its favourable conservation condition which is generally 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
Woodland Size	Ha	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size
Woodland Structure: cover and height	Percentage and Metres	Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%
Woodland Structure:	Ha	Maintain diversity and extent of community types

Community Diversity and Extent		
Woodland Structure: Natural Regeneration	Seedling: sapling:pole ratio	Seedlings, saplings and pole age-classes of target species for g1Eo* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy
Hydrological Regime: Flooding Depth/Height of Water Table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation
Woodland Structure: Dead Wood	Number per hectare	At least 19 stems/ha of dead wood of at least 20cm diameter
Woodland Structure: Veteran Trees	Number per hectare	No decline
Woodland Structure: Indicators of Local Distinctiveness	Occurrence' Population Size	No decline in distribution and, in the case of red listed and other rare or localised species, population size
Woodland structure: indicators of overgrazing	Occurrence	All five indicators of overgrazing absent
Vegetation Composition: Native Tree Cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy
Vegetation Composition: Typical Species	Occurrence	At least 1 target species for g1Eo* woodlands present; at least 6 positive indicator species for g1Eo* woodlands present
Vegetation Composition: Negative Indicator Species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent
Vegetation composition: problematic native species	Percentage	Cover of common nettle (<i>Urtica dioica</i>) less than 75%

Table 6 – SSCOs for Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior*Potential Impacts

Potential impacts upon this QI have been considered. Map 4 of the SSCO document shows the location of this QI within the SAC. There are no areas of alluvial woodland within or downstream of the application site. All mapped locations are upstream of Ballysadare and therefore outside of the Zone of Influence of the application site. Significant effects upon this habitat will not arise.

Salmon (1106)

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: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded
Salmon fry abundance	No of fry / 5 mins electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry / 5 minute sampling
Out-migrating smolt abundance	Number	No significant decline
Number and distribution of redds	Number and Occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes
Water quality	EPA Q Value	At least Q4 at all sites sampled by the EPA.

Table 7 – SSCOs for Salmon

Potential Impacts

The Ballysadare River and its tributaries are an important habitat for the salmon. The requirements of salmon depend on their life stage but clean, unpolluted water is a requirement throughout the life cycle. They are very sensitive to changes in water quality and increases in sedimentation (<25 mg/L annual average). The main pressures and threats to this species come from agricultural intensification, run-off from agriculture, forestry and household waste waters and poaching.

Potential impacts and subsequent effects upon this species could arise due to a decrease in water quality in the Ballysadare River which is within the Unshin River SAC. These could arise due to pollution of surface or groundwater during construction or operation. Run-off from the site could be contaminated with silt, cement, hydrocarbons or other chemicals.

Otter (1355)

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	% positive survey sites	No Significant Decline
Extent of Terrestrial Habitats	Hectares	No significant decline. Area mapped and calculated as 124.68ha
Extent of Freshwater (River) Habitat	Km	No significant decline. Length mapped and calculated as 66.55km
Couching Sites and Holts	Number	No significant decline
Fish Biomass Available	Kg	No significant decline
Barriers to connectivity	Number	No significant increase

Table 8 – SSCOs for Otter

Potential Significant Effects

The otter occurs throughout the Unshin River system. The presence of this species is positively correlated with good water quality and deterioration of same will lead to impacts upon this species. Otters have two basic requirements – aquatic prey and safe refuges where they can rest. In freshwater areas, the diet of the otter consists of a variety of fish from sticklebacks to salmon and eels, whilst crayfish and frog availability can also be important. Impacts that reduce the quality of, or cause disturbance to, their terrestrial or aquatic habitats are likely to affect otters. The main threats to otters in Ireland are thought to be: (1) habitat destruction, including river drainage and the clearance of bank-side vegetation; (2) pollution, particularly organic pollution resulting in fish kills; (3) disturbance of habitat due to recreational activities, and (4) accidental deaths (NPWS, 2009).

Records for this species exist from the Ballysadare River at points upstream and downstream of the application site and therefore this species occurs within the Zone of Influence of the application site. In Ireland, the territory of female otters in mesotrophic rivers is approximately 7.5 +/- 1.5km in length (Ó Néill, L., 2008), whilst the territories of male otters in mesotrophic and oligotrophic rivers is approximately 13.2 +/- 5.3km in length, with a high degree of variability as territorial males respond quickly to social perturbation.

Potential impacts and subsequent effects upon this species could arise due to a decrease in water quality in the Ballysadare River which is within the Unshin River SAC. These could arise due to pollution of surface or groundwater during construction or operation. Run-off from the site could be contaminated with silt, cement, hydrocarbons or other chemicals. Inadequate treatment of surface water run-off during operation could also lead to deteriorations in water quality during the operation of the site. In addition, works along the river within the application site could result in the loss or fragmentation of habitats used by the otter, whilst inappropriate lighting along the riverbank could also lead to local impacts upon this species.

BALLYSADARE BAY SAC 000622

NPWS Site Summary

Ballysadare Bay is the most southerly of the three inlets of Sligo Bay. It is the estuary of the Ballysadare River, which receives the flows of the Unshin, Owenboy and Owenbeg rivers. The Ballysadare River flows through the small town of Ballysadare before entering the bay. It is a large site, extending along a 10 km south-east to west-north-west axis from Ballysadare town to the sea at Marley's Point. The bay has an average width of c.2 km. A sand dune spit extends into the outer bay at Culleenamore, restricting the outlet to the sea

to a width of c.700 m. Other habitats present include salt marshes, small saline lakes or ponds, dry grassland, wet grassland, reedbeds and scrub. Recreation is a main landuse within the site.

This large site displays an excellent diversity of coastal habitats. The estuarine and intertidal sand and mud flat habitats are typical of the region and are extensive in area and of good quality. The sand dune system is highly dynamic, with the tip of the peninsula actively growing and displaying a good, though limited, example of embryonic shifting dunes. The shifting marram dunes are fairly extensive in area and are also displaying signs of growth. An area of fixed dunes of moderate size also occurs which has a flora typical of western dunes. A small area of humid dune slack remains. Actively developing dune systems are rare in western Ireland. Site is important for occurrence of the Annex II mollusc *Vertigo angustior*. A nationally important colony of *Phoca vitulina* also occurs. An excellent diversity of waterfowl winter at site, including two Annex I Bird Directive species (*Pluvialis apricaria*, *Limosa lapponica*). Six other species winter in nationally important numbers and there is an internationally important population of *Branta bernicla horta*. A number of localised insect species are known from the site.

The full NPWS synopsis for this site can be read online on the website of the National Parks and Wildlife Service.

Qualifying Interests and SSCOs of this SAC

In 2013, the NPWS published Site-Specific Conservation Objectives (SSCOs) for this SAC³. These are outlined below in are described below in Tables 9 - 16.

³ NPWS (2013) Conservation Objectives: Ballysadare Bay SAC 000622. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Estuaries 1130

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	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community Extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community, subject to natural processes.
Community Structure: <i>Zostera</i> Density	Shoots / m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes
Community Distribution	Hectares	Conserve the following community types in a natural condition: Intertidal sand with <i>Angulus tenuis</i> community complex; Muddy sand to sand with <i>Hediste diversicolor</i> , <i>Corophium volutator</i> and <i>Peringia ulvae</i> community complex; Fine sand with polychaetes community complex; Sand with bivalves, nematodes and crustaceans community complex; Intertidal reef community complex; Subtidal reef community complex.

Table 9 – SSCOs for Estuaries

Mudflats and sandflats not covered by seawater at low tide

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	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community Extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community, subject to natural processes.
Community Structure: <i>Zostera</i> Density	Shoots / m ²	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes
Community Distribution	Hectares	Conserve the following community types in a natural condition: Intertidal sand with <i>Angulus tenuis</i> community complex; Muddy sand to sand with <i>Hediste diversicolor</i> , <i>Corophium volutator</i> and <i>Peringia ulvae</i> community complex.

Table 10 – SSCOs for Mudflats and Sandflats not Covered by Seawater at Low Tide

Embryonic shifting dunes

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	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without any physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Composition: Plant health of foredune grasses	% Cover	More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme grass <i>Leymus arenarius</i> should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>).
Vegetation Composition: Negative Indicator Species	Percentage Cover	Negative indicator species (including non-native species) to represent less than 5% cover.

Table 11 – SSCOs for Embryonic Shifting Dunes

Shifting dunes along the shoreline with *Ammophila Arenaria*

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, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without any physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Composition: Plant health of dune grasses	Percentage Cover	95% of marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present).
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain the presence of species-poor communities dominated by marram grass (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>).
Vegetation Composition: Negative Indicator Species	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover.

Table 12 – SSCOs for Shifting dunes along the shoreline with *Ammophila Arenaria*

Fixed coastal dunes with herbaceous vegetation

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, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions.
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation Structure: Bare Ground	Percentage cover	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes.
Vegetation Structure: Sward Height	Centimetres	Maintain structural variation within sward.
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in Delaney et al. (2013)
Vegetation Composition: Negative Indicator Species-including <i>Hippophae rhamnoides</i>	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover
Vegetation Composition: Scrub and trees	Percentage Cover	No more than 5% cover or under control

Table 13 – SSCOs for Fixed Coastal Dunes with Herbaceous Vegetation

Humid dune slacks

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, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions.
Physical Structure: hydrological and flooding regime	Water table levels, groundwater fluctuations	Maintain natural hydrological regime
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession.
Vegetation Structure: Bare Ground	Percentage cover	Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer stacks which can have up to 20% bare ground.
Vegetation Structure: Sward Height	Centimetres	Maintain structural variation within sward.

Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in Delaney et al. (2013)
Vegetation composition: cover of <i>Salix repens</i>	Percentage cover; centimetres	Maintain less than 40% cover of creeping willow (<i>Salix repens</i>)
Vegetation Composition: Negative Indicator Species	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover
Vegetation Composition: Scrub and trees	Percentage Cover	No more than 5% cover or under control

Table 14 – SSCOs for Humid Dune Slacks

***Vertigo angustior* (Marsh Snail)**

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
Distribution: Occupied Sites	Number	No decline. There is one known location for this species in this SAC (which overlaps two 1km squares).
Presence on transect	Occurrence	Adult or sub-adult snails are present in all three of the habitat zones on the transect (minimum four samples).
Presence	Occurrence	Adult or sub-adult snails are present in at least six other places at the site with a wide geographical spread (minimum of eight sites sampled).
Transect habitat quality	Metres	At least 50m of habitat along the transect is classed as optimal and the remainder as at least sub-optimal.
Transect optimal wetness	Metres	Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid thatch for at least 50m along the transect.
Habitat extent	Hectares	At least 45ha of the site in at least optimal/sub-optimal condition. Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (<i>Festuca rubra</i>) and marram (<i>Ammophila arenaria</i>), with sparse oxeye daisy (<i>Leucanthemum vulgare</i>), dandelion (<i>Taraxacum</i> sp.), ribwort plantain (<i>Plantago lanceolata</i>) and other low growing herbs. Vegetation height 20-50cm. Habitat growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is defined as above but either vegetation height is less than 10cm or above 50cm; or the soil is dry and sandy; or the thatch is wetter with a denser structure

Table 15 – SSCOs for *Vertigo angustior*

***Phoca vitulina* (Harbour Seal)**

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
Access to Suitable Habitat	Number of Artificial Barriers	Species range within the site should not be restricted by artificial barriers to site use.
Breeding Behaviour	Breeding Sites	Conserve breeding sites in a natural condition
Moulting Behaviour	Mould Haul-Out Sites	Conserve moult haul-out sites in a natural condition
Resting Behaviour	Resting Haul-Out Sites	Conserve resting haul-out sites in a natural condition
Disturbance	Level of Impact	Human activities should occur at levels at do not adversely affect the harbour seal populations at this site.

Table 16 – SSCOs for Harbour Seal

Potential Impacts upon the QIs of Ballysadare Bay SAC

It is considered that potential significant effects upon the QIs of the Ballysadare Bay SAC will not arise. The site is over 6km upstream of this SAC. There will be no loss or fragmentation of the habitats within this SAC. There will be no changes to the area or distribution of the habitats within this SAC. There will be no direct or indirect disturbance to the two species listed as QIs of the SAC. Whilst water quality has not been listed as a target for either maintaining or achieving favourable conservation status it is nonetheless important that water quality is maintained in this SAC and the Unshin River SAC which flows into this SAC. Therefore, mitigation measures to protect water quality are recommended to protect water quality in this SAC.

BALLYSADARE BAY SPA 004129**NPWS Site Synopsis**

Ballysadare Bay SPA support good populations of macro-invertebrates which are important food items for wintering waterfowl. Common species present include the polychaete worms *Hediste diversicolor*, *Arenicola marina*, *Lanice conchilega* and *Nephtys hombergii*, and the bivalves *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. Also present on the intertidal flats are the vascular plants Eelgrass (*Zostera marina*) and Beaked Tasselweed (*Ruppia maritima*), which provide food for herbivorous wildfowl. Well-developed salt marshes, which provide roosting sites for birds at high tide, occur at several locations around the bay. The sandy beaches around the Strandhill peninsula are used by roosting birds.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Grey Plover,

Dunlin, Bar-tailed Godwit and Redshank. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Ballysadare Bay is important for a range of waterfowl species in autumn and winter. The population of Light-bellied Brent Goose (188) is of international importance (all figures are mean peak counts for four winters in the period 1995/96 to 1999/2000). The populations of four other species are of national importance, i.e. Grey Plover (70), Dunlin (1,420), Bar-tailed Godwit (251) and Redshank (435). A range of other species occurs, including Whooper Swan (15), Shelduck (55), Wigeon (617), Teal (179), Mallard (304), Goldeneye (17), Red-breasted Merganser (26), Cormorant (43), Oystercatcher (518), Ringed Plover (96), Golden Plover (301), Lapwing (467), Curlew (508), Greenshank (22), Turnstone (40), Black-headed Gull (261) and Common Gull (203). Ballysadare Bay SPA is of high ornithological importance - it supports a Light-bellied Brent Goose population of international importance as well as nationally important populations of four other wintering waterfowl species. The presence of Bar-tailed Godwit, Golden Plover and Whooper Swan is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site forms an important component of the larger Sligo Bay complex.

Special Conservation Interests (SCI) and SSCOs of Ballysadare Bay SPA

In 2013, SSCOs were produced for this site⁴. The QI / SCI species for the Ballysadare Bay SPA are described below in Table 17 along with their SSCO. The current site conservation condition for each bird for this SPA is also included (NPWS, 2013). The objectives are described in Table 18 and 19.

Species	SSCO	Site Conservation Condition
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)	Maintain	Favourable
Grey Plover (<i>Pluvialis squatarola</i>)	Maintain	Highly Unfavourable
Dunlin (<i>Calidris ariti</i>)	Maintain	Intermediate (Unfavourable)
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Maintain	Intermediate (Unfavourable)
Redshank (<i>Tringa aritim</i>)	Maintain	Intermediate (Unfavourable)
Wetlands	Maintain	N/A

Table 17 – Special Conservation Interests of Ballysadare Bay SPA

⁴ NPWS (2013) Conservation Objectives: Ballysadare Bay SPA 004129. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht

The objectives for all these bird species are the same, i.e.,

Attribute	Measure	Target
Population trend	Percentage Change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas..	No significant decrease in the range, timing or intensity of use of areas by the QI, other than that occurring from natural patterns of variation

Table 18 – Conservation Objectives for Ballysadare Bay SPA (Species)

For wetlands, the conservation objectives are:

Attribute	Measure	Target
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2130 hectares, other than that occurring from natural patterns of variation

Table 19 – Conservation Objectives for Ballysadare Bay SPA (Wetlands)

Potential Impacts upon this Bird Qis of the Ballysadare Bay SPA

The proposed development will not occur in an area used by the bird species listed above. The habitats within the application site are not suitable for these wading bird species. The proposed development will not lead to decreases in the population trend of any bird species. The proposed development will not lead to any decrease in the range, timing or intensity of use of any areas within the SPA by the QI bird species. The proposed development will not lead to the loss of any wetland habitat area and the 2130 hectare target of wetland habitat within the SPA will be maintained.

However, it is important that water quality is maintained in this SPA. Therefore, mitigation measures to protect water quality are recommended to protect water quality in this site.

4.3 SUMMARY OF POTENTIAL IMPACTS

INTRODUCTION

The identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation. This section will establish whether the impacts of the proposed development at Union Td. that were 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.

In the screening section of this report, the following possible future impacts on the Union Wood SAC, Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA were listed. These concerns are again listed below and they will be dealt with in more detail in this section.

1. Deterioration of water quality in designated areas identified arising from pollution to surface or groundwater during construction and operation.
2. Deterioration in water quality in designated areas arising from pollution during the operation of the proposed development, including pollution due to the operation of the waste water treatment plant or from potential flood events on the site.
3. Habitat loss and fragmentation.
4. Cumulative impacts with other proposed/existing developments.

CONSTRUCTIONAL IMPACTS

Deterioration in Water Quality in Natura 2000 Sites During Site Preparation/Construction

Site preparation and the construction of the proposed development will involve the excavation of soil, and the pouring of concrete for foundations and other hard surfaces. These works will take place on a site that is adjacent to the Unshin River SAC. If appropriate mitigation measures are not taken during construction of the proposed development, then there is the possibility that both surface water quality and groundwater quality could be impacted upon. Groundwater quality can impact upon surface water quality as these two resources mix at the hyporheic zone, which is the region just under a river or stream bed where there is a mixing of shallow ground water and surface water.

Therefore, as there is a potential risk of direct and indirect impacts arising from the site preparation and construction of the proposed application, appropriate mitigation will be

required to maintain the water quality within the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA

Habitat Loss and Fragmentation

The construction works will occur in a site where the dominant habitats include buildings and artificial surfaces, and amenity grasslands. These habitats are of no ecological value in their own right. However, works will generate a significant amount of topsoil and sub-soil arising from the excavation works. If this material is removed from site and placed on designated lands outside the site in areas of conservation value such as an oak woodland or along the riparian verges of the Ballysadare River, it could lead to habitat loss and fragmentation. Fragmentation or disturbance to the Ballysadare River, could also lead to impacts upon the otter.

Any widening of the access road could lead to an encroachment towards the QI oak woodland habitats of the SAC, potentially resulting in damage to the Root Protection Zone (RPA) of the trees.

The woods at the back of the site behind the house are also included within the SAC boundary, although they have not been characterised as the oak woodland habitat. Any works from the extension which encroaches within the Root Protection Zone (RPA) of these trees could lead to the compaction or damage to the roots. This could ultimately lead to a reduced life span of the trees and a subsequent loss / fragmentation of habitat.

Habitat fragmentation could also arise in certain ecological features due to the inappropriate use of lighting. This could impact upon species which use these features, i.e., birds, bats and other mammals, including the otter if lights were directed towards the river.

Habitat loss and fragmentation in sensitive areas of biodiversity value within the SACs could also arise due to the introduction of non-native or invasive species during the landscaping of the site.

OPERATIONAL IMPACTS

Deterioration in Water Quality in the Natura 2000 sites Post Construction / Operation

Negative impacts upon water quality locally arising from the operation of this proposed development have also been considered. The most likely source of pollution during the operation of the development is oil contaminated surface water run-off or polluted run-off arising from the in-adequate management of the new treatment plant and percolation area. This may have a negative impact upon local groundwater resources. Groundwater quality can impact upon surface water quality as these two resources mix at the hyporheic zone,

which is the region just under a river or stream bed where there is a mixing of shallow ground water and surface water. Mitigation measures to prevent surface water run-off from contaminating the local watercourses will need to be undertaken.

The overall Flood Risk of the site has also been considered. The existing house and septic tank are located in Flood Zone A. Should this proposed development not proceed, this situation and risk will remain, as a flood event on site could cause a breach to the existing septic tank, resulting in a mobilisation of the waste to the River Unshin. It is considered that upgrading this septic tank to a more modern and secure treatment plant and raised percolation area will reduce the overall risk of the mobilisation of waste in a flood event on site. In addition, the proposed new treatment system is further away from the river than the existing system.

POTENTIAL IN-COMBINATION EFFECTS

This section of the NIS examines whether any other plans or projects have the potential to act cumulatively or in-combination with the proposed development to adversely affect the integrity of the Natura 2000 sites identified, i.e., Union Wood SAC, the Unshin River SAC, the Ballysadare Bay SAC and the Ballysadare Bay SPA.

The proposed development site is situated within the Owenmore sub-catchment. Therefore, any national, regional or local land use plans, along with any existing or proposed projects, further upstream in the catchment, or in the same groundwater body, have the potential to affect water quality in the Owenmore catchment and therefore also have the potential to act in-combination with the proposed development to affect the above European sites.

Any plan or existing/proposed project that could potentially affect the Natura 2000 sites above in-combination with the proposed development must adhere to the overarching environmental protective policies and objectives of the relevant land use plan. These policies and objectives will ensure the protection of Natura 2000 sites and will include the requirement for any future project to undergo Screening for Appropriate Assessment and/or Appropriate Assessment.

Sligo County Development Plan

Planning policy at the local level is provided by the Sligo County Development Plan 2017–2023. This plan contains a number of objectives and policies relevant to ecology, biodiversity and nature conservation. It also sets out the requirement for proposed developments to be subjected to Appropriate Assessment.

Future Plans / Other Projects

The Sligo County Council planning map tool was used to identify any current or future or projects which may potentially impact on Natura 2000 sites when considered in combination with the proposed development. In the preceding five years, many planning applications have been granted planning permission in the Collooney area. Where necessary, these applications were screened for AA, or else full AA was deemed necessary and an NIS was submitted. The proposed development will have no significant effects upon any designated site when considered in combination with other developments that have been properly screened or where mitigation is required following AA.

Any future application in the area that has the potential to impact upon Lough Gill SAC will be subjected to Appropriate Assessment as required under Articles 6(3) of the Habitats Directive. This current development will have no cumulative impacts upon the SACs / SPAs identified when considered in combination with any other development that has been screened for no impacts themselves (Stage 1) or where potential impacts have been mitigated against (Stage 2 AA / NIS).

5 MITIGATION MEASURES

In order to avoid any reductions in water quality in the area surrounding the proposed development, a number of mitigation measures must be implemented and followed. These measures will protect the water quality and overall integrity and QIs of the Union Wood SAC, the Unshin River SAC and Ballysadare SAC / SPA. Measures have also been suggested that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife in general. These are site specific measures and their implementation will ensure the protection of Natura 2000 habitats and species, and the local non-designated ecological receptors. The primary parties responsible for the implementation of these measures include the applicants and the construction team (site manager, site workers). These measures have also been set out in the Construction Management Plan.

Pre-Construction and Construction

- Site preparation and construction must be confined to the development site only and should adhere to all standard best practice measures and the measures outlined in this NIS. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works.
- All works associated with the development should be confined to the proposed development site. No disturbances to any area of Union Wood SAC or the Unshin River SAC should occur during the construction or operation of the development.
- Prior to the commencement of developments on site, the site engineer and the contractors should be made aware of the ecological sensitivity of the site and its surrounding habitats. They must be made familiar with the mitigation measures outlined in this NIS and if possible, a statement signed by them acknowledging these mitigation measures should be presented to the Local Authority along with the Notice of Commencement.
- During site clearance and construction, all run-off from the site towards the Ballysadare River must be intercepted. This will protect both habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented. Therefore, it is recommended that prior to the commencement of works, that a silt fence is erected at least 5m from the banks of the river. The silt fence should be sturdy and constructed of a suitable geotextile membrane to ensure that water can pass through, but that silt will

be retained. An interceptor trench will be required in front of this silt fence. The silt fence must be capable of preventing particles of 425µm from passing through.

- There must be no storage of machinery, soil or aggregate in the area between the construction works and the river.
- There must be no removal of the existing riparian vegetation in the area between the proposed construction works and the river.
- The access road into the site traverses the Union Wood SAC. There should be no widening of this road to facilitate heavy loads or wider vehicles. Any upgrades to the existing surface of the road must be done with due care to keep the works tidy and contained and to avoid spillage of material into the Union Wood SAC.
- The Flood Risk report contains a number of measures to minimise the harm of flood events on site. These should be implemented and signed off by an engineer prior to completion of the development.
- The Flood Risk report also refers to the clearance of drains surrounding the site. The primary flood mechanism on the site will come from the river bursting its banks following severe rainfall events. The drains proposed for clearing lead to the Ballysadare River, and the clearing works may result in the mobilisation of silt or sediment into this river. Therefore, all clearance works should be done preferably by hand and to the minimal level required to keep disturbance and sediment mobilisation to a minimum. The use of a digger to clear out these drains should be avoided.

Pollution Control

- There should be no discharges of contaminated waters to ground or surface waters from these developments, either during the construction or operation 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:
 - All fuels, lubricants and hydraulic fluids should be kept in secure bunded areas remotely from any watercourse. The bunded area should accommodate 110% of the total capacity of the containers within it. Containers should be properly secured to prevent unauthorised access and misuse.
 - On-site refuelling must be carried out at designated refuelling stations within the site. Only designated trained and competent operatives should be authorised to

refuel plant on site. Drip trays must be used when refuelling all machinery. Absorbent material and pads should be available in the event of any accidental spillages.

- Alternatively, mobile double skinned fuel bowzers may be used. Fuel bowzers should be parked on a level area in the site when not in use. They should be bunded at 110%.
 - There must be minimal maintenance of construction vehicles or plant on site.
 - On-site diesel tanks should be double skinned to 110% of their capacity.
 - Containment stores should be used for refuelling of small plant such as consaws etc.
 - Fuel volumes stored on site should be minimised. Any fuel storage areas should be bunded appropriately for the fuel storage volume for the time period of the construction.
 - Machines used should be regularly inspected for leaks and fitness for purpose.
 - Any hazardous materials should be stored in secure bunded areas.
 - An effective spillage procedure should be put in place with all staff properly briefed.
 - Spill kits should be present in all plant machinery.
 - Oil booms and oil soakage pads should be kept on site to deal with any accidental spillage.
 - An emergency plan for the construction phase to deal with accidental spillages should be contained within an Environmental Management Plan.
 - Waste oils and hydraulic fluids should be collected in leak-proof containers and removed from site for disposal and recycling
- Best practice concrete / aggregate management measures should be employed on site. These should include:
 - Best practice in bulk-liquid concrete management must be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc.
 - Stockpile areas for sands and gravel should be kept to a minimum size, well away from the river and / or local drains (minimum 10m).
 - Where concrete shuttering is used, measures should be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils.
 - Wash down water from concrete trucks will be appropriately controlled on-site. Such controls may include collection to allow sediment to settle out and reach neutral pH before clarified water is released to the local watercourse or allowed to percolate into the ground.

- Activities which result in the creation of cement dust should be controlled by dampening down the areas.
- Raw and uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and manner which will not impact upon local watercourses.
- Stockpile areas for sands and gravel should be kept to a minimum size, well away from any drain or watercourse.
- During construction, surface water on the site must be controlled and management to avoid any impacts upon local ground or surface water receptors. Construction water should not be discharged directly into any watercourse. Good construction practices such as wheel washers and dust suppression measures must be undertaken. There must be no discharges of silt laden surface water into the public sewer.
- Guidelines within The Construction Industry Research and Information Association (CIRIA) provides guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2001). Guidelines within this document must be followed.
- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used. This includes any excavated soil. There must be no placement of soil or waste within any area designated as an SAC or SPA.

Site Operation and Landscaping

- The existing septic tank must be emptied by a registered contractor following decommissioning. The new treatment plant and percolation area must be installed under the supervision of a suitably qualified engineer. It must be operated and maintained in accordance with its design specifications. It should be serviced regularly and emptied annually by a registered contractor.
- During operation, clean water should be directed into on-site soakpits. This is preferable to discharging directly to the river as it will avoid unnecessary pipe work into the river and disturbance to the river banks.
- During operation only low intensity / mammal friendly lighting should be used on the development. This will reduce the impact of any new lighting scheme on local bat populations. Lights should not be directed towards the river or the woodlands. Spotlights and uplighters should not be used. Low level security lighting that comes on

and off is recommended. Guidelines are available at https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf

- Bare soil should be seeded as soon as possible with grass seed. This will minimise erosion into local drains and watercourses.
- The removal of vegetation with herbicides should be avoided.
- Any landscaping should involve the planting of native Irish species that are indigenous to the site. Suitable species would include birch, oak, willow and alder.
- Site verges and garden should be managed at a low intensity level to provide maximum habitat availability for pollinators.

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 Union Wood SAC, the Unshin River SAC and the Ballysadare SAC /SPA. 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.

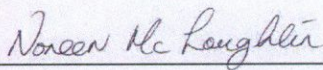
The qualifying interests of the site and their potential to be impacted upon from the potential development were listed in Section 4.2. It is considered that these potential impacts can be successfully mitigated against. With implementation of the mitigation measures there will be no deterioration in water quality or impacts upon any designated habitat or any species dependent on these designated habitats. The attributes and targets which have been set out in order to maintain or restore the favourable conservation condition of these interests in the SAC will not be impacted upon.

In light of the above, it is considered that with the implementation of the mitigation measures, that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of Union Wood SAC, the Unshin River SAC and the Ballysadare SAC /SPA. The integrity of the site will not be adversely affected. Table 14 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 or chemical composition)?	N
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 14 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002))



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