Appropriate Assessment Screening Report & Natura Impact Statement

Pearse Road, Sligo, Co. Sligo

Project Details

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Client:	Caltragh Construction Ltd
Address:	Pearse Road, Sligo, Co. Sligo (IGR: G 69315 34291)
Services Provided:	Preparation of an 'Article 6 (3) Appropriate Assessment Screening & Natura Impact Statement'

AVRIO Quality Information

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Where field investigations were carried out, these investigations have been restricted to a level of detail required to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time, and further confirmatory analyses should be made after any significant delay in issuing this report.

Contents

1. Introduction

1.1 Background

AVRIO Environmental Management Limited, hereafter "AVRIO", has been appointed by Caltragh Construction Ltd to undertake an Appropriate Assessment Screening and, if required, a Natura Impact Statement for a proposed development located off Pearse Road, Sligo, Co. Sligo (Grid Reference: G 69315 34291).

1.2 Requirement for an Appropriate Assessment

This Appropriate Assessment Screening and Natura Impact Assessment was prepared for a proposed development off Pearse Road, Sligo, 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 report 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 [1].

The purpose of the assessment is to determine the appropriateness of the proposed project in the context of the conservation status of a European protected 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.

1.3 The Aim of the Report

This Appropriate Assessment Screening Report has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) [2] as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010) [3], and it provides an assessment of the potential effects of a proposed development at Pearse Road, Sligo, Co. Sligo.

An AASR 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 2000 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.

[1] EC (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission
[2] EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
[3] DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February 2010. Department of the Environment, Heritage and Local Government;

Accordingly, a comprehensive assessment of the potential impacts of this application was carried out in November 2023 by AVRIO. 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.

1.4 Regulatory Context

1.4.1 Relevant Legislation

1.4.1.1 The Birds Directive

- The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats[4]. 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.

1.4.1.2 The EU Habitats Directive

- 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.[5] 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).

1.4.1.3 The Water Framework Directive

- 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)[6]. 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 2021 and that status does not deteriorate in any waters.

[4] European Communities (Conservation of Wild Birds) Regulations, 1985, SI 291/1985 & amendments – http://www.irishstatutebook.ie;
[5] European Communities (Natural Habitats) Regulations, SI 94/1997, SI 233/1998 & SI 378/2005 – http://www.irishstatutebook.ie;
[6] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

1.4.2 Appropriate Assessment & 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[7]. 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)[8]. Natura 2000 is a network of areas designated (or in the latter stages of designation) established to ensure the long-term survival of Europe's most valuable and threatened species and habitats.

The Habitats Directive requires competent authorities to carry out a 'Habitats Directive Assessment' of plans and projects that are likely to have a significant effect on Natura 2000 sites, either individually or in combination with other plans or projects.

This report presents the results of the initial stage of this assessment i.e. screening stage and reports the outcomes and conclusions of assessments undertaken pursuant to the requirements of Article 6 of Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites[9]. 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[10].

Article 6(4) states:

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[7] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
[8] Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds
[9] EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg. European Commission
[10] EC (2007b) Interpretation Manual of European Union Habitats. Version EUR 27. European Commission, DG Environment;

"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."

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1.4.3 Screening for Appropriate Assessment

Screening is the process of determining whether an Appropriate Assessment is required for a plan or project. Under Part XAB of the Planning and Development Act, 2000, as amended, screening must be carried out by the Competent Authority. Section 177U of the Planning and Development Act, 2000, as amended, states [11]

'A screening for appropriate assessment 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'.

The Competent Authority's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and should be recorded. The Competent Authority may request information to be supplied to enable it to carry out a screening.

Consultants or project proponents may provide for the Competent Authority with the information necessary for them to determine whether an Appropriate Assessment is required and provide advice to assist them in the Article 6(3) Appropriate Assessment Screening decision.

Where it cannot be excluded beyond reasonable scientific doubt at the Screening stage, that a proposed plan or project, individually or in combination with other plans and projects, would have a significant effect on the conservation objectives of a European site, an Appropriate Assessment is required.

1.4.4 Natura Impact Statement

Where an Appropriate Assessment is required, the Competent Authority may require the applicant to prepare a Natura Impact Statement. The term Natura Impact Statement (NIS) is defined in legislation [12]. An NIS, where required, should present the data, information and analysis necessary to reach a definitive determination as to 1) the implications of the plan or project, alone or in combination with other plans and projects, for a European site in view of its conservation objectives, and 2) whether there will be adverse

[11] DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February 2010. Department of the Environment, Heritage and Local Government;

[12] As defined in Section 177T of the Planning and Development Act, 2000 as amended, an NIS means a statement, for the purposes of Article 6 of the Habitats Directive of the implications of a proposed development, on its own and in combination with other plans and projects, for a European site in view of its conservation objectives. It is required to include a report of a scientific examination of evidence and data, carried out by competent persons to identify, and classify any implications for the European site in view of its conservation objectives.

effects on the integrity of a European site. The NIS should be underpinned by the best scientific knowledge, objective information and by the precautionary principle. This Appropriate Assessment Screening Report has been prepared in compliance with the provision of section 177U of the Planning & Development Act 2010 as amended.

1.5 Statement of Authority

Jack Hamill BSc (Hons): This report has been prepared by Jack Hamill. Jack is an ecologist at AVRIO Environmental Management. Jack graduated with a bachelor's degree of Science in Marine Science from the University of Ireland, Galway. Jack has experience overseeing environmental monitoring surveys in his previous roles both in Australia and Canada, he has been undertaking environmental surveys in Northern Ireland and the Republic of Ireland since 2023 including Invasive Species Surveys (ISS), Preliminary Roost Assessments (PRA), baseline ecological surveys and bat emergence/re-entry surveys on a variety of sites throughout Ireland. Jack has experience contributing to habitat AVRIO assessments including JNCC Phase I Habitat Surveys and Fossitt Habitat Surveys as well as producing a range of ecological reports including Preliminary Ecological Appraisals, Invasive Species Management Plans, Habitat Regulation Assessments (HRA/AASR/NIS).

Fergal Maguire NDA, BSc (Hons), PIEMA: This report has been reviewed and approved by Fergal Maguire. Fergal is the General Manager and Principal Environmental and Ecological Consultant at AVRIO Environmental Management. He holds an NDA and BSc (Hons) in Environmental Science from the Institute of Technology, Sligo. Fergal is a member of the Institute of Environmental Management & Assessment (IEMA), an organisation requiring peer review and a high standard of professional conduct. He has over 12 years of experience within the environmental industry. He has experience contributing to a number of Environmental Impact Assessments, environmental licence and surrender applications, including Industrial Emissions Licences (IEL), Integrated Pollution Control Licences (IPC) and Waste Licences for submission to the Irish Environmental Protection Agency (EPA), Northern Ireland Environment Agency (NIEA), Scottish Environment Protection Agency (SEPA), United Kingdom Environment Agency (E.A.) and a number of Local Authorities throughout the U.K. and Ireland. Fergal has extensive experience in the sustainable development and management of a number of IED licenced facilities throughout Ireland, the U.K. and greater Europe, as well as general consultancy within the waste management, environmental compliance, and ecological sectors. Fergal has extensive experience in Ecological Impact Assessments (EcIA), including priority species such as Bats, Badger, Otter, Red Squirrel, Pine martin and breeding birds, and habitats assessments, including Phase I and Fossitt Habitat Surveys. Fergal has extensive experience in Habitat Regulation Assessments (HRA/AASR/NIS), Ecological Clerk of Works (ECoW), Invasive Species Surveys and Management and production of site-specific mitigation proposals for a range of developments throughout Northern Ireland and the Republic of Ireland.

2. Methodology

2.1 Appropriate Assessment

In addition to the guidelines referenced above, the following relevant documents were also considered in the preparation of this report:

1. Council of the European Commission (1992) Council Directive 92/43/EEC of 21st May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities. Series L 20, pp. 7-49.[13]
2. EC (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg.[14]
3. European Commission (2001). 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.[15]
4. European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.[16]
5. EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence. Opinion of the commission.[17]
6. EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.[18]
7. European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.[19]
8. Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.[20]
9. National Parks and Wildlife Service (2019). Article 17: The Status of EU Protected Habitats and Species in Ireland.[21]
10. European Communities (Natural Habitats) (Amendment) Regulations 2005[22];

[13] EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
[14] EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
[15] EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
[16] EC (2006) Nature and Biodiversity Cases: Ruling of the European Court of Justice, Office for Official Publications of the European Communities, Luxembourg. European Commission;
[17] EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg. European Commission;
[18] EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. Office for Official Publications of the European Communities, Luxembourg. European Commission.
[19] EC (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. . Office for Official Publications of the European Communities, Luxembourg. European Commission.
[20] DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February 2010. Department of the Environment, Heritage and Local Government
[21] NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report.
[22] EC (1997) 2006. The European Communities (Natural Habitats)(Amendment) Regulations 2005.

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.[23]

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 on 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.[24]

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.

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[23] DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. DEHLG, Dublin;
[24] DEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February 2010. Department of the Environment, Heritage and Local Government;

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this Appropriate Assessment Screening Report 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, if required.

2.2 Desk Study

Information pertaining to the proposed site and the surrounding environment was studied and assessed prior to the completion of this assessment. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service (NPWS) online map viewer[25];
- Mammals, Amphibians and Reptiles website[26];
- Ordnance Survey Ireland Map Viewer: Geohive[27];
- Environmental Protection Agency Geographic Information System (EPAGIS)[28];
- National Biodiversity Data Centre (NBDC)[29];
- NPWS Article 17 Metadata and GIS Database[30];
- Geological Survey Ireland, Department of the Environment, Climate and Communications Map Viewer[31];
- Sligo County Council Planning Portal[32];

[25] National Parks and Wildlife Service: National Parks & Wildlife Service (npws.ie)
[26] Mammals, Amphibians and Reptiles: http://www.habitas.org.uk/nimars/
[27] Ordnance Survey Ireland Map Viewer - GeoHive: https://webapps.geohive.ie/mapviewer/index.html
[28] Environmental Protection Agency Geographic Information System: https://gis.epa.ie/EPAMaps/
[29] National Biodiversity Data Centre: www.biodiversityireland.ie
[30] NPWS Article 17 Metadata and GIS Database: https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17
[31] Geological Survey Ireland Map Viewer: https://dcenr.maps.arcgis.com/apps/MapSeries/index
[32] Sligo County Council Planning Portal: Sligo County Council Planning Portal

- Vincent Hannon & Associates[33].

2.3 Site Location & Current Use

The proposed development site is located at off Pearse Road, Sligo, Co. Sligo (Grid Reference: G 69315 34291). The site is located approximately 1.7km southeast of Sligo town centre, 22.06km northwest of Castlebaldwin town centre, and 47.25km northeast of Ballina town centre.

The site sits an elevation of approximately 51m. To the north, and northeast of the site are commercial and residential buildings associated with Sligo town centre. Pearse Road borders the site to the east, additionally, Markievicz Park GAA Stadium and Sligo Clinic are located to the east of the site. To the south of the site are residential developments, improved grassland, and commercial properties. To the west of the site is Caltragh Community Centre, Residential development and the N4 National Road between Dublin and Sligo. The site itself consists of grasslands, hedgerows, and treelines.

The are two European designated sites within 2km of the development. These are Lough Gill SAC located 1.47km east of the development and Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC located 1.67km northwest of the development. Additionally, there are a further 9 European designated sites within 15km of the development. These are Union Wood SAC, Unshin River SAC, Ballysadare Bay SAC, Ben Bulben, Gleniff and Glenade Complex SAC, Drumcliff Bay SPA, Cummeen Strand SPA, Ballysadare Bay SPA, Sligo/Leitrim Uplands SPA and Ballintemple and Ballygilgan SPA.

There are no nationally designated sites within 1km of the development, the closest being Lough Gill pNHA 1.5km to the east of the development site. There are no Ancient or Long-established Woodlands within 1km of the development, the closest being Cleaveragh Demesne Long-established Woodland, 1.5km to the east of the development site.

The current site has been used as an area of improved agricultural grassland. The site consists of habitats such as Immature Woodland, Scrub, Treelines, Improved Agricultural Grassland, Scattered Trees and Parkland, Hedgerows, Drainage Ditches, Refuse and Other Waste and Ornamental/Non-native Shrub.

Pictures 1 – 6 below detail these habitats.

[33] Vincent Hannon & Associates – Site Development Plans

Picture 1: Improved Agricultural Grassland (GA1) on-site

Picture 2: Scrub (WS1) identified on-site

Picture 3: Refuse and Other Waste (ED5) identified on-site

Picture 4: Treeline (WL2) identified at the boundary on-site

Picture 5: Immature Woodland (WS2) identified on-site

Picture 6: Hedgerow (WL1) identified on-site

Figure 1 details the site location within the environs of Pearse Road, Sligo, Co. Sligo, and additionally details the site boundary location within the immediate environs of Sligo

2.4 Characteristics of the Development

2.4.1 Description of the Project

Permission is sought for:

1. The erection of 97 Housing units, including: 10-no. 1 bedroom properties, 23-no. 2 bedroom properties, 44-no. 3 bedroom properties, 20-no. 5 bedroom properties;
2. Construction of a new Creche Building; and
3. Construction of internal Tarmac Roads, Car Parking and Public Open Space

Appendix E attached details the current Site Layout Plan.

2.4.2 Description of the Baseline Ecological Environment

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities[35].

A walkover of the site was undertaken on 14th of November 2023 by a qualified ecologist, and habitats present were identified in accordance with the Heritage Council's 'Guide to Habitats in Ireland'[36]. Plant nomenclature for vascular plants follows 'New Flora of the British Isles, while mosses and liverworts nomenclature follows 'Mosses and Liverworts of Britain and Ireland - a field guide'.

The walkover survey was designed to detect the presence, or likely presence, of a range of protected species and habitats. The walkover survey comprehensively covered the entire study area of the subject development and surrounding habitats.

2.4.2.1 Habitats

Habitats located within the site boundary include:

- Improved Agricultural Grassland (GA1)
- Scrub (WS1)
- Immature Woodland (WS2)
- Scattered Trees and Parkland (WD5)
- Hedgerow (WL1)
- Treeline (WL2)
- Drainage Ditch – Dry ditch(FW3)
- Refuse and Other Waste (ED5)
- Ornamental/Non-native Shrub (WS3)

[35] CIEEM, 2018, Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine;
[36] Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Dublin: The Heritage Council;

2.4.2.2 Biodiversity Net Gain

As part of the development application, a Biodiversity Net Gain (BNG) assessment was conducted by AVRIO to ensure the site at Pearse Road achieves BNG in line with the trading rules. The detailed findings are outlined in the report produced for Caltragh Construction Ltd (AEMP-288, AHB1-T32). The BNG objectives were successfully met, with the post-development landscape, as per the Landscape Masterplan, including the planting of 308 trees, the creation of 0.1427 hectares of Hawthorn scrub, 0.0463 hectares of mixed scrub, and 0.056 km of native hedgerow. These new habitats compensate for the loss of baseline scrub and hedgerow habitats on-site.

2.4.2.3 Assessment for Annex I Habitats

No habitats on site consisted of indicator species of habitats that fall under Annex I of the EU habitats directive.

2.4.2.3 Invasive Species (Flora) Survey

Throughout the habitat survey, the site was searched for invasive plant species, focusing on those species listed on the Third Schedule of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011[37]. Invasive species included in this list include Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*), Giant Knotweed (*Fallopia sachalinensis*), Giant Rhubarb (*Gunnera manicata*), Himalayan Balsam (*Impatiens glandulifera*), Himalayan Knotweed (*Polygonum polystachyum),* Bohemian Knotweed (*Fallopia bohemica*) and Rhododendron (*Rhododendron ponticum*).

The invasive species carried out by AVRIO identified no scheduled invasives, however, the non-scheduled invasive species Buddleia (*Buddleja davidii*), Cherry Laurel (*Prunus laurocerasus*), Himalayan Honeysuckle (*Leycesteria formosa*) and Snowberry (*Symphoricarpos albus*). Buddleia was identified at Irish Grid Reference (IGR): G 69452 34359, Cherry Laurel was identified at IGR: G 69454 34358 and G 69449 34320, Himalayan Honeysuckle was identified at IGR: G 69259 34285 and Snowberry was identified at IGR: G 69468 34338 and G 69476 34344.

In Ireland, these species are not listed under 'Regulation 49 and 50: Prohibition on introduction and dispersal of certain species', which places restrictions on the introduction of any plant species listed in the Third schedule. This legislation states, that a person shall be guilty of an offence if they:

- Plant, disperse, allow, or cause to disperse, spread, or cause to grow the plant in Ireland.[38]

However, Buddleia and Himalayan Honeysuckle are listed as Medium-Impact Invasive Species[39] and Cherry Laurel is listed as a High-Impact Invasive Species[40] by Invasive Species Ireland. Although Snowberry is not listed is a medium or high impact invasive by Invasive Species Ireland, it is recognised as an invasive species in Northern Ireland

[37] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora [Habitats Directive] and Directive 2009/147/EC [codified version of Directive 79/409/EEC as amended] [Birds Directive] transposed into Irish law as European Communities [Birds and Natural Habitats] Regulations 2011 [SI 477/2011].
[38] EC Birds and Natural Habitats Regulations, Regulation 49 & 50
[39] Medium Impact invasive species - Species Profile Browser · Species Profile (biodiversityireland.ie)
[40] High Impact invasive species - Species Profile Browser · Species Profile (biodiversityireland.ie)

under the Invasive Species Northern Ireland (ISNI) guidelines produced by NIEA [41]. Considering such, due care and consideration should be given to the management of these species within the site to ensure they do not disperse, spread, or cause to grow elsewhere as part of construction activities. Although these species are not listed on the aforementioned Regulation 49 and 50; due to their invasive nature, it is recommended they are managed appropriately. Recommendations for the effective management of these invasive species are detailed in Appendix E below.

Picture 7: Non-native shrub (WS3) - Himalayan Honeysuckle

Picture 8: Non-native shrub (WS3) - Buddleia

[41] Snowberry ISNI Guide: https://invasivespeciesireland.com/wp-content/uploads/2020/11/NIEA-ID-Guide-ISNI-website-Symphoricarpos-albus-SnowberryV2.pdf

Picture 9: Non-native shrub (WS3) – Snowberry identified on-site

Picture 10: Non-native shrub (WS3) – Cherry Laurel bounding the site

Legend:

- Site Boundary
- WS2- Immature Woodland
- WS1- Scrub
- GA1- Improved Agricultural Grassland
- ED5- Refuse and Other Waste
- FW3- Drainage Ditch
- WL1- Hedgerow
- WL2- Treeline
- WD5- Scattered Trees and Parkland
- Target Note 1- Telephone Mast
- Target Note 2- Buddleia
- Target Note 3- Snowberry
- Target Note 4- Cherry Laurel
- Target Note 5- Himalayan honeysuckle
- Fence

Project Title: AEMP-2000288 Pearse Road, Sligo, Co. Sligo	
Drawing Title: Fossitt Habitats Map	
Drawn By: JH	Checked By: FM
Project No: 2000288	Drawing No: Figure 2
Scale: 1/1650	Date: 14th October 2024

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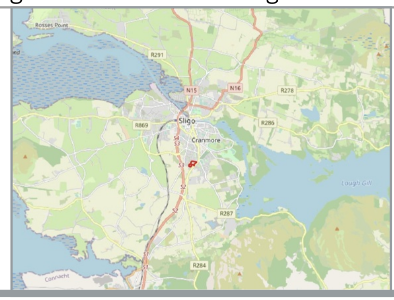


2.4.2.4 Protected Species (Fauna) Survey

Commuting and Foraging Bats

The application site was deemed optimal for commuting and foraging Bats, in particular the scrub, treelines and hedgerow on-site. These may provide ecological corridors between surrounding environs and areas of foraging for several of the bat species noted locally in the area.

Bat Roost Assessment for Trees

All trees on-site have been assessed as having negligible suitability for roosting Bats due to insufficient roosting features. The site was deemed optimal for commuting and foraging bats.

Bat Roost Assessment for Walls

Walls on-site have been assessed as negligible suitability for roosting bats due to insufficient roosting features.

Bat Roost Assessment for Buildings

No buildings were present within the site boundary.

Badger *(Meles meles)* Survey

A survey of the site did not identify Badger setts, latrines, snuffle holes within the site's boundary or wider environs. A mammal hole identified to the northwest of the site at IGR: G 69270 34362, however, this was assessed to be a rabbit burrow due to the size of the mammal hole (9cm x 12cm). The site has suitable habitat for Badgers to forage and create setts within; however, the site is located within the confines of an urbanised area associated with Sligo town, which does not provide suitable habitat for Badger. The extended environs were considered sub-optimal for Badger. It is unlikely that badgers would choose to establish setts on the site due to the absence of suitable habitat within their typical range in this location. Considering badgers are a highly mobile species, general recommendations are provided in the Ecological Appraisal associated with this development.

Breeding Birds Habitat Suitability Assessment

No nests or breeding Birds were identified on-site. Several species of common bird were noted on-site whilst the survey was undertaken. These birds included Common Blackbird *(Turdus merula),* Hooded Crow *(Corvus cornix),* Eurasian Magpie *(Corvus Pica),* Eurasian Chaffinch *(Fringilla coelebs),* European Robin *(Erithacus rubecula),* Northern Wren

(Troglodytes troglodytes) and Song Thrush *(Turdus philomelos)*. Treelines and areas of scrub are considered optimal locations for breeding Birds. Any removal or facing of trees and scrub will need to be undertaken outside of the breeding season (March-August inclusive).

Otter (*Lutra lutra*) Survey

An Otter activity and habitat suitability survey was undertaken on-site, incorporating the site and a 30m buffer around the site. No Otter spraints, footprints, paths/slides, holts, or urination 'green spots' were identified on-site or within the extended survey area. The site is considered suboptimal for commuting and foraging Otter due to the lack of watercourses, and other Otter supporting habitat on-site. Additionally, the site was situated in a largely urbanised area. Habitats on site and within the extended environs are considered suboptimal for this species.

Pine Marten (*Martes martes*) Habitat Suitability Assessment

The habitats on site and surrounding environs were assessed for habitat suitability for Pine Marten. Despite immature woodland being present on-site, the site did not provide sufficient habitat for Pine Marten and the site is considered sub-optimal for the species. The woodland was deemed species-poor and does not provide the shelter required for breeding Pine Marten and the trees do not comprise of suitable cavities associated with Pine Marten dens.[42] There are previous records of Pine Marten within 2km of the application site, most recently on the 5th of July 2020 (NBDC). However, Pine Marten are unlikely to utilise the site itself as on-site habitats were considered poor suitability for this species.

Red Squirrel (*Sciurus vulgaris*) Habitat Suitability Assessment

The habitats on site and surrounding environs were assessed for habitat suitability for Red Squirrel. The site did not provide sufficient habitat for Red Squirrel and the site is considered sub-optimal for the species. The woodland was deemed species-poor and does not provide the shelter required for breeding Red Squirrel. There are no previous records of Red Squirrel within 2km of the application site. Red squirrels are unlikely to utilise the site and on-site habitats were considered poor suitability for this species.

Common Lizard *(Zootoca vivipara)* Habitat Suitability Assessment

The habitats of the application site and surrounding environs were comprehensively assessed for habitat suitability for Common Lizard, the habitat on-site was assessed in accordance with methodologies outlined previous. There are no previous records of Common Lizard on NBN Atlas (within 5km of the application site) or NBDC (within 2km of the application site) databases. Whilst the site contained some suitable habitats for Common Lizard, such as open grassy meadows and fallen logs, it lacked optimal breeding

[42] The Vincent Wildlife Trust: https://www.vwt.org.uk/wp-content/uploads/2015/04/pine-marten-leaflet.pdf

habitats for the species, e.g., southern facing banks, damp heathland or areas of open woodland. Additionally, the site lacked suitable hibernation habitats for the species. As such, the site has been deemed of poor suitability for the species.

Smooth Newt *(Lissotriton vulgaris)* Habitat Suitability Assessment

The habitats on site and surrounding environs were assessed for Smooth Newt. There are previous records of the species on NBN Atlas (within 5km of the application site) or NBDC (within 2km of the application site) databases. However, on-site habitats were deemed sub-optimal for smooth newt, due to the absence of watercourses on-site.

2.4.3 Description of the Baseline Geological Environment

2.4.3.1 Bedrock Geology

Bedrock under the site is comprises of Dark fine-grained cherty limestone which is known as the Dartry Limestone Formation. In the formation the dominant facies is massive to thick-bedded, mostly very fine-grained and dark wackestone, locally rich in sponge spicules. Bedding is picked out by lines of chert nodules. There is pervasive dolomitisation and silicification[43].

2.4.3.2 Aquifer Classification

The aquifer classification at the site is classed as a 'Regionally Important Aquifer - Karstified (conduit) (Rkc) - Bedrock which is Generally Moderately Productive'. A description of this aquifer is detailed below:

'Karstification' is the process whereby limestone is slowly dissolved away by percolating waters. It most often occurs in the upper bedrock layers and along certain fractures, fissures and joints, at the expense of others. Karstification frequently results in the uneven distribution of permeability through the rock, and the development of distinctive karst landforms at the surface (e.g. swallow holes, caves, dry valleys), some of which provide direct access for recharge/surface water to enter the aquifer. The landscape is characterised by largely underground drainage, with most flow occurring through the more permeable, solutionally-enlarged, interconnected fissure/conduit zones, which may be several kilometres long. Groundwater velocities through fissures/conduits may be high and aquifer storage is frequently low. Groundwater often discharges as large springs (>2,000 m 3 /d), which range from regular and dependable to highly variable ('flashy'). There is strong interconnection between surface water and groundwater. The degree of karstification ranges from slight to intense. GSI recognises two types of karst aquifer: those dominated by diffuse flow (Rkd) and those dominated by conduit flow (Rkc)[44].

Regionally important (R) aquifers should have (or be capable of having) a large number of 'excellent' yields: in excess of approximately 400 m3/d (4,000 gph) 45.

[43] Geological Survey Ireland: https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228
[44] Geological Survey Ireland: https://www.gsi.ie/documents/GSI%20Aquifer%20Category%20Descriptions.pdf
[45] Geological Survey Ireland: https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228

2.4.3.3 Groundwater Vulnerability

Groundwater Vulnerability is a term used to represent the natural ground characteristics that determine the ease with which groundwater may be contaminated by human activities. More scientifically, groundwater vulnerability embodies the characteristics of the intrinsic geological and hydrogeological features at a site that determine the ease of contamination of groundwater. The vulnerability category assigned to a site, or an area is thus based on the relative ease with which infiltrating water and potential contaminants may reach groundwater in a vertical or sub-vertical direction. As all groundwater is hydrologically connected to the land surface, it is the effectiveness of this connection that determines the relative vulnerability to contamination. Groundwater that readily and quickly receives water (and contaminants) from the land surface is considered to be more vulnerable than groundwater that receives water (and contaminants) more slowly, and consequently in lower quantities. Additionally, the slower the movement and the longer the pathway, the greater is the potential for attenuation of many contaminants[46].

The Geological Survey Ireland classifies the groundwater vulnerability at the site to be 'High'[47].

2.4.3.4 Groundwater Flow Direction

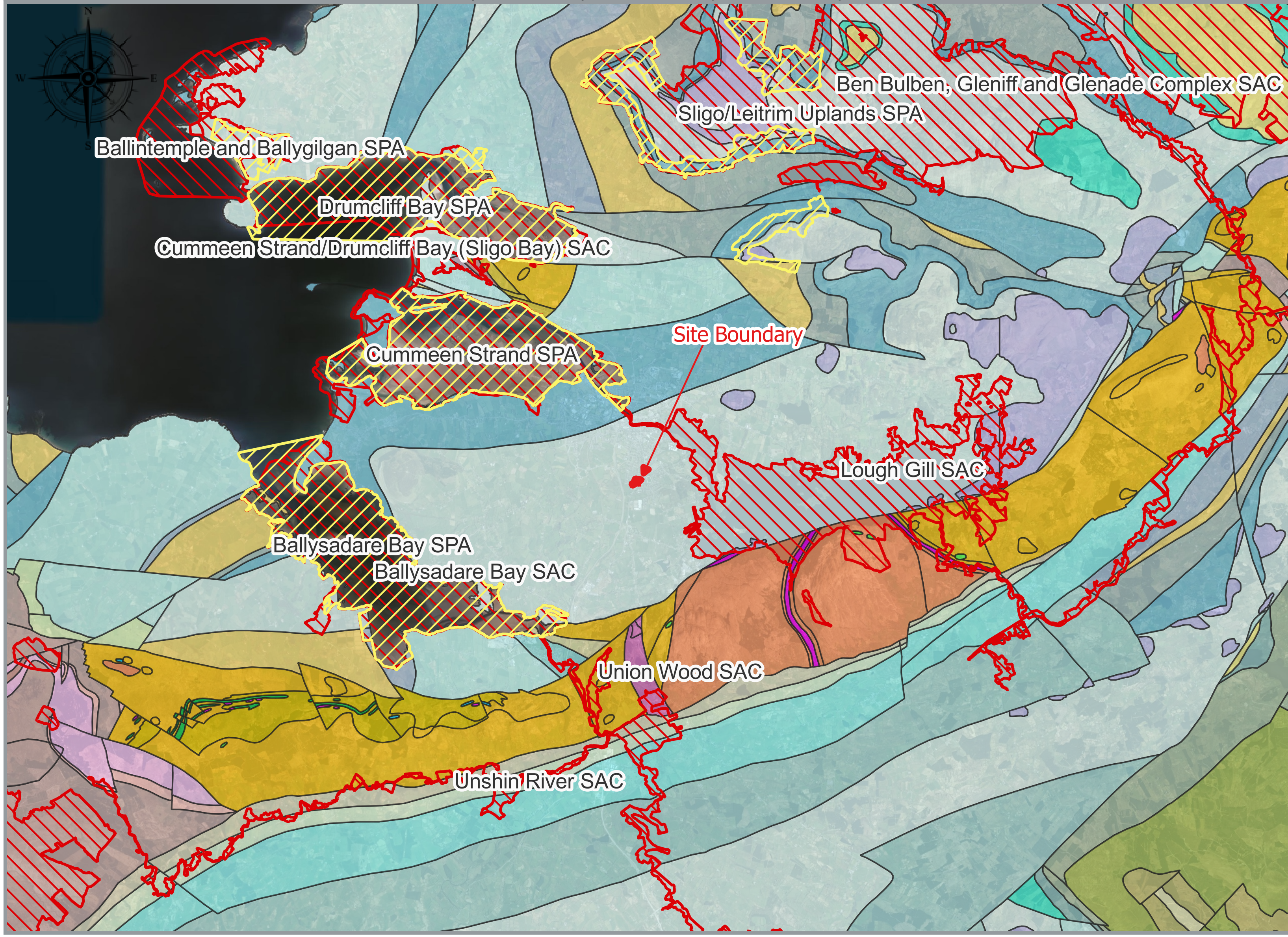
Exact directions of groundwater flow have not been established for the site in question, however, for the purposes of this assessment the precautionary principle is implemented, and a worst-case scenario is used.

The direction of groundwater flow follows a path through an aquifer from areas of high-water levels to areas where water levels are low. Water flows through aquifers to discharge points some distance down-gradient at a spring or offshore into the sea[48].

The subject lands are located within the Sligo Bay Catchment (Catchment ID: 35) and at the boundary of the Carrowgobbadagh_SC_010 and Bonet_SC_030 sub-catchment zones. The application site is situated above a Karstified Regionally Important groundwater aquifer, and the application site is split between an area of high and extreme groundwater vulnerability. The site's location sits atop the boundary between the Carrowmore East and Carrowmore West groundwater bodies. It is assumed that groundwater from the application site flows into both aquifers, it is likely that it first discharges into another watercourse/waterbody at the Garavogue Watercourse approx. 1.3km to the east of the application site; this watercourse flows into Sligo Bay via the Garavogue Estuary, and further the Atlantic Ocean. As highlighted above, this hydrogeological connection links a number of Nationally and Internationally designated sites hydrogeologically to the application site, and therefore in the absence of mitigation, indirect impacts on these designations as a result of proposed works are anticipated.

[46] Geological Survey Ireland - Groundwater Vulnerability: https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/activities/understanding-ireland-groundwater/groundwater-vulnerability/Pages/default.aspx
[47] Geological Survey Ireland Map Viewer: https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228
[48] UK Groundwater Forum (Groundwater Flow): http://www.groundwateruk.org/downloads/groundwater_flow_and_quality.pdf

Bedrock Aquifer: Regionally Important Aquifer - Karstified		Bedrock polygons 100k ITM 2018: Darty Limestone Formation					National Groundwater Vulnerability		
Aquifer Category	Category Description	New Code	Unit Name	Description	Formation	Lithological Description:	Soil Permeability code	Depth to Bedrocks (m)	Vulnerability Category
Regionally Important Aquifer	Rkc	CDDART	Dartry Limestone Formation	Dark fine-grained cherty limestone	Dartry Limestone Formation	The dominant facies is massive to thick-bedded, mostly very fine-grained and dark wackestone, locally rich in sponge spicules. Bedding is picked out by lines of chert nodules	IE_GSI_ssPm_40K_112529	N/a	High



Legend:
- Site Boundary
- SAC
- SPA

Project Title:
AEMP-2000288
Pearse Road, Sligo,
Co. Sligo

Drawing Title:
Hydrogeology Map

Drawn By: JH	Checked By: AG
Project No: 2000288	Drawing No: Figure 3
Scale: 1/175000	Date: 17th November 2023

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3. Identification of Relevant European Sites

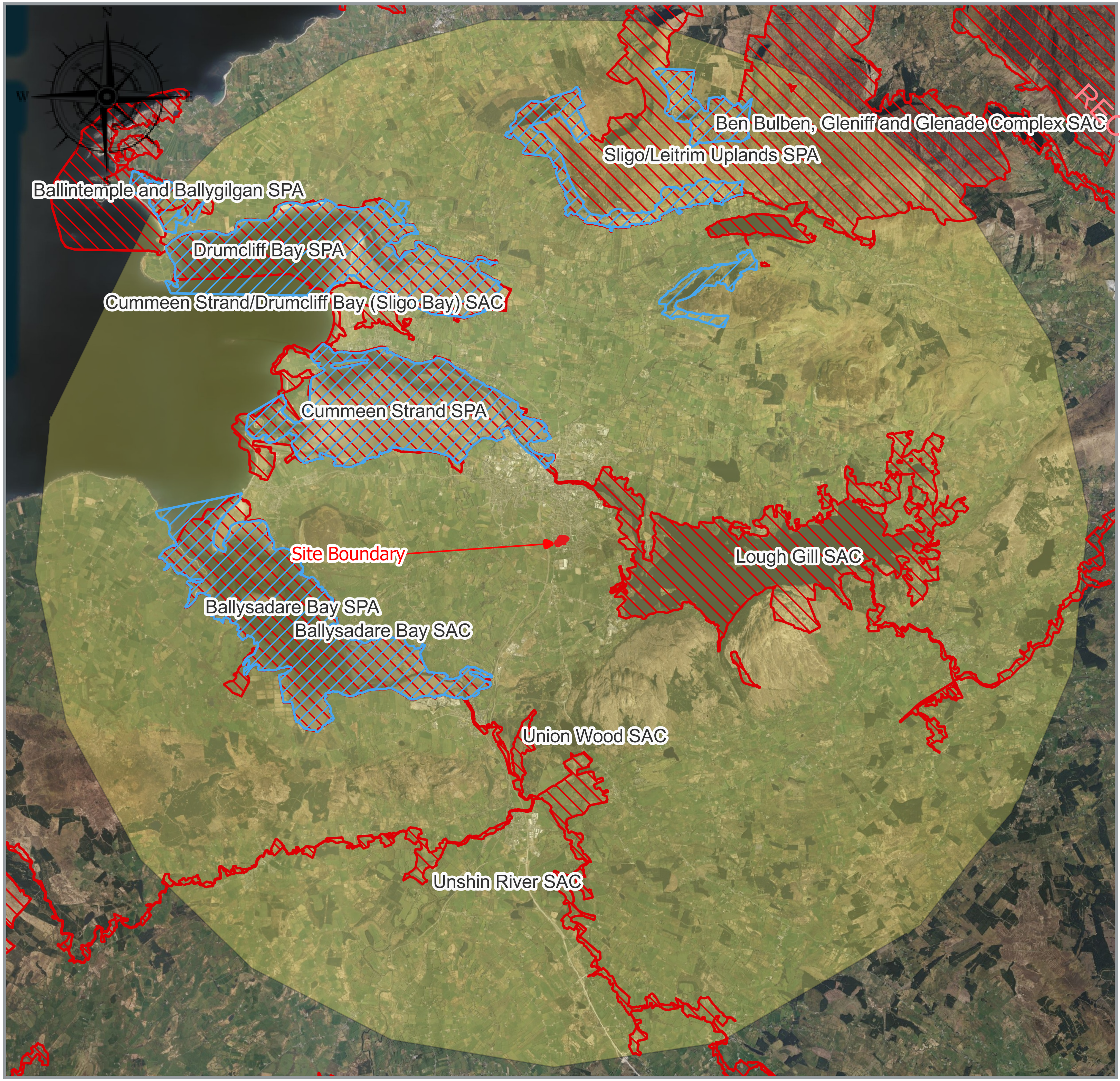
3.1 Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Impact of the proposed development:

- The most up-to-date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website [49] and the EPA website [50] on the 17th of November 2023. These datasets were utilised to identify European Sites that could feasibly be affected by the proposed development;
- All European Sites within a distance of 15km surrounding the development site were identified and are detailed in Figure 4 below. In addition, the potential for connectivity with European Sites at distances greater than 15km from the proposed development was also considered. In this case, the proposed project does not give rise to the potential for likely significant effects on European Sites located beyond the 15km zone;
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, 'Assessing Connectivity with Special Protection Areas (SPA)' (2016) was consulted [51]. This document provides guidance in relation to the identification of connectivity between proposed developments and Special Protection Areas. The guidance considers the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species that are frequently encountered when considering plans and projects;
- Table 3-1 provides details of all relevant European Sites identified in the preceding steps and assesses which are within the likely Zone of Impact. The assessment considers any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this screening assessment;
- The site synopses and conservation objectives, as per the appropriate datasets, were consulted and reviewed when preparing this report (17th of November 2023). Figure 4 details the location of the proposed development in relation to all European sites within 15km in the Republic of Ireland.

Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Impact, and further assessment is required.

[49] NPWS Protected Site Synopses and maps available on http://www.npws.ie/en/ProtectedSites/;
[50] EPA maps available on EPA Maps
[51] Scottish Natural Heritage (SNH) (July 2013) Assessing Connectivity with Special Protection Areas (SPA);



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Legend:

- Site Boundary
- SAC
- SPA
- 15km Buffer

Project Title: AEMP- 2000288 Pearse Road, Sligo, Co. Sligo	
Drawing Title: Map of Designated Sites	
Drawn By: JH	Checked By: AG
Project No: 2000288	Drawing No: Figure 4
Scale: 1/150000	Date: 17th November 2023

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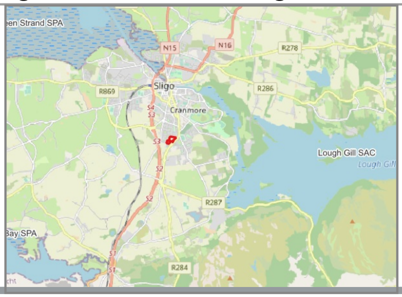

Table 3-1: Identification of designated sites within a 15km Buffer of the application site

European Sites and distance from subject development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS & DAERA online Conservation Objectives, www.npws.ie on the 18/10/2023	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Lough Gill SAC [001976] Distance: 1.47km	➢ [3150] Natural Eutrophic Lakes Magnopotamion or Hydrocharition - type vegetation ➢ [6210] Semi–natural dry grasslands and scrubland facies on calcaerious substrates (*Festuco-Brometalia*) (*important orchid sites) ➢ [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles ➢ [91E0] Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*)* ➢ [1092] White-clawed Crayfish (*Austropotamobius pallipes)* ➢ [1095] Sea Lamprey (*Petromyzon marinus)* ➢ [1096] Brook Lamprey (*Lampetra planeri)* ➢ [1099] River Lamprey (*Lampetra fluviatilis)* ➢ [1106] Atlantic Salmon (*Salmo salar)* ➢ [1355] Otter (*Lutra lutra)*	Detailed conservation objectives for this site (Version 1, October 2021) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 1.47km to the west of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SAC. Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3). This feature is a potential pollutant pathway from the development site to the SAC. Indirect impacts are anticipated. **This site is within the Likely Zone of Impact, and further assessment is required.**
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627] Distance: 1.67km	➢ [1130] Estuaries ➢ [1140] Mudflats and sandflats not covered by seawater at low tide ➢ [2110] Embryonic Shifting Dunes ➢ [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) ➢ [2130] Fixed Dunes coastal dunes with herbaceous vegetation (grey dunes)* ➢ [5130] *Juniperus communis* formations on heaths or calcareous grasslands ➢ [6210] Orchid-rich Calcareous Grassland*	Detailed conservation objectives for this site (Version 1, October 2013) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 1.67km to the southeast of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SAC, Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3).

	➢ [7220] Petrifying Springs with tufa formation (*Cratoneurion)** ➢ [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior)* ➢ [1095] Sea Lamprey (*Petromyzon marinus)* ➢ [1099] River Lamprey (*Lampetra fluviatilis)* ➢ [1365] Common (Harbour) Seal (*Phoca vitulina)*		This feature is a potential pollutant pathway from the development site to the SAC. Indirect impacts are anticipated. **This site is within the Likely Zone of Impact, and further assessment is required.**
Ballysadare Bay SAC [000622] Distance: 4.19km	➢ [1130] Estuaries ➢ [1140] Mudflats and sandflats not covered by seawater at low tide ➢ [2110] Embryonic Shifting Dunes ➢ [2120] Shifting dunes along the shoreline with *Ammophilia arenaria* (white dunes) ➢ [2130] Fixed coastal Dunes with herbaceous vegetation (Grey Dunes)* ➢ [2190] Humid Dune Slacks ➢ [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior)* ➢ [1365] Common (Harbour) Seal *(Phoca vitulina)*	Detailed conservation objectives for this site (Version 1, October 2013) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 4.19km to the northeast of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SAC, Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3). This feature is a potential pollutant pathway from the development site to the SAC. Indirect impacts are anticipated. **This site is within the Likely Zone of Impact, and further assessment is required.**
Union Wood SAC [000638] Distance: 4.80km	➢ [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Detailed conservation objectives for this site (Version 1, October 2021) were reviewed as part of the assessment and are available at www.npws.ie	This development is located 4.80km to the north of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological or hydrogeological connection exists between the site of the proposed development and this SAC, therefore, there is no pathway for significant effects via direct or indirect impacts. **This site is not within the Likely Zone of Impact, and no further assessment is required.**
Unshin River SAC [001898] Distance: 5.24km	➢ [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation ➢ [6210] Semi–natural dry grasslands and scrubland facies on calcaerious substrates	Detailed conservation objectives for this site (Version 1, October 2021) were reviewed as part of the	This development is located 5.24km to the north of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological or hydrogeological connection exists between the site of the proposed development and this

	(*Festuco-Brometalia*) (*important orchid sites) ➢ [6410] *Molinia* Meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae)* ➢ [91E0] Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*)* ➢ [1106] Atlantic Salmon (*Salmo salar*) ➢ [1355] Otter (*Lutra lutra*)	assessment and are available at www.npws.ie	SAC, therefore, there is no pathway for significant effects via direct or indirect impacts. **This site is not within the Likely Zone of Impact, and no further assessment is required.**
Benbulben, Gleniff and Glenade Complex SAC [000623] Distance: 8.88km	➢ [1013] Geyer's Whorl Snail (*Vertigo geyeri)* ➢ [1355] Otter (*Lutra lutra*) ➢ [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetaion ➢ [4010] Northern Atlantic wet heaths with *Erica tetralix* ➢ [4030] European dry heaths ➢ [4060] Alpine and Boreal heaths ➢ [5130] *Juniperus communis* formations on heaths or calcareous grasslands ➢ [6210] Semi-natural dry grasslands and scrubland facies on calcareous substratres *(Festuco-Brometalia*) (*important orchid sites) ➢ [6230] Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* ➢ [6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels ➢ [7130] Blanket bogs (* if active bog) ➢ [7140] Transition mires and quaking bogs ➢ [7220] Petrifying springs with tufa formation (*Cratoneurion)** ➢ [7230] Alkaline fens ➢ [8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)	Detailed conservation objectives for this site (Version 1, October 2021) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 8.88km to the southwest of this SAC. There is no spatial overlap or direct land take from this SAC. No direct impacts are anticipated. No hydrological or hydrogeological connection exists between the site of the proposed development and the SAC, therefore, there is no pathway for significant effects via direct or indirect impacts. **This site is not within the Likely Zone of Impact, and no further assessment is required.**

	➢ [8120] Calcaerous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*) ➢ [8210] Calcaerous rocky slopes with chasmophytic vegetation		
Special Protected Areas (SPA)			
Cummeen Strand SPA [004035] Distance: 2.01km	➢ [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) ➢ [A130] Oystercatcher (*Haematopus ostralegus*) ➢ [A162] Redshank (*Tringa totanus*) ➢ [A999] Wetland and Waterbirds	Detailed conservation objectives for this site (Version 1, October 2013) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 2.01km to the southeast of this SPA. There is no spatial overlap or direct land take from this SPA. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SPA. Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3). This feature is a potential pollutant pathway from the development site to the SPA. Indirect impacts are anticipated. **This site is within the Likely Zone of Impact, and further assessment is required.**
Ballysadare Bay SPA [004129] Distance: 4.19km	➢ [A046] Light-bellied Brent Goose (*Branta bernicla hrota*) ➢ [A141] Grey Plover (*Pluvialis squatarola*) ➢ [A149] Dunlin (*Calidris alpina*) ➢ [A157] Bar-tailed Godwit (*Limosa lapponica*) ➢ [A162] Redshank (*Tringa totanus*) ➢ [A999] Wetland and Waterbirds	Detailed conservation objectives for this site (Version 1, October 2016) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 4.19km to the northeast of this SPA. There is no spatial overlap or direct land take from this SPA. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SPA. Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3). This feature is a potential pollutant pathway from the development site to the SPA. Indirect impacts are anticipated. **This site is within the Likely Zone of Impact, and further assessment is required.**

Drumcliff Bay SPA [004013] Distance: 6.83km	➢ [A144] Sanderling (*Calidris alba*) ➢ [A157] Bar-tailed Godwit (*Limosa lapponica*) ➢ [A999] Wetland and Waterbirds	Detailed conservation objectives for this site (Version 1, September 2013) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 6.83km to the southeast of this SPA. There is no spatial overlap or direct land take from this SPA. No direct impacts are anticipated. No hydrological connection exists between the site of the proposed development and the SPA. Percolation of water through a Regionally Important Aquifer with bedrock which is generally moderately productive with a moderate groundwater vulnerability status (rock at or near surface or karst) provides a pathway to this sensitive receptor (See Figure 3). This feature is a potential pollutant pathway from the development site to the SPA. Indirect impacts are anticipated. **This site is not within the Likely Zone of Impact, and further assessment is required.**
Sligo/Leitrim Uplands SPA [004187] Distance: 7.01km	➢ [A103] Peregrine (*Falco peregrinus*) ➢ [A346] Chough (*Pyrrhocorax pyrrhocorax*)	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 7.01km to the southwest of this SPA. There is no spatial overlap or direct land take from this SPA. No direct impacts are anticipated. No hydrological or hydrogeological connection exists between the site of the proposed development and the SPA, therefore, there is no pathway for significant effects via direct or indirect impacts. **This site is not within the Likely Zone of Impact, and no further assessment is required.**
Ballintemple and Ballygilgan SPA [004234] Distance: 13.89km	➢ [A045] Barnacle Goose (*Branta leucopsis*)	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie	This development site is located 13.89km to the southeast of this SPA. There is no spatial overlap or direct land take from this SPA. No direct impacts are anticipated. No hydrological or hydrogeological connection exists between the site of the proposed development and the SPA, therefore, there is no pathway for significant effects via direct or indirect impacts. **This site is not within the Likely Zone of Impact, and no further assessment is required.**

3.2 Identifying Impacted Qualifying Features from Designated Sites

The following designations have been identified as having a hydrogeological connection to the application site: Lough Gill SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, Drumcliff Bay SPA. No direct impacts are anticipated on these designations, as development works will be undertaken outwith their boundaries. Indirect impacts are expected on these designations. Tables 3-2 – Table 3-7 designations that may be impacted by the proposed works.

Table 3-2: Identification of Impacted Qualifying Features of Lough Gill SAC

Assessment of Qualifying Interests of Lough Gill SAC regarding proposed works at the Application Site							
Qualifying Interest	Pathway	Conservation Status	Threats & Pressures	Conservation Objectives	Attribute	Target	Potential for Effects
[3150] Natural Eutrophic Lakes *Magnopotamion* or *Hydrocharition* - type vegetation	This habitat describes lakes which are naturally rich in nutrients and with an abundance of floating aquatic plants. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse through a (IE_WE_35G010200); the Garavogue watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "favourable and stable".	The main threats and pressures to Natural Eutrophic Lakes result from excess nutrients entering these lakes resulting in nutrient imbalances within the sensitive lake ecosystems.	To restore the favourable conservation condition of Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation in Lough Gill SAC	Habitat area	Area stable or increasing, subject to natural processes	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Habitat distribution	No decline, subject to natural processes	
					Vegetation composition: typical species	Typical species present, in good condition, and demonstrating typical abundances and distribution	
					Vegetation composition: characteristic zonation	All characteristic zones should be present, correctly distributed and in good condition	
					Vegetation distribution: maximum depth	Maintain maximum depth of vegetation, subject to natural processes	
					Hydrological regime: water level fluctuations	Maintain appropriate hydrological regime necessary to support the habitat	
					Lake substratum quality	Maintain appropriate substratum type, extent and chemistry to support the vegetation	
					Transparency	Maintain/restore appropriate Secchi transparency. There should be no decline in Secchi depth/transparency	

					Nutrients	Maintain/restore the concentration of nutrients in the water column to sufficiently low levels to support the habitat and its typical species	
					Phytoplankton biomass	Maintain appropriate water quality to support the habitat, including high chlorophyll a status	
					Phytoplankton composition	Maintain/restore appropriate water quality to support the habitat, including high phytoplankton composition status	
					Attached algal biomass	Maintain/restore trace/absent attached algal biomass (<5% cover)	
					Macrophyte status	Restore high/good macrophyte status	
					Acidification status	Maintain appropriate water and sediment pH, alkalinity and cation concentrations to support the habitat, subject to natural processes	
					Water colour	Maintain/restore appropriate water colour to support the habitat	
					Dissolved organic carbon (DOC)	Maintain/restore appropriate organic carbon levels to support the habitat	
					Turbidity	Maintain/restore appropriate turbidity to support the habitat	
					Fringing habitat: area and condition	Maintain the area and condition of fringing habitats necessary to support the natural structure and functioning of the habitat	

[6210] Semi–natural dry grasslands and scrubland facies on calcaerious substrates (*Festuco-Brometalia*) (*important orchid sites)	This qualifying interest comprises species-rich plant communities on shallow, well-drained calcareous substrates. It is considered a priority habitat if it is an important orchid site. This habitat includes a mixture of grasses and herbs, with calcicole species typically frequent. It usually occurs on obvious geological features such as eskers, outcropping limestone rock and in association with limestone pavement. These plant communities tend to form away from the water's edge. Therefore, there is no pathway between the application site, and this qualifying interest.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	Pressures to this qualifying interest include overgrazing, erosion, and small areas of juniper scrub removal (although these are not considered to be significant)	To restore the favourable conservation condition of Semi–natural dry grasslands and scrubland facies on calcareous substrates in Lough Gill SAC	Habitat distribution	No decline, subject to natural processes	No potential for Effects Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Vegetation composition: positive indicator species	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	
					Vegetation composition: negative indicator species	Negative indicator species collectively not more than 20% cover, with cover of an individual species not more than 10%	
					Vegetation composition: nonnative species	Cover of non-native species not more than 1%	
					Vegetation composition: woody species and bracken	Cover of woody species (except certain listed species) and bracken (Pteridium aquilinum) not more than 5%	
					Vegetation structure: broadleaf herb:grass ratio	Broadleaf herb component of vegetation between 40% and 90%	
					Vegetation structure: sward height	At least 30% of sward between 5cm and 40cm tall	
					Vegetation structure: litter	Litter cover not more than 25%	
					Physical structure: bare soil	Not more than 10% bare soil	
					Physical structure: grazing or disturbance	Area of the habitat showing signs of serious grazing or disturbance less than 20m²	

					Habitat area	Area stable or increasing, subject to natural processes	
[91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Old oak woodland generally occur on podzolised soils in upland, southern and western regions, but also occurs on localised, non-waterlogged acid soils elsewhere. In areas with high rainfall a western oceanic subtype occurs that is rich in bryophytes, lichens and filmy ferns. A drier, comparatively species-poor subtype occurs on less rocky terrain. A third, more base-rich subtype is also found, differing from the previous two in the greater diversity of tree and herb species. These woodlands are situated adjacent to Lough Gill, nestled along its banks and within the floodplains. Given their proximity to the water's edge, there is a possibility that during instances of flooding in the Garavogue Watercourse (IE_WE_35G010200) or Lough Gill, any contaminated water discharged from the application site into the Garavogue Watercourse via percolation through a regionally important Karstified aquifer may reach these associated woodlands and the Qualifying interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	The main threats and pressures include Invasive alien species, Intensive grazing or overgrazing by livestock, forest and plantation management and air pollution and air-borne pollutants. All these threats and pressures hinder the growth of this qualifying interest.	To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in Lough Gill SAC	Habitat Distribution	No Decline	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to this designated qualifying interest during flood events. Therefore, is a potential pollution pathway between this qualifying interest and the application site during flood events, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Woodland Size	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	Total canopy cover at least 30%; median 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	Maintain diversity and extent of community types	
					Woodland Structure: Natural regeneration	Seedlings, saplings and pole age-classes of target species for 91A0 woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy	
					Woodland Structure: Dead wood	At least 19 stems/ha of dead wood of at least 20cm diameter	
					Woodland Structure: Veteran trees	No decline	
					Woodland Structure: Indicators of local distinctiveness	No decline	
					Woodland structure:	All four indicators of overgrazing absent	

					indicators of overgrazing		
					Vegetation Composition: Native tree cove r	No decline. Native tree cover not less than 90% of canopy; target species cover at least 50% of canopy	
					Vegetation Composition: Typical species	At least 1 target species for 91A0 woodlands present; at least 6 positive indicator species for 91A0 woodlands present	
					Vegetation composition: negative indicator species	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent	
					Habitat area	Area stable or increasing, subject to natural processes.	
(91E0) Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae)**	A number of variants of Alluvial woodland habitat exist, of which riparian forests of ash (*Fraxinus excelsior*) and alder (*Alnus glutinosa) (Alno-Padion*) of temperate and Boreal Europe lowland and hill watercourses are the most common in Ireland. All types occur on heavy soils which are periodically inundated by the annual rise of river levels but otherwise well-drained and aerated during low water. Given the occurrence of these woodlands on ground periodically submerged with water from rising river levels there is a possibility that during instances of flooding or higher water levels in the Garavogue Watercourse or Lough Gill, any discharged polluted water from the	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	The main threats and pressures include Invasive alien species, Intensive grazing or overgrazing by livestock, forest and plantation management and air pollution and air-borne pollutants. All these threats and pressures hinder the growth of this qualifying interest.	To restore the favourable conservation condition of Alluvial forests with *Alnus glutinosa and Fraxinus* excelsior (*Alno-Padion, Alnion incanae, Salicion albae*) * in Lough Gill SAC	Habitat distribution	No decline, subject to natural processes	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to this designated qualifying interest during flood events or period of high river water levels. Therefore, is a potential pollution pathway between this qualifying interest and the application site during flood events, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Woodland size	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	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: community diversity and extent	Maintain diversity and extent of community types	
					Woodland structure: natural regeneration	Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species	

	application site may reach these associated woodlands and the Qualifying interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.					occur in adequate proportions to ensure survival of woodland canopy	
					Hydrological regime: flooding depth/height of water table	Appropriate hydrological regime necessary for maintenance of alluvial vegetation	
					Woodland structure: dead wood	At least 19 stems/ha of dead wood of at least 20cm diameter	
					Woodland structure: veteran trees	No decline	
					Woodland structure: indicators of local distinctiveness	No decline in distribution and, in the case of red listed and other rare or localised species, population size	
					Woodland structure: indicators of overgrazing	All five indicators of overgrazing absent	
					Vegetation composition: native tree cover	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy	
					Vegetation composition: typical species	At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present	
					Vegetation composition: negative indicator species	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent	
					Vegetation composition: problematic native species	Cover of common nettle (Urtica dioica) less than 75%	
					Distribution	No reduction from baseline.	

[1092] White-clawed Crayfish *Austropotamobius pallipes*	The White-clawed Crayfish, Ireland's largest freshwater arthropod, thrives in cool temperatures with ample dissolved oxygen and lime. It exhibits habitat preferences, with juveniles favouring submerged tree roots or gravel, while adults seek shelter under stones or earthen banks. This omnivorous species relies more on animal foods during its juvenile stage. Although typically associated with high-quality waters, it can adapt to lower quality environments in Ireland. Regarded as a keystone or heritage species due to its traditional significance and ecological importance, it is found in various aquatic habitats in Ireland, from small streams to large rivers and lakes, provided there is sufficient lime content. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	The lough is used for boating, fishing, and water abstraction; there are also threats from agricultural pollution and recreational pressure.	To maintain the favourable conservation condition of White-clawed Crayfish (*Austropotamobius pallipes*) in Lough Gill SAC,	Population structure: recruitment	Juveniles and females with eggs in at least 50% of positive samples taken at appropriate time and methodology	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Population size	No reduction from baseline of 0.25	
					Negative indicator species	No non-indigenous crayfish species present	
					Disease	No instances of disease	
					River water quality	At least Q3-4 at all sites sampled by EPA	
					Lake water quality	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat	
					Habitat quality: heterogeneity	No decline from the baseline	

[1095] Sea Lamprey *Petromyzon marinus*	The life cycle of this qualifying interest contains both a marine phase and a freshwater phase. Adult sea lamprey living as external parasites on host fish or marine mammals at sea grow in length from 60 to 100cm before migrating in spring into freshwater to excavate redds or spawning nests in gravelled areas of large rivers. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and stable".	Main threats include obstacles blocking access to spawning grounds, poor water quality loss of substrate for spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and management of aquatic and bank vegetation for drainage purposes.	To restore the favourable conservation condition of Sea Lamprey (*Petromyzon marinus*) in Lough Gill SAC.	Distribution: extent of anadromy	Greater than 75% of main stem length of rivers accessible from estuary	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Annual run size	Annual run size should reflect that expected under near-natural conditions	
					Larval lamprey in fine sediment	Larval lamprey present in SAC catchment	
					Extent and distribution of spawning and nursery habitat	No decline in extent and distribution of spawning and nursery beds	
[1096] Brook Lamprey *Lampetra planeri*	The Brook Lamprey (*Lampetra planeri*) is the smallest of the three lampreys recorded in Ireland, typically reaching no more than 15-18cm in length. Unlike the sea lamprey (*Petromyzon marinus*) and the river lamprey (*Lampetra fluviatilis*), the brook lamprey is non-parasitic and non-migratory as an adult, living its entire life in	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "favourable".	Main threats include obstacles blocking access to spawning grounds, poor water quality loss of substrate for spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and	To restore the favourable conservation condition of Brook Lamprey (*Lampetra planeri*) in Lough Gill SAC.	Distribution	Access to all water courses down to first order streams	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between
					Distribution in suitable habitat	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	
					Population structure of larvae	At least three age/size classes of larval brook/river lamprey present	
					Larval lamprey density in fine sediment	Mean density of brook/river larval lamprey in sites with suitable habitat at least 5/m²	

	freshwater. Adults spawn in spring, excavating shallow nests in relatively small-sized gravels in areas of reduced flow. After hatching, the larvae ('*ammocoetes*') drift or swim downstream to areas of riverbed or margins with fine silt deposits. They burrow into this substrate and live as filter feeders over a period of years before transforming into young adult fish. The young adults overwinter before migrating short distances upstream to gravelled areas where they spawn. The adult fish die after spawning. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.		management of aquatic and bank vegetation for drainage purposes.		Extent and distribution of spawning and nursery habitat	No decline in extent and distribution of spawning and nursery beds	this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
[1099] River Lamprey *Lampetra fluviatilis*	This qualifying interest breeds in freshwater rivers and streams, migrating to marine habitats as a young adult, and returning to freshwater habitats to	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this	Main threats include obstacles blocking access to spawning grounds, poor water quality loss of substrate for	To restore the favourable conservation condition of River Lamprey (*Lampetra*	Distribution	Access to all water courses down to first order streams	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which
					Distribution in suitable habitat	Not less than 50% of sample sites with suitable habitat positive for larval brook/river lamprey	

	spawn, before they die. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	qualifying interest is “unknown”.	spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and management of aquatic and bank vegetation for drainage purposes.	*fluviatilis*) in Lough Gill SAC	Population structure of larvae	At least three age/size classes of larval brook/river lamprey present	discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Larval lamprey density in fine sediment	Mean density of brook/river larval lamprey in sites with suitable habitat at least 5/m²	
					Extent and distribution of spawning and nursery habitat	No decline in extent and distribution of spawning and nursery beds	
[1106] Salmon *Salmo salar*	Lough Gill SAC is known to be a key hotspot for Salmon. The species can utilize the habitat for foraging/feeding behaviours, and potentially for migration during spawning stage of the lifecycle. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is “inadequate and stable”.	The lough is used for boating, fishing, and water abstraction; there are also threats from agricultural pollution and recreational pressure.	To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in Lough Gill SAC	Distribution: extent of anadromy	100% of river channels down to second order accessible from estuary	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Adult spawning fish	Conservation limit (CL) for each system consistently exceeded	
					Salmon fry abundance	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling	
					Out-migrating smolt abundance	No significant decline	
					Number and distribution of redds	No decline in number and distribution of spawning redds due to anthropogenic causes	
					Water quality	At least Q4 at all sites sampled by EPA	
					Distribution	No significant decline	

[1355] Otter *Lutra lutra*	Lough Gill SAC is known to be a key hotspot for Otter. This qualifying interest species can utilise the habitat for foraging/feeding behaviours and can use habitats adjacent to the river for holt/natal den creation. Percolation of contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) through a regionally important Karstified aquifer; the Garavogue Watercourse is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "favourable".	Impacts on Otters include pollution and pesticides of watercourses that Otters utilise, conflicts with fishermen i.e., getting tangled in fishing gear, and infrastructure developments e.g., roads, housing	To maintain the favourable conservation condition of Otter (*Lutra lutra*) in Lough Gill SAC	Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 193.91ha along riverbanks/ lake shoreline/around ponds	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 80.38km	
					Extent of freshwater (lake) habitat	No significant decline. Area mapped and calculated as 353.39ha	
					Couching sites and holts	No significant decline	
					Fish biomass available	No significant decline	
					Barriers to connectivity	No significant increase.	
					Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 80.38km	
					Extent of freshwater (lake) habitat	No significant decline. Area mapped and calculated as 353.39ha	
					Couching sites and holts	No significant decline	
					Fish biomass available	No significant decline	
					Barriers to connectivity	No significant increase.	

Table 3-3: Identification of Impacted Qualifying Features of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

Assessment of Qualifying Interests of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC regarding proposed works at the Application Site							
Qualifying Interest	Pathway	Conservation Status	Threats & Pressures	Conservation Objectives	Attribute	Target	Potential for Effects
[1130] Estuaries	This habitat describes the downstream part of a river valley where freshwater	According to the NPWS 2019 Status of EU Protected	The main threats to this qualifying interest come from	To maintain the favourable con servation conditi	Habitat Area	The permanent habitat area is stable or increasing, subject t o natural processes	**There are potential effects anticipated on this qualifying interest.**

	from rivers mixes with saltwater from the ocean, creating a unique habitat. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	various sources of pollution, including domestic wastewater, agriculture, and marine aquaculture, alien invasive species, such as the Pacific oyster (*Magallana gigas*).	on of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Community extent	Maintain the extent of the *Zostera*-dominated community and the *Mytilidae*-dominated community complex, subject to natural processes	Potential pollution via a regionally important Karstified aquifer which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200), which connects to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works
					Community structure: Zostera density	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	
					Community structure: Mytilus edulis density	Conserve the high quality of the *Mytilidae*-dominated community complex, subject to natural processes	
					Community distribution	Conserve the following community types in a natural condition: Intertidal fine sand with *Peringia ulvae* and *Pygospio elegans* community complex; Estuarine mixed sediment to sandy mud with *Hediste diversicolor* and oligochaetes community complex; Fine sand with *Angulus spp*. and *Nephtys spp*. community complex; Sand to mixed sediment with amphipods community; Intertidal reef community	
[1140] Mudflats and sandflats not covered by seawater at low tide	Sands and muds of the coasts of the oceans, connected seas and associated lagoons, not covered by seawater at low tide, devoid of vascular plants, usually coated by blue algae and diatoms. They are of particular importance as feeding grounds for wildfowl and waders. Contaminated water from the application site may discharge into the	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "Inadequate and deteriorating".	The main threats and pressures include changes in water bodies' conditions, fishing and harvesting aquatic resources, pollution of surface waters, shipping lanes and ports, urbanization and human habitation, pollution of marine	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.	Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200), which connects to this designated qualifying interest. There is a potential pollution pathway between this
					Community extent	Maintain the extent of the *Zostera*-dominated community and the *Mytilidae*-dominated community complex, subject to natural processes.	
					Community structure: Zostera density	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	

	Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.		waters and other human disturbances.		Community structure: Mytilus edulis density	Conserve the high quality of the *Mytilidae*-dominated community complex, subject to natural processes	qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works
					Community distribution	Conserve the following community types in a natural condition: Intertidal fine sand with *Peringia ulvae* and *Pygospio elegans* community complex; Estuarine mixed sediment to sandy mud with *Hediste diversicolor* and *oligochaetes* community complex; Fine sand with crustaceans and *Scololepis (Scololepis) squamata* community complex; Fine sand with *Angulus* spp. and *Nephtys* spp. community complex.	
[2110] Embryonic Shifting Dunes	This qualifying interest consists of low sand mounds, generally less than a metre high, which occur between the high tide mark and the partially stabilised marram (white) dunes. At the high tide mark. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	The main threats and pressures include changes in water bodies conditions, fishing and harvesting aquatic resources, pollution to surface waters, shipping lanes and ports, urbanization and human habitation, pollution to marine waters and other human disturbances.	To maintain the favourable conservation condition of Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Habitat area	Area stable or increasing, subject to natural processes including erosion and succession. For subsites mapped: Coney Island - 0.67ha, Rosses Point - 32.27ha, Strandhill - 0.18ha, Yellow Strand - 0.83ha.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200), which connects to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works
					Habitat distribution	No decline, subject to natural processes	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation composition: plant health of	More than 95% of sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*)	

					foredune grasses	should be healthy (i.e. green plant parts above ground and flowering heads present)	
					Vegetation composition: typical species and subcommunities	Maintain the presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*)	
					Vegetation composition: negative indicator species	Negative indicator species (including non-native species) to represent less than 5% cover	
[2120] Shifting dunes along the shoreline with *Ammophila arenaria* (White Dunes)	This qualifying interest consists of dunes which are partly stabilised, and areas dominated by marram. They tend to form further inland than embryonic shifting dunes. Therefore, there is no pathway between the application site, and this qualifying interest.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	The main threats and pressures include Intensive grazing or overgrazing by livestock, disturbance to the habitat by recreational activities etc., and Nitrogen Deposition.	To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')	Habitat area	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Coney Island - 0.46ha, Rosses Point - 0.17ha, Strandhill - 0.10ha, Yellow Strand - 0.47ha.	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline, or change in habitat distribution, subject to natural processes	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation composition: plant health of dune grasses	95% of marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*) should be healthy	
					Vegetation composition: typical species and subcommunities	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme grass (*Leymus arenarius*)	

					Vegetation composition: negative indicator specie	Negative indicator species (including non-natives) to represent less than 5% cover	
[2130] Fixed coastal dunes with herbaceous vegetation (grey dunes)	This qualifying interest is relatively sheltered with sand mobility greatly reduced compared to other dune habitats and has developed a closed carpet of vegetation. Due to the sheltered nature of these habitats, there is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	The threats to the habitat come from over-stabilisation (through techniques to prevent sand drift), a lack of appropriate grazing levels, growth of native and non-native (introduced) scrub, afforestation, and alien species. The most significant concern across the range of sites is the impact of atmospheric nutrient deposition.	To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.	Habitat Area	Area increasing, subject to natural processes including erosion and succession. For sub-sites mapped: Coney Island - 15.06ha; Rosses Point - 21.89ha; Strandhill - 40.14ha; Yellow Strand - 19.16ha.	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline, or change in habitat distribution, subject to natural processes	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation structure: bare ground	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	
					Vegetation structure: sward height	Maintain structural variation within sward	
					Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with typical species listed in Ryle et al. (2009)	
					Vegetation composition: negative indicator species (including	Negative indicator species (including non-natives) to represent less than 5% cover	

					Hippophae rhamnoides)		
					Vegetation composition: scrub/trees	No more than 5% cover or under control	
[5130] *Juniperus communis* formations on heaths or calcareous grasslands	This qualifying interest is defined as a discrete area supporting 50+ juniper plants where no plant is more than 20m from another. Formations are mostly associated with lowland dry calcareous and neutral grassland, and potentially on coastal dunes and at higher altitudes. There is no pathway between this qualifying interest and the application site. This qualifying interest is defined as a discrete area supporting 50+ juniper plants where no plant is more than 20m from another. Formations are mostly associated with lowland dry calcareous and neutral grassland, and potentially on coastal dunes and at higher altitudes. There is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "favourable and stable".	Pressures to this qualifying interest include overgrazing, erosion, and small areas of juniper scrub removal (although these are not considered to be significant) Pressures to this qualifying interest include overgrazing, erosion, and small areas of juniper scrub removal (although these are not considered to be significant)	To restore the favourable conservation condition of *Juniperus communis* formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC To restore the favourable conservation condition of *Juniperus communis* formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Formation Area	Area stable or increasing, subject to natural processes	No potential for Effects Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline	
					Juniper population size	At least 50 plants per population	
					Formation structure: cover and height	Well-developed structure with an open to closed cover of juniper up to or exceeding 0.45m in height with associated species	
					Formation structure: community diversity and extent	Appropriate community diversity and extent	
					Formation structure: cone bearing plants	At least 10% of plants bearing cones	
					Formation structure: seedling recruitment	At least 10% of juniper plants within the formation are seedlings	
					Formation structure: amount of each plant dead	Mean percentage of each juniper plant dead not more than 10%	
					Vegetation composition: typical species	A variety of typical native species with a minimum of 10 species present (excluding negative indicator species	
					Vegetation composition: negative indicator species	Negative indicator species, particularly non-native invasive species, absent or under control	

[7220] Petrifying springs with tufa formation (*Cratoneurion*)	This qualifying interest consists of lime-rich water sources where tufa is actively deposited and where characteristic species of bryophytes are dominant or abundant. Due to the location of this QI within the SAC, there is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	Main threats and pressures include Extensive grazing or undergrazing by livestock, Agricultural activities generating diffuse pollution to surface or ground waters, Agricultural activities generating air pollution, Active abstractions from groundwater, surface water or mixed water for agriculture.	To maintain the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Habitat Area	Area stable or increasing, subject to natural process	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline	
					Hydrological regime: height of water table; water flow	Maintain appropriate hydrological regimes	
					Water quality	Maintain oligotrophic and calcareous conditions	
					Vegetation composition: typical species	Maintain typical species	
[1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)	This qualifying interest favour damp or wet habitats, where they live mostly in moss, leaves and decaying vegetation, and feed on bacterial films and decaying vegetation. *V. angustior* occurs in a variety of habitats including dune and coastal grassland, fen, marsh, saltmarsh, and floodplains. Due to the sheltered nature of these habitats, there is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and deteriorating	Main threats include poor water quality loss of substrate for spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and management of aquatic and bank vegetation for drainage purposes.	To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC,	Distribution: occupied sites	No decline. There is one known location for this species in this SAC	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this species and the habitat of which it utilises, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Presence on transect	Adult or sub-adult snails are present in four of the grassland zones on the transect where optimal or sub-optimal habitat occurs	
					Presence	Adult or sub-adult snails are present in at least 6 other places at the site with a wide geographical spread (minimum of 8 sites or 75% of sites sampled)	
					Transect habitat quality	At least 75m of habitat along the transect is classed as optimal and 150m of habitat along the transect is classed as suboptimal or optimal	
					Transect optimal wetness	Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid thatch for more than 130m along the transect	
					Habitat extent	12-15ha of the site optimal and a further 11-14ha sub-	

						optimal. Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (*Festuca rubra*), with sparse marram grass (*Ammophila arenaria*), lady's bedstraw (*Galium verum*), eyebright (*Euphrasia sp.*), mouse-ear-hawkweed (*Pilosella officinarum*) and other low growing herbs. Vegetation height 10-30cm. Habitat growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is defined as for optimal but either vegetation height is less than 10cm or between 30 and 50cm; or the vegetation contains mounds of moss or willow (*Salix spp.*) scrub; or the soil is dry and sandy; or the thatch is wetter with a denser structure	
[1095] Sea Lamprey (*Petromyzon marinus*)	The life cycle of this qualifying interest contains both a marine phase and a freshwater phase. Adult sea lamprey living as external parasites on host fish or marine mammals at sea grow in length from 60 to 100cm before migrating in spring into freshwater to excavate redds or spawning nests in gravelled areas of large rivers. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and stable".	Main threats include obstacles blocking access to spawning grounds, poor water quality loss of substrate for spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and management of aquatic and bank vegetation for drainage purposes.	To restore the favourable conservation condition of Sea Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Distribution: extent of anadromy	No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.

	Karstified aquifer; Sligo Bay is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.						
[1099] River Lamprey (*Lampetra fluviatilis*)	This qualifying interest breeds in freshwater rivers and streams, migrating to marine habitats as a young adult, and returning to freshwater habitats to spawn, before they die. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "unknown".	Main threats include obstacles blocking access to spawning grounds, poor water quality loss of substrate for spawning, overfishing, habitat modification resulting in uniform channel structure, juvenile mortality, eutrophication, bait digging and management of aquatic and bank vegetation for drainage purposes.	To maintain the favourable conservation condition of River Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Distribution: extent of anadromy	No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
[1365] Harbour seal (*Phoca vitulina*)	This qualifying interest occur in estuarine, coastal and fully marine areas and also occupy regular haul-out sites about which animals breed, moult, rest and engage in social activity. Such sites tend to be found in enclosed	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is	The main threats to Harbour Seal include hunting, environmental contaminants, infectious disease, human disturbance	To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) and
					Breeding behaviour	Conserve the breeding sites in a natural condition	
					Moulting behaviour	Conserve the moult haul-out sites in a natural condition	

	sheltered bays, although the species may also occur on offshore islands and rocky skerries. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	"favourable and stable".	and reduction of fish stocks.		Resting behaviour	Conserve the resting haul-out sites in a natural condition	further into Sligo Bay which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Disturbance	Human activities should occur at levels that do not adversely affect the Harbour seal population at the site	

Table 3-4: Identification of Impacted Qualifying Features of Ballysadare Bay SAC

Qualifying Interest	Pathway	Conservation Status	Threats & Pressures	Conservation Objectives	Attribute	Target	Potential for Effects
[1130] Estuaries	This habitat describes the downstream part of a river valley where freshwater from rivers mixes with saltwater from the ocean, creating a unique habitat. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	The main threats to this qualifying interest come from various sources of pollution, including domestic wastewater, agriculture, and marine aquaculture, alien invasive species, such as the Pacific oyster (*Magallana gigas*).	To maintain the favourable con servation conditi on of Estuaries in Ballysadare Bay SAC	Habitat Area	The permanent habitat area is stable or increasing, subject t o natural processes	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200), which connects to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this
					Community extent	Maintain the extent of the *Zostera*-dominated community, subject to natural processes	
					Community structure: *Zostera* density	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	
					Community distribution	Conserve the following community types in a natural condition: Intertidal sand with *Angulus tenuis* community complex; Muddy sand to sand	

	QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.					with *Hediste diversicolor*, *Corophium volutator* and *Peringia ulvae* community complex; Fine sand with polychaetes community complex; Sand with bivalves, nematodes and crustaceans' community complex; Intertidal reef community complex; Subtidal reef community complex.	qualifying interest as a result of proposed works.
[1140] Mudflats and sandflats not covered by seawater at low tide	Sands and muds of the coasts of the oceans, their connected seas and associated lagoons, not covered by seawater at low tide, devoid of vascular plants, usually coated by blue algae and diatoms. They are of particular importance as feeding grounds for wildfowl and waders. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and deteriorating".	The main threats and pressures include anthropogenic impacts include land claims for development, recreational activities, dredging, pollution/nutrient sedimentation, and provision of recreation facilities.	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Ballysadare Bay SAC	Habitat area	The permanent habitat area is stable or increasing, subject to natural processes.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200), which connects to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Community extent	Maintain the extent of the *Zostera*-dominated community, subject to natural processes.	
					Community structure: *Zostera* density	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes	
					Community distribution	Conserve the following community types in a natural condition: Intertidal sand with *Angulus tenuis* community complex; Muddy sand to sand with *Hediste diversicolor*, *Corophium volutator* and *Peringia ulvae* community complex	
[2110] Embryonic Shifting Dunes	This qualifying interest consists of dunes which are partly stabilised, and areas dominated by marram. They tend to form further inland	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the	The main threats and pressures include changes in water bodies conditions, fishing	To maintain the favourable conservation condition of Embryonic shifting	Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Strandhill - 1.08ha.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified

	than embryonic shifting dunes. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and, due to its location, this QI. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.	overall status of this qualifying interest is "inadequate and stable".	and harvesting aquatic resources, pollution to surface waters, shipping lanes and ports, urbanization and human habitation, pollution to marine waters and other human disturbances.	dunes in Ballysadare Bay SAC	Habitat distribution	No decline or change in habitat distribution, subject to natural processes	aquifer, which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200). Sligo Bay is connected to Ballysadare Bay SAC and therefore to this designated qualifying interest. At high tide, there is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation composition: plant health of foredune grasses	More than 95% of sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*) should be healthy (i.e., green plant parts above ground and flowering heads present)	
					Vegetation composition: typical species and subcommunities	Maintain the presence of species-poor communities with typical species: sand couch (*Elytrigia juncea*) and/or lyme-grass (*Leymus arenarius*)	
					Vegetation composition: negative indicator species	Negative indicator species (including non-native species) to represent less than 5% cover	
[2120] Shifting dunes along the shoreline with *Ammophila arenaria*	This qualifying interest consists of dunes which are partly stabilised, and areas dominated by marram. They tend to form further inland than embryonic shifting dunes. Therefore, there is no pathway between the application site, and this qualifying interest.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and stable".	The main threats and pressures include changes in water bodies conditions, fishing and harvesting aquatic resources, pollution to surface waters, shipping lanes and ports, urbanization and human habitation pollution to marine	To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')	Habitat area	Area stable or increasing, subject to natural processes including erosion and succession.	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline, or change in habitat distribution, subject to natural processes	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	

			waters and other human disturbances.		Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation composition: plant health of dune grasses	95% of marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*) should be healthy	
					Vegetation composition: typical species and subcommunities	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lymegrass (*Leymus arenarius*)	
					Vegetation composition: negative indicator specie	Negative indicator species (including non-natives) to represent less than 5% cover	
[2130] Fixed coastal dunes with herbaceous vegetation (grey dunes)	This qualifying interest is relatively sheltered with sand mobility greatly reduced compared to other dune habitats and has developed a closed carpet of vegetation. Due to the sheltered nature of these habitats, there is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "bad and deteriorating".	The main threats and pressures include Intensive grazing or overgrazing by livestock, Disruption to the natural sediment regime, Recreational activities, and Nitrogen Deposition.	To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Ballysadare Bay SAC.	Habitat Area	Area stable or increasing, subject to natural processes including erosion and succession. For sub-site mapped: Strandhill - 56.07ha.	No potential for Effects Given the lack of pathways, type and scale of development, and characteristics of this habitat, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Habitat distribution	No decline, or change in habitat distribution, subject to natural processes	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation structure: bare ground	Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	

					Vegetation structure: sward height	Maintain structural variation within sward	
					Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with typical species listed in Ryle et al. (2009)	
					Vegetation composition: negative indicator species (including *Hippophae rhamnoides)*	Negative indicator species (including non-natives) to represent less than 5% cover	
[2190] Humid Dune Slacks	This qualifying interest is topographically the lowest-lying region within a dune system. Dune slacks can remain flooded for 2-6 months per year with fluctuations depending on precipitation and evapotranspiration. When flooded contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a regionally important Karstified aquifer; Sligo Bay is connected to this SAC and therefore this qualifying interest. Therefore, when flooded, there is a potential pollution pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "inadequate and deteriorating".	The main threats and pressures include changes in water bodies conditions, fishing and harvesting aquatic resources, pollution to surface waters, shipping lanes and ports, urbanization and human habitation, pollution to marine waters and other human disturbances.	To restore the favourable conservation condition of Humid Dune Slacks in Ballysadare Bay SAC	Habitat Area	Area stable or increasing, subject to natural processes including erosion and succession. For sub-site mapped: Strandhill - 1.83ha.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer, which discharges into Sligo Bay via the Garavogue Watercourse (IE_WE_35G010200). Sligo Bay is connected to Ballysadare Bay SAC and therefore to this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Habitat distribution	No decline or change in habitat distribution, subject to natural processes.	
					Physical structure: functionality and sediment supply	Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
					Physical structure: hydrological and flooding regime	Maintain natural hydrological regime	
					Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
					Vegetation structure: bare ground	Bare ground should not exceed 5% of dune slack habitat, with the exception of	

						pioneer slacks which can have up to 20% bare ground	
					Vegetation structure: vegetation height	Maintain structural variation within sward	
					Vegetation composition: typical species and sub-communities	Maintain range of sub-communities with typical species listed in Delaney et al. (2013)	
					Vegetation composition: cover of *Salix repens*	Maintain less than 40% cover of creeping willow (*Salix repens*)	
					Vegetation composition: negative indicator species	Negative indicator species (including non-natives) to represent less than 5% cover	
[1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)	This qualifying interest favour damp or wet habitats, where they live mostly in moss, leaves and decaying vegetation, and feed on bacterial films and decaying vegetation. *V. angustior* occurs in a variety of habitats including dune and coastal grassland, fen, marsh, saltmarsh, and floodplains. Due to the sheltered nature of these habitats, there is no pathway between this qualifying interest and the application site.	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is “inadequate and deteriorating”.	The main threats and pressures include weather changes including droughts and changes in waterbody conditions.	To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Ballysadare Bay SAC	Distribution: occupied sites	No decline. There is one known location for this species in this SAC (which overlaps two 1km squares).	**No potential for Effects** Given the lack of pathways, type and scale of development, and characteristics of this qualifying interest, there will be no impact on this qualifying interest as a result of proposed works at the application site.
					Presence on transect	Adult or sub-adult snails are present in all three of the habitat zones on the transect (minimum four samples)	
					Presence	Adult or sub-adult snails are present in at least 6 other places at the site with a wide geographical spread (minimum of 8 sites or 75% of sites sampled)	
					Transect habitat quality	At least 75m of habitat along the transect is classed as optimal and 150m of habitat along the transect is classed as suboptimal or optimal	
					Transect optimal wetness	Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid	

						thatch for more than 130m along the transect	
					Habitat extent	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 (*Festuca rubra*) and marram (*Ammophila arenaria*), with sparse oxeye daisy (*Leucanthemum vulgare*), dandelion (*Taraxacum sp.*), ribwort plantain (*Plantago lanceolata*) 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	
[1365] Harbour Seal (*Phoca vitulina*)	This qualifying interest occurs in estuarine, coastal, and fully marine areas and also occupies regular haul-out sites about which animals breed, moult, rest and engage in social activity. Such sites tend to be found in enclosed sheltered bays, although the species may also occur on offshore islands and rocky skerries. Contaminated water from the application site may discharge into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay/Atlantic Ocean via percolation through a	According to the NPWS 2019 Status of EU Protected Habitats & Species in Ireland, the overall status of this qualifying interest is "favourable and stable".	The main threats to Harbour Seal include hunting, environmental contaminants, infectious disease, human disturbance and reduction of fish stocks.	To maintain the favourable conservation condition of Harbour Seal in Ballysadare Bay SAC.	Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use.	**There are potential effects anticipated on this qualifying interest.** Potential pollution via a regionally important Karstified aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) and further into Sligo Bay which connects to the habitats of this designated qualifying interest. There is a potential pollution pathway between this qualifying interest and the application site, and indirect impacts are anticipated on this qualifying interest as a result of proposed works.
					Breeding behaviour	Conserve the breeding sites in a natural condition	
					Moulting behaviour	Conserve the moult haul-out sites in a natural condition	
					Resting behaviour	Conserve the resting haul-out sites in a natural condition	
					Disturbance	Human activities should occur at levels that do not adversely affect the Harbour seal population at the site	

	regionally important Karstified aquifer; Sligo Bay is connected to this SAC and due to its aquatic nature, this Qualifying Interest. Therefore, there is a potential pollution pathway between this qualifying interest and the application site.						

Table 3-5: Identification of Impacted Qualifying Features of Cummeen Strand SPA

Assessment of Qualifying Interests of Cummeen Strand SPA regarding proposed works at the Application Site						
Special Conservation Interest	Context	Pathway	Conservation Status	Threats & Pressures	Conservation Objective	Potential for Effects
[A046] Light-bellied Brent Goose (*Branta bernicla hrota*)	Wintering populations of this species are widespread in a range of coastal habitats. The closest recorded population is recorded at Ballysadare Bay (4.12km southwest of the application site However, Cummeen Strand provides optimal habitat for the species, of which shows high site fidelity. It supports an internationally important wintering population of Light-bellied Brent Goose (23).	The site is hydrogeologically linked to Drumcliff Bay SPA 7.64km northwest of the application site via Percolation of water through a Karstified Regionally Important Aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) 1.3km east of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA. This will have adverse impacts on the water quality within the SPA, as well as other habitats within the SPA. This may cause a loss of suitable habitat and/or food availability to the species listed as "special conservation interest". There will be no direct pathways i.e., noise disturbance or land-take, due to the distance from the application site to the SPA.SPA.	Within Cummeen Strand SPA, the current population trend for this species is considered favourable	Threats and Pressures directly associated with the species mentioned include significant changes in land management of adjoining habitat, aquaculture, bait digging – commercial or 'recreational' and shellfish gathering, beach sand and gravel extraction, boat disturbance (commercial and recreational) – injury from boats and a potential increase in pollution of water, lack of coastal protection schemes, drainage, dredging, enhanced bird competitions, fishing (commercial and recreational), loss of intertidal habitat, loss of open water habitat, alteration of habitat quality of inter-tidal habitat, alteration of habitat quality of open water habitat, loss of high tide roosts, threat	- To maintain the favourable conservation condition of each listed species in Cummeen Strand SPA - To maintain the favourable conservation conditions of the wetland habitat in Cummeen Strand SPA as a resource for migratory waterbirds that utilise it.	**There are potential effects anticipated on this qualifying interest.** Polluted water on-site may percolate through a regionally important Karstified aquifer and discharge into the Garavogue Watercourse (IE_WE_35G010200) 1.5km to the north of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA, impacting the qualifying interests. Additionally, this may lead to a potential degradation in water quality which may impact fish populations within the SPA, reducing the qualifying interest bird species' food availability, and may increase competition
[A130] Oystercatcher (*Haematopus ostralegus*)	Wintering populations of this species are widespread in a range of coastal habitats, particularly on open sandy coasts; they nest principally on shingle beaches, dunes, salt marshes, and rocky shores. The closest recorded population is recorded at Ballysadare Bay (4.12km southwest of the application site However, Cummeen Strand provides optimal habitat for the species, of which shows high site fidelity. It supports a nationally important wintering population of Oystercatcher (680).		Within Cummeen Strand SPA, the current population trend for this species is considered favourable			
[A162] Redshank (*Tringa totanus*)	Wintering populations of this species are widespread in a range of coastal habitats, favouring mudflats, large estuaries and inlets; they nest on the ground in grassy tussocks, in wet, marshy areas and occasionally heather. The closest recorded population is recorded at Ballysadare Bay (4.12km southwest of the application site). However, Cummeen Strand provides optimal habitat for the species, of which shows moderate site fidelity. It supports an internationally important wintering population of Redshank (408).		Within Cummeen Strand SPA, the current population trend for this species is considered unfavourable			

[A999] Wetland and Waterbirds	The wetland habitat area was estimated as 1732ha using OSi data and relevant orthophotographs. At its closest point, Cummeen Strand SPA is 2.82km to the northwest of the application site.		N/A	of introduced species, introduction of power cables, disturbance caused by recreational activities, disturbance by research activities, alteration of system dynamics and wildfowl		between the qualifying interests and anglers within the SPA. All species, for which the site is designated, will be exposed to the same potential effects.

Table 3-6: Identification of Impacted Qualifying Features of Ballysadare Bay SPA

Assessment of Qualifying Interests of Ballysadare Bay SPA regarding proposed works at the Application Site						
Special Conservation Interest	Context	Pathway	Conservation Status	Threats & Pressures	Conservation Objective	Potential for Effects
Light-bellied Brent Goose *(Branta bernicla hrota)* [A046]	Wintering populations of this species are widespread in a range of coastal habitats, The closest recorded population is within the Ballysadare Bay SPA (4.12km southwest of this application site). The site is optimal for the species, bolstering an internationally important population (188).	The site is hydrogeologically linked to Drumcliff Bay SPA 7.64km northwest of the application site via Percolation of water through a Karstified Regionally Important Aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) 1.3km east of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA. This will have adverse impacts on the water quality within the SPA, as well as other habitats within the SPA. This may cause a loss of suitable habitat and/or food availability to the	Within Ballysadare Bay SPA, the current population trend for this species is considered favourable	Threats and Pressures directly associated with the species mentioned include significant changes in land management of adjoining habitat, aquaculture, bait digging – commercial or 'recreational' and shellfish gathering, beach sand and gravel extraction, boat disturbance (commercial and recreational) – injury from boats and a potential increase in pollution of water, lack of coastal protection schemes, drainage, dredging, enhanced bird	- To maintain the favourable conservation condition of each listed species in Ballysadare Bay SPA - To maintain the favourable conservation conditions of the wetland habitat in Ballysadare Bay SPA as a resource for migratory waterbirds that utilise it.	**There are potential effects anticipated on this qualifying interest.** Polluted water on-site may percolate through a regionally important Karstified aquifer and discharge into the Garavogue Watercourse (IE_WE_35G010200) 1.5km to the north of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA, impacting the qualifying interests.
Dunlin *(Calidris alpina)* [A149]	Wintering populations of this species are widespread in a range of coastal habitats, The closest recorded population is within the Ballysadare Bay SPA (4.12km southwest of this application site). The site is optimal for the species, bolstering a nationally important population (1420).		Within Ballysadare Bay SPA, the current population trend for this species is considered intermediate unfavourable			
Bar-tailed Godwit *(Limosa lapponica)* [A157]	Wintering populations of this species are widespread in a range of shallow protected bays, estuaries, and lagoons. The closest recorded population is within the Ballysadare Bay SPA (4.12km southwest of this application site). The site is optimal for the species, bolstering a nationally important population (251).		Within Ballysadare Bay SPA, the current population trend for this species is considered intermediate unfavourable			

Grey Plover *(Pluvialis squatarola)* [A141]	Wintering populations of this species are exclusively coastal, most often on large muddy estuaries. The closest recorded population is within the Ballysadare Bay SPA (4.12km southwest of this application site). The site is optimal for the species, bolstering a nationally important population (435).	species listed as "special conservation interest". There will be no direct pathways i.e., noise disturbance or land-take, due to the distance from the application site to the SPA.	Within Ballysadare Bay SPA, the current population trend for this species is considered highly unfavourable	competitions, fishing (commercial and recreational), loss of intertidal habitat, loss of open water habitat, alteration of habitat quality of inter-tidal habitat, alteration of habitat quality of open water habitat, loss of high tide roosts, threat of introduced species, introduction of power cables, disturbance caused by recreational activities, disturbance by research activities, alteration of system dynamics and wildfowl		Additionally, this may lead to a potential degradation in water quality which may impact fish populations within the SPA, reducing the qualifying interest bird species' food availability, and may increase competition between the qualifying interests and anglers within the SPA. All species, for which the site is designated, will be exposed to the same potential effects.
Redshank *(Tringa totanus)* [A162]	Wintering populations of this species are associated with mudflats, large estuaries and inlets. The closest recorded population is within the Ballysadare Bay SPA (4.12km southwest of this application site)		Within Ballysadare Bay SPA, the current population trend for this species is considered intermediate unfavourable			
Wetland and Waterbirds [A999]	The wetland habitat area was estimated as 2130ha using OSi data and relevant orthophotographs. At its closest point, Ballysadare Bay SPA is 4.12km to the southwest of the application site.		N/A			

Table 3-7: Identification of Impacted Qualifying Features of Drumcliff Bay SPA

Assessment of Qualifying Interests of Drumcliff Bay SPA regarding proposed works at the Application Site						
Special Conservation Interest	Context	Pathway	Conservation Status	Threats & Pressures	Conservation Objective	Potential for Effects
Sanderling *(Calidris alba)* [A144]	Wintering populations of this species are widespread in range of coastal habitats, The closest recorded population is within the Drumcliff Bay SPA (7.64km northwest of the application site). The site is optimal for the species, bolstering a nationally important population (237).	The site is hydrogeologically linked to Drumcliff Bay SPA 7.64km northwest of the application site via Percolation of water through a Karstified Regionally Important Aquifer which discharges into the Garavogue Watercourse (IE_WE_35G010200) 1.3km east of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA. This will have adverse impacts on the water quality within the SPA, as well as other habitats within the SPA. This may cause a loss of suitable habitat and/or food availability to the species listed as "special conservation interest". There will be no direct pathways i.e., noise disturbance or land-take, due to the distance from the application site to the SPA.	Within Drumcliff Bay SPA, the current population trend for this species is considered Highly unfavourable	Threats and Pressures directly associated with the species mentioned include significant changes in land management of adjoining habitat, aquaculture, bait digging – commercial or 'recreational' and shellfish gathering, beach sand and gravel extraction, boat disturbance (commercial and recreational) – injury from boats and a potential increase in pollution of water, lack of coastal protection schemes, drainage, dredging, enhanced bird competitions, fishing (commercial and recreational), loss of intertidal habitat, loss of open water habitat, alteration of habitat quality of inter-tidal habitat, alteration of habitat quality of open water habitat, loss of high tide roosts, threat of introduced species, introduction of power cables, disturbance caused by recreational activities, disturbance by research activities,	- To maintain the favourable conservation condition of the non-breeding waterbird Special Conservation Interest species listed for Drumcliff Bay SPA. - To maintain the favourable conservation condition of the wetland habitat at Drumcliff Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it.	**There are potential effects anticipated on this qualifying interest.** Polluted water on-site may percolate through a regionally important Karstified aquifer and discharge into the Garavogue Watercourse (IE_WE_35G010200) 1.5km to the north of the application site. This watercourse flows into Sligo Bay, and further the Atlantic Ocean, which connects to this SPA, impacting the qualifying interests. Additionally, this may lead to a potential degradation in water quality which may impact fish populations within the SPA, reducing the qualifying interest bird species' food availability, and may increase competition between the qualifying interests and anglers within the SPA. All species, for which the site is designated,
Bar-tailed Godwit *(Limosa lapponica)* [A157]	Wintering populations of this species are associated with shallow protected bays, estuaries, and lagoons. The closest recorded population is within the Drumcliff Bay SPA (7.64km northwest of the application site). The site is optimal for the species, bolstering a nationally important population (336).		Within Drumcliff Bay SPA, the current population trend for this species is considered favourable			
Wetland and Waterbirds [A999]	Wintering populations of this species are widespread in a range of coastal habitats, The closest recorded population is within the Drumcliff Bay SPA (7.64km northwest of the application site)		N/A			

				alteration of system dynamics and wildfowl		will be exposed to the same potential effects.

3.3 Natura 2000 Impact Assessment

The potential impacts of the proposed development on the Natura 2000 sites identified above are described in table 3-8 below.

Table 3-8: Natura 2000 Impact Assessment

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on nearby Natura 2000 site:
The development works could potentially affect the integrity of the site structure at the designated locations, namely Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA unless appropriate mitigation measures are implemented. A hydrogeological connection exists from the proposed site to the designated areas, and in the absence of mitigation, has the potential to adversely impact upon these designated sites. The application site is located at its closest proximity Lough Gill SAC at approx. 1.47km, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC at approx. 1.67km, Ballysadare Bay SAC at approx. 4.19km, Cummeen Strand SPA at approx. 2.01km, Ballysadare Bay SPA at approx. 4.19km and Drumcliff Bay SPA at approx. 6.83km. Furthermore, a direct source-pathway-receptor linkage has been identified between the works site and the designated sites, suggesting the potential for negative impacts to occur.
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the nearby Natura 2000 sites by virtue of:
Size & Scale: Although the size and scale of the works are relatively small, there is a linkage between the works site and designated sites downstream through a source–pathway–receptor connection. Consequently, impacts may still occur. **Land-take:** There will be no land-take from any designated site. There will be no interference with the boundaries of any designated site. No direct impacts are anticipated. **Distance from Natura 2000 Site (or key features of the site):** At its closest point, the application site is located approximately 1.47 km from Lough Gill SAC, 1.67 km from Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, 4.19 km from Ballysadare Bay SAC, 2.01 km from Cummeen Strand SPA, 4.19 km from Ballysadare Bay SPA, and 6.83 km from Drumcliff Bay SPA. km from Drumcliff Bay SPA. These sites have direct source-pathway-receptor linkages between them and the development site and are within the zone of influence. **Resource Requirements (water abstraction etc.):** No resources will be taken from any Natura 2000 site, and there are no resource requirements that will impact on any designated site. No direct impacts are anticipated.

Emissions: The proposed works, during both construction and operation, should not generate emissions directly affecting the identified SACs or SPAs. However, without mitigation, there is potential for untreated run-off from the works site to reach these designated areas. **Excavation Requirements:** Excavated material from the construction will be used on-site. Any remaining material will be disposed of in a responsible manner at a licensed facility away from any designated sites or areas of conservation value. **Transportation requirements:** There will be no additional transportation requirements resulting from the proposed development and associated works that will have any impact upon the Natura 2000 sites identified. **In-Combination / Cumulative Impacts:** The proposed application was considered in combination with other developments or proposed developments in the area, and potential cumulative impacts were considered (Sligo County Council Planning Portal). A number of planning applications surrounding the site's location at Pearse Road, Co. Sligo, have been granted planning permission or are under review in the preceding five years, and where necessary, these applications were accompanied by Appropriate Assessment reports (Stage I / Stage II). Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to Appropriate Assessment (AA) as required under Articles 6(3) of the Habitats Directive. The proposed development will not lead to any cumulative impacts upon any designated site when considered in combination with other developments that have been adequately screened for AA or where mitigation measures have been included as part of a Stage 2 AA for these developments. **Duration of Construction, Operation & Decommissioning:** Once construction begins, the development should be complete within 18-24 months. The housing development is expected to be permanent in operation and is not anticipated to have a decommissioning phase.
Describe any likely changes to the nearby Natura 2000 sites arising as a result of:
Reduction of habitat area: The proposed development lies outside the boundaries of any Natura 2000 site identified above. There will be no reduction of designated habitat area within any SAC, SPA, pSPA or RAMSAR site. At its closest point, Lough Gill SAC is located 1.47 km from Lough Gill SAC, 1.67 km from Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, 4.19 km from Ballysadare Bay SAC, 2.01 km from Cummeen Strand SPA, 4.19 km from Ballysadare Bay SPA, and 6.83 km from Drumcliff Bay SPA. km from Drumcliff Bay SPA. These designated sites have direct source-pathway-receptor linkages between them and the development site and are within the zone of influence. There is potential for impacts upon the habitats qualifying interests of the designated sites within 15km of the development which are hydrogeologically connected to the development site. Several qualifying features of these designated sites are within the zone of influence and would be affected without mitigation measures. There will be no interference with the boundaries of any SAC, SPA, or RAMSAR sites. **Disturbance to Key Species:** The proposed development lies outside the boundaries of any Natura 2000 site identified above. Several identified designations are within the zone of influence of the development; therefore, there may be disturbance to key species associated with these designated sites.

- Lough Gill SAC – White-clawed Crayfish (*Austropotamobius pallipes*), Sea Lamprey (*Petromyzon marinus*), River Lamprey (*Lampetra fluviatilis),* Brook Lamprey (*Lampetra planeri*), Salmon *(Salmo salar)* and Otter *(Lutra lutra).*
- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC – Narrow-mouthed Whorl Snail (*Vertigo angustior*); Sea Lamprey (*Petromyzon marinus*); River Lamprey (*Lampetra fluviatilis*); Harbour Seal (*Phoca vitulina*).
- Ballysadare Bay SAC - Narrow-mouthed Whorl Snail (*Vertigo angustior*); Harbour Seal (*Phoca vitulina*).
- Cummeen Strand SPA - Light-bellied Brent Goose (*Branta bernicla hrota*); Oystercatcher (*Haematopus ostralegus*); Redshank (*Tringa totanus*).
- Ballysadare Bay SPA – Light-bellied Brent Goose (*Branta bernicla hrota*); Dunlin (*Calidris alpina*); Bar-tailed Godwit (*Limosa lapponica*); Grey Plover (*Pluvialis squatarola*); Redshank (*Tringa totanus*).
- Drumcliff Bay SPA – Sanderling (*Calidris alba*); Bar-tailed Godwit (*Limosa lapponica*).

Habitat or species fragmentation: There will be no habitat or species fragmentation within any SAC, SPA, pSPA or RAMSAR site. No ecological corridors between the proposed site and any designated site exist, which could cause habitat, or species fragmentation, therefore, no habitat or species fragmentation will occur.

Reduction in species density: There will be no reduction in species density within any SAC, SPA, pSPA or RAMSAR site.

Changes in key indicators of conservation value (water quality etc.): There is potential for negative impacts on surface water quality within Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA as there is a direct source-pathway-receptor linkage (hydrogeological) between the application site and the identified European Designations within the 15km Zone of Influence.

Describe any likely impacts on the nearby Natura 2000 sites as a whole in terms of:

Interference with the key relationships that define the structure or function of the site: It is considered likely that there will be impacts on the key relationships that define the structure or function of any Natura 2000 sites identified.

Provide indicators of significance as a result of the identification of effects set out above in terms of:

Loss - Estimated percentage of lost area of habitat: None

Fragmentation: None

Disruption & disturbance: Disturbance of key species

Change to key elements of the site (e.g. water quality etc.): Changes to water quality

4. Article 6(3) Appropriate Assessment Screening Statement & Conclusions

4.1 Screening Statement

The findings of this Screening Assessment are presented following the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010).

The following sites have been identified as within the likely zone of impact, and further appropriate assessment is required[52]:

1. Lough Gill SAC [001976] [53] located 1.47km to the east of the application site:
    - Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation [3150]
    - Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210]
    - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]
    - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0]
    - *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
    - *Petromyzon marinus* (Sea Lamprey) [1095]
    - *Lampetra planeri* (Brook Lamprey) [1096]
    - *Lampetra fluviatilis* (River Lamprey) [1099]
    - *Salmo salar* (Salmon) [1106]
    - *Lutra lutra* (Otter) [1355]
2. Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627][54] located 1.67km to the northwest of the application site:
    - Estuaries [1130]
    - Mudflats and sandflats not covered by seawater at low tide [1140]
    - Embryonic shifting dunes [2110]
    - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]

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[52] NPWS Protected Site Synopses and maps available on http://www.npws.ie/en/ProtectedSites/;
[53] NPWS Lough Gill SAC SAC: Lough Gill SAC | National Parks & Wildlife Service (npws.ie)
[54] NPWS Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC | National Parks & Wildlife Service (npws.ie)

- Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
- *Juniperus communis* formations on heaths or calcareous grasslands [5130]
- Semi-natural dry grasslands and scrubland facies on calcareous substrates *(Festuco-Brometalia*) (* important orchid sites) [6210]
- Petrifying springs with tufa formation (Cratoneurion) [7220]
- *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Phoca vitulina* (Harbour Seal) [1365]

3. Ballysadare Bay SAC [000622][55] is located 4.19km to the southwest of the application site:
   - Estuaries [1130]
   - Mudflats and sandflats not covered by seawater at low tide [1140]
   - Embryonic shifting dunes [2110]
   - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]
   - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
   - Humid dune slacks [2190]
   - *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]
   - *Phoca vitulina* (Harbour Seal) [1365]
4. Cummeen Strand SPA [004035][56] located 2.01km to the northwest of the application site:
   - Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
   - Oystercatcher (*Haematopus ostralegus*) [A130]
   - Bar-tailed Godwit (*Limosa lapponica*) [A157]
   - Redshank (*Tringa totanus*) [A162]
   - Wetland and Waterbirds [A999]

[55] NPWS Ballysadare Bay SAC: Ballysadare Bay SAC | National Parks & Wildlife Service (npws.ie)
[56] NPWS Cummeen Strand SPA: Cummeen Strand SPA | National Parks & Wildlife Service (npws.ie)

5. Ballysadare Bay SPA [004129][57] located 4.19km to the southwest of the application site:

- Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
- Grey Plover (*Pluvialis squatarola*) [A141]
- Dunlin (*Calidris alpina*) [A149]
- Bar-tailed Godwit (*Limosa lapponica*) [A157]
- Redshank (*Tringa totanus*) [A162]
- Wetland and Waterbirds [A999]

6. Drumcliff Bay SPA [004013][58] located 6.83 km to the northwest of the application site:

- Sanderling (*Calidris alba*) [A144]
- Bar-tailed Godwit (*Limosa lapponica*) [A157]
- Wetland and Waterbirds [A999]

[57] NPWS Ballysadare Bay SPA: Ballysadare Bay SPA | National Parks & Wildlife Service (npws.ie)
[58] NPWS Drumcliff Bay SPA: Drumcliff Bay SPA | National Parks & Wildlife Service (npws.ie)

5. Site Identification & Screening

This section provides the background information of the Natura 2000 sites screened to require assessment and the underlying reasoning behind this assessment. In total, sixteen designations have been identified within 15km of the site. The majority of these designations, due to the benign nature of the development, can be screened out due to distance from the site, no hydrological or hydrogeological connection and no direct land-take or disturbance to qualifying species.

The application site is not located within any Natura 2000 site; however, eight designations are located within proximity. These include Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Ballysadare Bay SPA, Cummeen Strand SPA and Drumcliff Bay SPA. These designations have been identified in terms of the potential for indirect adverse impacts to arise as a result of the proposed development of the site.

5.1 Designated Sites

Lough Gill SAC [001976]

Distance: 1.47km east of application site

Site Synopsis Overview

This site includes Lough Gill, Doon Lough to the north-east, the Bonet River (as far as, but not including, Glenade Lough), and a stretch of the Owenmore River near Manorhamilton in Co. Leitrim. Lough Gill itself, 2km east of Sligo town, lies at a geological junction of ancient metamorphic rocks which produce acid groundwater, and limestone which dissolves in the groundwater.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- [3150] Natural Eutrophic Lakes *Magnopotamion* or *Hydrocharition* - type vegetation
- [6210] Semi–natural dry grasslands and scrubland facies on calcaerious substrates (*Festuco-Brometalia*) (*important orchid sites)
- [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- [91E0] Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*)*
- [1092] White-clawed Crayfish (*Austropotamobius pallipes)*
- [1095] Sea Lamprey (*Petromyzon marinus)*
- [1096] Brook Lamprey (*Lampetra planeri)*
- [1099] River Lamprey (*Lampetra fluviatilis)*

- [1106] Atlantic Salmon (*Salmo salar)*
- [1355] Otter (*Lutra lutra)*

Lough Gill is a large lake, being 8 km long, and has steep limestone shores and underwater cliffs. It is over 20 m deep in places. The lake appears to be naturally eutrophic. The aquatic macrophyte flora is very limited, probably due to the rapid increase in depth around most of the margin. Species such as pondweeds (*Potamogeton spp*.) are present, as well as Shoreweed (*Littorella uniflora*). Where the lake shore has a shallow gradient, some swamp vegetation occurs, mainly dominated by Common Reed (*Phragmites australis*), with Common Club-rush (*Scirpus lacustris*) and sedges (*Carex spp*.).

The Old Oak Woodlands within this site are dominated by oak (*Quercus spp*.), Rowan (*Sorbus aucuparia*) and willows (*Salix spp*.). A number of interesting tree species occur. Strawberry Tree (*Arbutus unedo*) is found in its most northerly site in the world. Yew (*Taxus baccata*) occurs in abundance. Bird Cherry (*Prunus padus*), a Red Data Book species, is also found, as is the nationally scarce Rock Whitebeam (*Sorbus rupicola*). Some areas of conifer plantation occur in association with these woodlands.

There is a fringe of deciduous woodland along most of the length of the Garvoge River. In parts it is dense and impenetrable, with a very wet marshy underlayer. Some areas are dominated by Rusty Willow (*Salix cinerea subsp. oleifolia*), with Alder (*Alnus glutinosa*) also occurring commonly. Other tree species present include Goat Willow (*Salix caprea*), Hazel (*Corylus avellana*), Rhododendron (*Rhododendron ponticum*) and Cherry Laurel (*Prunus laurocerasus*). Both of the latter species are invasive aliens. In the understorey, species such as Guelder-rose (*Viburnum opulus*), Gipsywort (*Lycopus europaeus*) and Skullcap (*Scutellaria galericulata*) are found. Reedswamp is also common along the river. Another area of alluvial wet woodland is found at the mouth of the Bonet River. Here there is dense willow (*Salix sp*.) scrub, along with Reed Canary-grass (*Phalaris arundinacea*), and also areas where Alder and Goat Willow are dominant.

Areas of unimproved wet and dry grassland also occur within the site, the former particularly by the lake and the latter well developed in the north-east of the site and in the vicinity of O'Rourke's Table. Orchid-rich Calcareous Grassland, a priority habitat listed on Annex I of the E.U. Habitats Directive, has been reported from Clogher Beg, according to the Irish Semi-natural Grasslands Survey, 2010. Heath covered hillsides above the woods are dominated by Heather (*Calluna vulgaris*).

The site also supports several rare plant species, including Yellow Bird's-nest (*Monotropa hypopitys*), the lady's-mantle species *Alchemilla glaucescens*, Ivy Broomrape (*Orobanche hederae*), Black Bryony (*Tamus communis*), Intermediate Wintergreen (*Pyrola media*) and Bird's-nest Orchid (*Neottia nidus-avis*). There is also an unconfirmed record for Melancholy Thistle (*Cirsium helenioides*) from the eastern side of the site.

Both the woods and the mountains are used by a large herd of Fallow Deer. The site is of considerable importance for the presence of four Red Data Book fish species that are listed on Annex II of the E.U. Habitats Directive - Brook Lamprey (*Lampetra planeri*), River Lamprey (*Lampetra fluviatilis*), Sea Lamprey (*Petromyzon marinus*) and Atlantic Salmon (*Salmo salar*). The Lough Gill system gets a very early run of spring salmon, while the Bonet holds stocks of salmon from spring right through to the end of the season. White-clawed Crayfish (*Austropotamobius pallipes*), Otter and Pine Marten are well established on this site, the first two are both Annex II species. The woodlands have a fauna which includes several rare snail species.

Lough Gill supports low numbers of wintering waterfowl, mostly Mallard. d (<150), Tufted Duck (20-30) and Goldeneye (<20). A small colony of Common Tern breed on the islands (20 pairs in 1993), while Kingfisher are found on the lake and rivers. Both species are listed on Annex I of the E.U. Birds Directive. A colony of Blackheaded Gulls (63 pairs in 1992) occurs with the terns. The woods support a good diversity of bird species including Jay, Woodcock, and Blackcap. The site is of importance for four habitats listed on Annex I of the E.U. Habitats Directive, including two with priority status. It is also noted for the high number of rare or scarce animal and plant species.

Conservation Objectives:

- To restore the favourable conservation condition of Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation in Lough Gill SAC;
- To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) in Lough Gill SAC;
- To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in Lough Gill SAC;
- To restore the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)* in Lough Gill SAC;
- To maintain the favourable conservation condition of White-clawed Crayfish (*Austropotamobius pallipes*) in Lough Gill SAC;
- To restore the favourable conservation condition of Sea Lamprey (*Petromyzon marinus*) in Lough Gill SAC;
- To restore the favourable conservation condition of Brook Lamprey (*Lampetra planeri*) in Lough Gill SAC;
- To restore the favourable conservation condition of River Lamprey (*Lampetra fluviatilis*) in Lough Gill SAC;
- To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in Lough Gill SAC; and
- To maintain the favourable conservation condition of Otter *(Lutra lutra*) in Lough Gill SAC.

Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]

Distance: 1.67km northwest of the application site

Site Synopsis Overview

This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the northeast. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The site is largely underlain by Carboniferous limestone, but acidic rocks are also found on the Rosses Point peninsula. At Serpent Rock in the north-western section of the site the most complete section of the northwestern Carboniferous strata is exposed. Here are found an excellent series of fossilised corals which, in some strata, stand out from the rock matrix.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- Estuaries [1130]
- Mudflats and sandflats not covered by seawater at low tide [1140]
- Embryonic shifting dunes [2110]
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]
- Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
- Juniperus communis formations on heaths or calcareous grasslands [5130]
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210]
- Petrifying springs with tufa formation (Cratoneurion) [7220]
- *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Phoca vitulina* (Harbour Seal) [1365]

The dominant habitats on the site are estuaries and intertidal sand and mud flats. Sligo Harbour receives the waters of the Garavogue River, which flows from Lough Gill, while Drumcliff Bay receives the Drumcliff River which flows from Glencar Lough. At low tide extensive areas of intertidal flats are exposed in both of these sheltered estuarine bays. The intertidal flats support a diverse macrofauna, with invertebrate species such as lugworm (*Arenicola marina*), common cockle (*Cerastoderma edule*), sand mason worm (*Lanice conchilega*), Baltic tellin (*Macoma balthica*), spire shell (*Hydrobia ulvae*) and common mussel (*Mytilus edulis*) being frequent. Of particular note is the presence of the eelgrasses *Zostera noltii* and *Z. angustifolia* beds in both bays. Areas of saltmarsh fringe both bays in places. Sand dune habitats are rare and threatened in Europe and three types are found in this site - embryonic dunes, Marram (*Ammophila arenaria*) dunes and fixed dunes. Embryonic dunes, with characteristic species including Sand Couch (*Elymus farctus*), occur at the southern end of the sand spit at Rosses Point. Shifting Marram dunes are found in a number of locations, including Rosses Point, Strandhill, Coney Island and Yellow Strand. In the latter three areas, the areas of shifting dunes are linked at least to some extend to recent disturbance (e.g., erosion, storm breaches, etc.). Fixed dune grassland is found behind Yellow Strand, and the main species are Sand Sedge (*Carex arenaria*) and Smooth Meadow-grass (*Poa pratensis*), with associated species including Lady's Bedstraw (*Galium verum*), Mouse-ear Hawkweed (*Hieracium pilosella*), Common Milkwort (*Polygala vulgaris*), Common Dog-violet (*Viola riviniana*), Mountain Everlasting *(Antennaria dioica*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Early Marsh-orchid (*D. incarnata*), Frog Orchid (*Coeloglossum viride*) and Autumn Lady's-tresses (*Spiranthes spiralis*). Some areas of fixed dune at the site are suffering from under-grazing (e.g., north of Strandhill), and have a rank vegetation dominated by Marram, with species such as Red Fescue (*Festuca rubra*), Creeping Willow (*Salix repens*), Daisy (*Bellis perennis*) and Wild Thyme (*Thymus praecox*) also occurring. A relatively species-poor example of the habitat is found at Rosses Point, but typical species like Marram, Red Fescue, Lady's Bedstraw, Harebell (*Campanula rotundifolia*), Kidney Vetch (*Anthyllis vulneraria*) and Common Mouse-ear (*Cerastium fontanum*) do occur here.

An area with Juniper (*Juniperus communis*) scrub is found on a gravel hill with species-rich fixed dune vegetation. Other species present in this area include Marram, Autumn Gentian (*Gentianella amarella*), Red Fescue, Lady's Bedstraw, Common Bird's-foot-trefoil, Harebell, Yellow-wort (*Blackstonia perfoliata*), Thymeleaved Sandwort (*Arenaria serpyllifolia*), Common Whitlowgrass (*Erophila verna*), Hoary Whitlowgrass (*Draba incana*), Devil's-bit Scabious (*Succisa pratensis*) and Early Hair-grass (*Aira praecox*). An area of approximately 3.7 hectares of Orchid-rich Calcareous Grassland, a habitat listed with priority status on Annex I of the E.U. Habitats Directive, is reported to occur near Rosses Point, according to the Irish Semi-natural Grasslands Survey, 2010. Wetlands on the site include Doonweelin Lake, a freshwater lake on the Rosses Point peninsula, which supports interesting vegetation communities that reflect the juxtaposition of the underlying acidic and basic rocks. Ardtermon Fen, a small, floristically-rich area of freshwater marsh, swamp, wet grassland and fen is situated at the back of the Yellow Strand sand hills.

The site includes small areas of Hazel (*Corylus avellana*) and Ash (*Fraxinus excelsior*) woodland on limestone (e.g., *Cummeen Wood*), and several other stands of mixed woodland and wet willow (*Salix spp.)* woodland (as at Ardtermon Fen). Cliff-top grassland is common in the north-western part of the site. This is typically dominated by Red Fescue and White Clover (*Trifolium repens*), with associated species including Daisy, Common Bird's-foot-trefoil (Lotus corniculatus), plantains (*Plantago coronopus, P. lanceolata and P. maritima*), Bulbous Buttercup (*Ranunculus bulbosus*), Common Scurvygrass (*Cochlearia officinalis*), Field Wood-rush (*Luzula campestris*) and Spring Sedge (*Carex caryophyllea*). The site has a good example of petrifying springs with tufa formations, with several species of bryophyte typical of the Cratoneurion. The springs occur along seepage zones in clay sea cliffs on the northern side of Sligo Harbour. The site has a very rich and diverse flora, on account of the wide variety of habitats found, and the presence of both basic and acidic substrates. Several rare, Red Data Book species have been recorded from the site, including Rough Poppy (*Papaver hybridum*) which is also listed under the Flora (Protection) Order, 2015, Hoary Whitlowgrass and Yellow Saxifrage (*Saxifraga aizoides*).

Both Drumcliff Bay and Cummeen Strand are important for the large numbers of waterfowl which use them in autumn/winter, including Ringed Plover, Redshank, Lapwing, Knot, Bar-tailed Godwit, Oystercatcher, Curlew, Golden Plover, Dunlin, Turnstone, Brent Goose, Grey Heron, Teal, Wigeon, Mallard, Shelduck and Redbreasted Merganser. The fields at Lissadell and Ballintemple support one of the largest populations of Barnacle Goose in the country (c. 2,000 in winters of 1995/96 and 1996/97). Both Drumcliff Bay and Cummeen Strand have been designated as Special Protection Areas under the E.U. Birds Directive. The important feeding site for Barnacle Goose at Lissadell is a Statutory Nature Reserve. The islands in the north-western section of the site hold important seabird colonies. A Cormorant colony of national importance occurs on Ardboline and Horse Islands, with a total of 261 pairs in 1998. Herring Gull and Great Black-backed Gull also breed on both islands. Common Tern formerly bred on both islands. The islands are also used by Barnacle Goose from the adjacent mainland, which roost or seek refuge here. The low sea cliffs on the adjacent mainland at Ballyconnell and Roskeeragh Points also support small numbers of seabirds, and both Black Guillemot and Fulmar nest there. Choughs feed in the sandy/grassy areas of the site and one pair is known to nest. Several of the bird species that use the site are listed on Annex I of the E.U. Birds Directive, i.e. Barnacle Goose, Chough, Golden Plover and Bar-tailed Godwit. At least five species listed on Annex II of the E.U. Habitats Directive are found within this site.

Drumcliff Bay is important for the presence of a breeding population of Common Seal. Ardboline and Horse Islands on the western side of the site are also important as haul-out areas for this species. A minimum population of 12–15 individuals was estimated from counts made in various month in 2007 and 2008. Sea Lamprey and River Lamprey have been recorded in the Garavogue River, and River Lamprey are also known from further upstream in the tributaries of Lough Gill. The Marsh Fritillary butterfly is found at Rosses Point, while the rare snail *Vertigo angustior* has recently been recorded from sand dunes at Killaspugbrone. Cummeen Strand/Drumcliff Bay (Sligo Bay) is an important site of high conservation significance, which includes a wide variety of habitat types, including several listed-on Annex I of the E.U. Habitats Directive, several species listed on Annex II of this Directive, large and important populations of waterfowl and seabirds, and several rare plant species

Conservation Objectives

- To maintain the favourable conservation condition of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To restore the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To restore the favourable conservation condition of *Juniperus communis* formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

- To restore the favourable conservation condition of Sea Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of River Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
- To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

Ballysadare Bay SAC [000622]

Distance: 4.19km southwest of the application site

Site Synopsis Overview

Ballysadare Bay extends for about 10 km westwards from the town of Ballysadare, Co. Sligo, and is the most southerly of three inlets of the larger Sligo Bay. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the spit at Strandhill dunes. The bay is underlain by sedimentary rocks of limestones, sandstones, and shales, which are exposed as low cliffs and small sections of bedrock shore at several locations.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [2110] Embryonic Shifting Dunes
- [2120] Marram Dunes (White Dunes)
- [2130] Fixed Dunes (Grey Dunes)*
- [2190] Humid Dune Slacks
- [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)
- [1365] Common (Harbour) Seal (*Phoca vitulina*)

Ballysadare Bay contains extensive intertidal sand and mudflats, approximately 1,500 ha in extent overall. The mud provides an abundance of food for wildfowl, in the form of colonising plants such as Eelgrass (*Zostera marina*) and Tasselweed (*Ruppia maritima*), as well as numerous species of invertebrates on which both wildfowl and waders feed. Well-developed salt marshes occur at several locations around the bay. Typical species of these areas are Sea Rush *(Juncus maritimus*), Saltmarsh Rush (*Juncus gerardi*), Creeping Bent (*Agrostis stolonifera*) and Parsley Water-dropwort (*Oenanthe lachenalii*). In hollows and ditches, Sea Arrowgrass (*Triglochin maritima*), Sea Club-rush (*Scirpus maritimus*), Sea Milkwort (*Glaux maritima*), Thrift (*Armeria maritima*), Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*) and Red Fescue (*Festuca rubra*) occur. Particularly interesting species found on the salt marshes are Flowering Rush (*Butomus umbellatus*), Slender Spike-rush (*Eleocharis uniglumis*) and Hard Grass (*Parapholis strigosa*).

There is a large sand dune system at Strandhill which has been relatively undisturbed by grazers.The characteristic species found in this habitat type include Sand Couch (*Elymus farctus*), Spear-leaved Orache (*Atriplex prostrata*) and Sea Rocket (*Cakile maritima*). Shifting marram dunes are extensive in the area also, occurring along the entire seaward side of the spit, and they are especially active towards the tip. While Marram (*Ammophila arenaria*) is the dominant species, Colt'sfoot (*Tussilago farfara*), Red Goosefoot (*Chenopodium rubrum*) and Cat's-ear (*Hypochoeris radicata*) can also be found. The seaward dunes reach considerable heights (up to 20 m). They are very steep on the seaward edge, but to the east of this there is an undulating expanse of dune hills.

The largest proportion of the dune system is made up of fixed dunes, a priority habitat listed on Annex I of the E.U. Habitats Directive. Once one moves landward, in from the Marram dunes, there is a low-growing, closed sward which is particularly species-rich, with Field Wood-rush (*Luzula campestris*), Kidney Vetch (*Anthyllis vulneraria*), Bee Orchid (*Ophrys apifera*), Oxeye Daisy (*Leucanthemum vulgare*), Common Centuary (*Centaurium erythraea*), Wild Thyme (*Thymus praecox*), Harebell (*Campanula rotundifolia*), Burnet Rose (*Rosa pimpinellifolia*), Carline Thistle (*Carlina vulgaris*) and Fairy Flax *(Linum catharticum*). The fixed dune areas are also rich in bryophytes and lichens. Moss species include *Tortula ruraliformis, Homalothecium lutescens, Ditrichum flexicaule* and *Hypnum cupressiforme*, while lichens (*Peltigera spp. and Cladonia spp*.) are also present. Some humid dune slacks occur amongst the fixed dunes. Characteristic species include Creeping Willow (*Salix repens*), Carnation Sedge (*Carex panicea*), Jointed Rush (*Juncus articulatus*) and the relatively uncommon Marsh Helleborine (*Epipactis palustris*). A range of habitats fringe the bay, adding diversity to the site as a whole. Some of these areas have particular features of interest, e.g. the old oyster farm at Tanrego is important for waterfowl, while the uncommon plant species Ivy Broomrape (*Orobanche hederae*) occurs in scrubland adjacent to the bay. Two animals listed on Annex II of the E.U. Habitats Directive occur within the site: The Bay supports a colony of Common Seal (maximum count of 257 in the all-Ireland survey of 2003), and the rare snail, *Vertigo angustior*, occurs in dune slacks and hollows in the dunes at Strandhill. Ballysadare Bay is important for a range of waterfowl species in autumn and winter and is part of the larger Sligo Bay complex. Brent Goose occur in internationally important numbers, while a further seven species have populations of national importance. These are as follows, with numbers referring to the average peaks over winters 1994/95 - 1997/98: Brent Goose (259), Red-breasted Merganser (48), Oystercatcher (796), Grey Plover (231), Dunlin (1129), Bar-tailed Godwit (431), Redshank (481) and Greenshank (24). The presence of Bar-tailed Godwit, and also smaller numbers of Golden Plover (66), is of particular note as these species are listed on Annex I of the E.U. Birds Directive.

The bay is little-used for fishing or boating, but marsh shooting is common in the upper reaches. Dune systems are sensitive to developments which alter their structure. Grazing is also a critical factor; the correct level of grazing maintains an open, species-rich sward, but the presence of too many grazers causes damage to the vegetation and may exacerbate dune erosion. Agricultural improvement, and particularly the application of fertilisers, threatens dune vegetation, leading to the eventual loss of species diversity. Ballysadare Bay is of high ecological value for its range of good quality coastal habitats. Actively developing dune systems are rare on the west coast and the sand dune system at Strandhill is of particular interest as a large and intact example of a habitat type which is under general threat from development. The rarity of intact dune systems is recognised in the listing of fixed dunes as a priority habitat on Annex I of the E.U. Habitats Directive. The salt marshes at Ballysadare Bay are relatively good examples for the west coast, and that at Abbeytown is unusual as it is forming on quarry waste. The presence of two Annex II species within the site adds further importance. Furthermore, the bay supports nationally important numbers of waterfowl.

Conservation Objectives:

- To maintain the favourable conservation condition of Estuaries in Ballysadare Bay SAC
- To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Ballysadare Bay SAC
- To maintain the favourable conservation condition of Embryonic shifting dunes in Ballysadare Bay SAC
- To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Ballysadare Bay SAC
- To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Ballysadare Bay SAC
- To restore the favourable conservation condition of Humid dune slacks in Ballysadare Bay SAC
- To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Ballysadare Bay SAC
- To maintain the favourable conservation condition of Harbour Seal in Ballysadare Bay SAC

Cummeen Strand SPA [4035]

Distance: 2.01km northwest of the application site

Site Synopsis Overview

Cummeen Strand is a large shallow bay stretching from Sligo Town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay and is situated between Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel.

At low tide, extensive sand and mud flats are exposed. These support a diverse macro-invertebrate fauna which provides the main food supply for the wintering waterfowl. Invertebrate species such as Lugworm (*Arenicola marina*), Ragworm *(Hediste diversicolor*), Cockles (*Cerastoderma edule*), Sand Mason (*Lanice conchilega*), Baltic Tellin (*Macoma balthica*), Spire Shell (*Hydrobia ulvae*) and Mussels (*Mytilus edulis*) are frequent. Of particular note is the presence of eelgrass *(Zostera noltii and Z. angustifolia*) beds, which provide a valuable food stock for herbivorous wildfowl. The estuarine and intertidal flat habitats are of conservation significance and are listed on Annex I of the E.U. Habitats Directive. Areas of salt marsh fringe the bay in places and provide roosting sites for birds during the high tide periods. Sand dunes occur at Killaspug Point and Coney Island, with a shingle spit at Standalone Point near Sligo Town.

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, Oystercatcher 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.

Cummeen Strand supports important concentrations of wintering waterfowl, including an internationally important Light-bellied Brent Goose flock (223) and nationally important populations of Oystercatcher (680) and Redshank (408). Other species occurring include Shelduck (86), Wigeon (149), Teal (54), Mallard (145), Redbreasted Merganser (15), Golden Plover (428), Lapwing (695), Knot (165), Sanderling (14), Dunlin (539), Bar-tailed Godwit (85), Curlew (430), Greenshank (13) and Turnstone (62) - all figures are mean peak counts for 4 of the 5 winters between 1995/96 and 1999/2000. Whooper Swan (7) also uses the site, though not regularly.

Cummeen Strand SPA is of high ornithological importance with one species, Light-bellied Brent Goose, occurring in numbers of international importance. In addition, the site supports nationally important populations of a further two species. The regular presence of Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site is also important as a component of the much larger Sligo Bay complex. Cummeen Strand is a Ramsar Convention site

Conservation Objectives

- To maintain the favourable conservation condition of Light-bellied Brent Goose in Cummeen Strand SPA
- To maintain the favourable conservation condition of Oystercatcher in Cummeen Strand SPA
- To maintain the favourable conservation condition of Redshank in Cummeen Strand SPA
- To maintain the favourable conservation condition of wetland habitat in Cummeen Strand SPA as a resource for the regularly occurring migratory waterbirds that utilise it

Ballysadare Bay SPA [4129]

Distance: 4.19km southwest of the application site

Site Synopsis Overview

Ballysadare Bay extends for approximately 10 km westwards from the town of Ballysadare, County Sligo. It is the most southerly of three inlets that form the eastern part of the larger Sligo Bay complex. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the Strandhill Dunes sand spit. The bay is underlain by sedimentary rocks of limestones, sandstones and shales which are exposed as low cliffs and small sections of bedrock shore at several locations.

The bay contains extensive intertidal sand and mudflats. The flats 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 Nepthys 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

Conservation Objectives

- To maintain the favourable conservation condition of Light-bellied Brent Goose in Ballysadare Bay SPA
- To maintain the favourable conservation condition of Grey Plover in Ballysadare Bay SPA
- To maintain the favourable conservation condition of Dunlin in Ballysadare Bay SPA
- To maintain the favourable conservation condition of Bar-tailed Godwit in Ballysadare Bay SPA
- To maintain the favourable conservation condition of Redshank in Ballysadare Bay SPA
- To maintain the favourable conservation condition of the wetland habitat in Ballysadare Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it

Drumcliff Bay SPA [4013]

Distance: 6.83km northwest of the application site

Site Synopsis Overview

Drumcliff Bay, Co. Sligo is the most northerly of Sligo Bay's three estuarine inlets. The bay comprises an inner area of sheltered estuarine habitat and an outer area of shallow seawater. It extends 9 km east to west from Drumcliff village to Raghly Point. Drumcliff Bay is the estuary of the Drumcliff River, a substantial river flowing from Glencar Lough to the east. The inner part of Drumcliff Bay is sheltered by a sandy/grassy peninsula extending north from Rosses Point. The northern part of the bay is fringed by fine sandy beaches - Ballygilgan Strand, Lissadell Strand and Ardtermon Strand. Salt marsh occurs in the most sheltered areas and at low tide, extensive inter-tidal flats are exposed. A bed of Dwarf Eelgrass (*Zostera noltii*) occurs near the south-eastern corner of the bay.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Sanderling and Bar-tailed Godwit. 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.

Drumcliff Bay SPA is of importance as it supports nationally important populations of two species of wintering waterfowl: Sanderling (237) and Bar-tailed Godwit (336) – all figures are four-year mean peaks for four of the five winters between 1995/96 and 1999/2000.

Other species that occur regularly include Whooper Swan (45), Light-bellied Brent Goose (74), Shelduck (75), Wigeon (138), Teal (57), Long-tailed Duck (14), Redbreasted Merganser (20), Great Northern Diver (13), Oystercatcher (356), Ringed Plover (139), Lapwing (155), Knot (107), Dunlin (559), Curlew (177) and Redshank (138).

Drumcliff Bay SPA is of national importance for its winter populations of Sanderling and Bar-tailed Godwit, and the site supports a good diversity of other waterfowl species. Of note is that three of the species which occur regularly (Whooper Swan, Great Northern Diver and Bar-tailed Godwit) are listed on Annex I of the E.U. Birds Directive. Part of Drumcliff Bay SPA is a Wildfowl Sanctuary.

Conservation Objectives

- To maintain the favourable conservation condition of Sanderling in Drumcliff Bay SPA
- To maintain the favourable conservation condition of Bar-tailed Godwit in Drumcliff Bay SPA
- To maintain the favourable conservation condition of wetland habitat in Drumcliff Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it

5.2 Favourable Conservation Status

The purpose of designating and managing Natura 2000 sites is to maintain at or restore to 'favourable conservation status' the habitats and species listed within the Directives for which the sites are notified; individual conservation objectives encapsulate an overall aim of maintaining or achieving favourable conservation status for each feature and maintaining the integrity of the site as a whole.

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Article 6(3) of the Habitats Directive requires that prior assessment be conducted regarding the established conservation objectives for each designated site. A general conservation objective encapsulating an overall aim of maintaining 'favourable conservation status' has been applied in relation to each Natura 2000 site and in relation to each site feature for the purposes of initial analysis.[59]

5.3 Screening Matrix

No direct impacts to Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA, are anticipated due to the scale and nature of the development and upon the existing habitats and species on-site. However, the site is hydrogeologically connected to protected areas via groundwater bodies which flow into the European designated sites detailed above; therefore, a screening matrix has been applied to assess the following potential impacts of the proposed development.

5.4 Potential Pathways

- Contaminated surface water runoff from the construction phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a

[59] EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission

hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA;

- Inappropriate management of operations and Invasive plant species during the construction phase within a construction site containing Himalayan Honeysuckle, Cherry Laurel, Buddleia and Snowberry, leading to the accidental spreading of highly invasive alien plant species, the spread of these invasive species could be facilitated by removal off-site via potentially contaminated work gear, plant and machinery and equipment. This pathway could cause degradation of the overall environmental and ecological quality of further habitats and designated sites;
- Discharge of untreated/unmanaged surface water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA; and,
- Discharge of untreated foul water runoff from the operational phase of development works via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA.

Lough Gill lies to the east of the site, Sligo Bay lies to the northwest of the site, Ballysadare Bay lies to the southwest of the site, and Cummeen Strand lies to the northwest of the site. These sites are hydrologically connected to the Atlantic Ocean via waterways and bays leading to the aforementioned designated sites. Therefore, the prevention of contaminants, silts, sediments, unrestricted flowing surface water, and unrestricted flowing foul water, from entering groundwater aquifers which are hydrogeologically connected to Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA during construction and throughout the operational phase of the development is vital. Where this pathway can be eliminated, this will significantly reduce the potential impacts on the integrity of these sites, ensuring no detrimental impacts are likely to occur.

Table 5-1: Stage 1 Test of Likely Significance (TOLS) of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA

Description of project/development	The current site comprises the following habitats: Improved Agricultural Grassland (GA1), Treelines (WL2), Scrub (WS1), Drainage Ditch – Dry ditch(FW3), Immature Woodland (WS2), Refuse and Other Waste (ED5), ,Scattered Trees and Parkland (WD5), Ornamental/Non-native Shrub (WS3), and Hedgerow (WL1). Permission is sought for: 1. The erection of 97 Housing units, including: 10-no. 1 bedroom properties, 23-no. 2 bedroom properties, 44-no. 3 bedroom properties, 20-no. 5 bedroom properties; 2. Construction of a new Creche Building; and 3. Construction of internal Tarmac Roads, Car Parking and Public Open Space
Designated site(s)	Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA.
Description of likely impacts on designated sites	1. Contaminated surface water runoff from the construction phase via percolation into a Karstified Regionally Important Aquifer with bedrock with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological quality Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA; 2. Inappropriate management of operations and Invasive plant species during the construction phase within a construction site containing Himalayan Honeysuckle, Cherry Laurel, Buddleia and Snowberry, leading to the accidental spreading of highly invasive alien plant species, the spread of these invasive species could be facilitated by removal off-site via potentially contaminated work gear, plant and machinery and equipment. This pathway could cause degradation of the overall environmental and ecological quality of further habitats and designated sites. 3. Discharge of untreated surface water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with bedrock with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA; and, 4. Discharge of untreated foul water runoff from the operational phase percolation into a Karstified Regionally Important Aquifer with bedrock with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA.;
Likely impacts (direct, indirect or secondary impacts) on the designations	
Size and scale	The site is physically separated from Lough Gill SAC by approx. 1.47km from the site, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC by approx. 1.67km, Ballysadare Bay SAC by approx. 4.19km, Cummeen Strand SPA by approx. 2.01km, Ballysadare Bay SPA by approx. 4.19km and Drumcliff Bay SPA by approx. 6.83km. The site is relatively small in scale.
Land-take	The proposal does not require any land taken from within any SAC/SPA

Distance from designations or key features of the site	The site is physically separated from Lough Gill SAC by approx. 1.47km from the site, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC by approx. 1.67km, Ballysadare Bay SAC by approx. 4.19km, Cummeen Strand SPA by approx. 2.01km, Ballysadare Bay SPA by approx. 4.19km and Drumcliff Bay SPA by approx. 6.83km.
Resource requirements	The proposal does not require any resources from within any SAC/SPA.
Excavation requirements	The proposal does not require any excavation from within either SAC/SPA.
Transport requirements	All transportation requirements will be achieved using the existing public road network, and the creation of an access track to an existing public road network. It will not result in significant effects on the designated sites.
Duration of construction	Estimated 1-2 years
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site as a result of:	
Reduction of Habitat	The proposal will not result in the reduction of habitat within any SAC/SPA or areas of supporting natural and semi-natural habitat.
Disturbance to Key species	No disturbance was predicted due to setback distance.
Habitat Fragmentation	During the construction and operational phase, no habitats are to be fragmented, which could be important for any species for which the designations are held.
Reduction of Species Diversity	During the construction and operational phase, the development is not considered to directly reduce the populations of species for which the designations occur. A multitude of factors can influence the reduction of species; however, this proposed development is considered to have a negligible effect upon them.

The test of likely significance (TOLS) at Stage 1 has indicated that the proposal is likely to have an effect on Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Streedagh Points Dunes SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA causing degradation to the sensitive selection features as detailed above. Therefore, as indirect impacts are likely to occur and based on the precautionary approach, a Stage 2 Appropriate Assessment must be undertaken.

6. Stage 2- Appropriate Assessment

6.1 Potential Pathway - Mitigation Proposals

Mitigation proposals to ensure no adverse effect on any Natura 2000 site identified within the likely zone of impact highlighted above are detailed below.

- Contaminated surface water runoff from the construction phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through an effective and robust Construction Environmental Management Plan (CEMP), ensuring that best practice is applied to all aspects of the construction phase.
- Inappropriate management of operations and Invasive plant species during the construction phase within a construction site containing Himalayan Honeysuckle, Cherry Laurel, Buddleia and Snowberry, leading to the accidental spreading of highly invasive alien plant species, the spread of these invasive species could be facilitated by the removal off-site via potentially contaminated work gear, plant and machinery and equipment. This pathway could cause degradation of the overall environmental and ecological quality of further habitats and designated sites. This pollution pathway can be managed by the implementation of effective buffer zones around the identified invasive plant species and appropriate management in line with best practice guidelines, as outlined below in Appendix E.
- Discharge of untreated surface water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through the implementation of appropriate Sustainable Drainage Systems (SUDS) to align on-site drainage with natural water processes and the implementation of an appropriate surface water treatment in the form of a Class 1 interceptor or suitable alternative; and
- Discharge of untreated foul water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status. This aquifer discharges into the Garavogue watercourse (IE_WE_35G010200) which flows into Sligo Bay, and further the Atlantic Ocean; this pathway creates a hydrogeological connection to protected sites. This process could cause degradation of the overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed by connecting foul water to public sewer system, or alternatively an appropriately sized on-site wastewater treatment system with a percolation area can be utilised if foul wastewater proposals are not directed to public sewer.

The following tables 6-1 to 6-5 present mitigation, assessment of mitigation and findings.

Table 6-1: Stage 2 Appropriate Assessment: Construction Phase Surface Water Runoff - Mitigation Measures

Mitigation measures to be introduced?	How will the measures avoid adverse effects on the integrity of the site?	How will the measures reduce the adverse effects on the integrity of the site?	Provide evidence of how they will be implemented and by whom?
Contaminated surface water runoff from the construction phase via percolation into a Karstified Regionally-Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through an effective and robust Construction Environmental Management Plan (CEMP), ensuring that best practice is applied to all aspects of the construction phase. (See Appendix A for the required outline of a Construction Environmental Management Plan).	Source and pathway to receptors have been controlled, managed and/or removed as part of the implementation of the CEMP and measures therein concerning construction activities. No adverse impacts are predicted.	Once a source and pathway to receptors have been controlled, managed and/or removed as part of the implementation of the CEMP. These measures remove the potential for adverse effects on the integrity of the N2K sites.	A CEMP should be required as part of planning approval/conditions and formal approval for the same with the planning authority. The principal contractor will be responsible for the implementation of the CEMP.
	Provide evidence of the degree of confidence in their likely success.	**Provide a timescale, relative to the project or plan, when they will be implemented.**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed.**
	If a CEMP is implemented, the pollution source and pathway is controlled, managed and/or removed; therefore, no pollutant can enter pathways, ensuring no adverse effects on N2K sites. Authors are confident in the likely success of these mitigation measures.	Throughout the duration of the construction phase of the development.	Mitigation procedures will be managed by the Ecological Clerk of Works (ECoW) and the principal contractor, daily checks shall be undertaken and recorded, and documentation will be retained on a continuous basis to ensure implementation and compliance. Issues raised will be addressed by the principal contractor.

Table 6-2: Stage 2 Appropriate Assessment: Inappropriate management of operation and Invasive Plant Species - Mitigation

Mitigation measures to be Introduced	How will the measures avoid adverse effects on the integrity of the site?	How will the measures reduce the adverse effects on the integrity of the site?	Provide evidence of how they will be implemented and by whom?
Inappropriate management of operations and Invasive plant species during the construction phase within a construction site containing Himalayan Honeysuckle,	By following best practice guidelines for managing these non-scheduled invasive plant species and implementing effective buffer zones, potential impacts will be	By adhering to best practice management and creating appropriate buffer zones around the infested areas, the spread of non-scheduled invasive plant species will	The best practice guidelines for the management of non-scheduled invasive plant species, including buffer zone creation, will be integrated into the site's Construction

Cherry Laurel, Buddleia and Snowberry, leading to the accidental spreading of highly invasive alien plant species, the spread of these invasive species could be facilitated by the removal off-site via potentially contaminated work gear, plant and machinery and equipment. This pathway could cause degradation of the overall environmental and ecological quality of further habitats and designated sites. This pollution pathway can be managed by the implementation of effective buffer zones around the identified invasive plant species and appropriate management in line with best practice guidelines, as outlined below in Appendix E.	mitigated. The measures will prevent the spread of non-scheduled invasive species during the construction phase, avoiding any adverse effects on downstream designated sites. No adverse impacts are predicted as a result.	be minimized. These actions will reduce the potential for any adverse effects on the site and on downstream environments. This proactive management will prevent the dispersal of invasive species into sensitive areas, ensuring the site's integrity remains unaffected	Environmental Management Plan (CEMP). The principal contractor will be responsible for implementing these measures during the construction phase of the project. Buffer zones and other management actions will be monitored and enforced throughout the development.
	Provide evidence of the degree of confidence in their likely success.	Provide timescale, relative to the project or plan, when they will be implemented.	Explain the proposed monitoring scheme and how any mitigation failure will be addressed.
	The application of best practice management techniques, combined with the establishment of buffer zones, has been proven effective in controlling the spread of non-scheduled invasive species. These measures are well-documented in industry guidelines, and their success has been demonstrated in similar developments. The authors are confident that these mitigation strategies will effectively prevent adverse effects on downstream environments	The best practice management of non-scheduled invasive species and the use of buffer zones will be implemented throughout the construction phase of the development. These measures will remain in place until the risk of invasive species spread has been eliminated.	A monitoring scheme will be included as part of the development works to ensure that the best practice management strategies are implemented effectively. The principal contractor will oversee the monitoring, ensuring that buffer zones are maintained and that invasive species are not spreading beyond their current locations. Should any mitigation failure occur, corrective measures will be taken immediately, including adjusting buffer zones or applying additional control methods to manage invasive species.

Table 6-3: Stage 2 Appropriate Assessment: Discharge of Untreated Surface Water - Mitigation Measures

Mitigation measures to be Introduced	How will the measures avoid adverse effects on the integrity of the site?	How will the measures reduce the adverse effects on the integrity of the site?	Provide evidence of how they will be implemented and by whom?
Discharge of untreated surface water runoff from the operational phase via percolation into a Karstified Regionally-Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological	The use of Sustainable Drainage Systems (SuDS) (attenuation and flow break) on-site will align on-site surface water drainage with natural water processes, eliminating unrestricted surface water discharge. The source of pollution is eliminated through the Installation of an appropriately sized Sustainable Drainage System. Such equipment will reduce site runoff rates to that of greenfield levels.	Installation of appropriately sized Sustainable Drainage Systems and Class 1 Petrol Interceptor will reduce potential contaminant sources (unrestricted flow) in surface water runoff. Eliminating the pollutant source eliminates potential. These measures remove the potential for adverse effects on the integrity of the N2K sites.	All equipment will be installed and maintained in accordance with the design spec and installation requirements as laid out by the equipment manufacturer. The principal contractor will be responsible for installing equipment. Details and examples of these are provided in Appendix B & C below.

quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through the implementation of appropriate Sustainable Drainage Systems (SUDS) to align on-site drainage with natural water processes and the implementation of an appropriate surface water treatment in the form of a Class 1 interceptor or suitable alternative. (See Appendix B for further details on SuDs requirements) (See Appendix C for details on Class 1 Interceptor requirements)	Additionally, installation of an appropriately sized Class 1 interceptor or suitable alternative will reduce potential contaminant concentrations (silt and hydrocarbons) in surface water discharge runoff to acceptable concentrations throughout the duration of the operation phase. No adverse impacts are predicted.	No adverse impacts are predicted.	
	Provide evidence of the degree of confidence in their likely success.	**Provide timescale, relative to the project or plan, when they will be implemented.**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed.**
	Sustainable Drainage Systems (SuDS) are drainage systems that are considered to be environmentally beneficial, causing minimal or no long-term detrimental damage. They are often regarded as a sequence of management practices, control structures and strategies designed to efficiently and sustainably drain surface water while minimising pollution and managing the impact on water quality of local water bodies. Restricting surface water discharge through implementing a system in line with engineers' drainage calculations and best practice ensuring greenfield runoff rates will eliminate downstream effects on designations. Approved technical specifications of equipment including Class 1 Petrol Interceptors will ensure appropriate discharge pollutant concentrations are adhered to. Authors are confident in the likely success of these mitigation measures.	This system will be installed during the construction phase and operational throughout the operational phase of the development.	This system will be installed, monitored, and serviced as per manufacturers guidelines.

Table 6-4: Stage 2 Appropriate Assessment: Discharge of Untreated Foul Water - Mitigation Measures

Mitigation measures to be Introduced	How will the measures avoid adverse effects on the integrity of the site?	How will the measures reduce the adverse effects on the integrity of the site?	Provide evidence of how they will be implemented and by whom?
Discharge of untreated foul water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed by connecting foul water to public sewer system, or alternatively an appropriately sized on-site wastewater treatment system with a percolation area can be utilised if foul wastewater proposals are not directed to public sewer. (See Appendix D for further details on on-site wastewater treatment system requirements).	Installation of an appropriately sized on-site wastewater treatment system with a percolation area or discharging foul water to the public sewers will reduce potential for foul water discharge runoff throughout the duration of the operation phase. No adverse impacts are predicted.	Installation of an appropriately sized on-site wastewater treatment system with a percolation area or discharging foul water to the public sewers will reduce potential for foul water discharge runoff. No adverse impacts are predicted.	Equipment should be installed and maintained in accordance with the design spec and installation requirements as laid out by the equipment manufacturer. The principal contractor will be responsible for installing equipment.
	Provide evidence of the degree of confidence in their likely success.	**Provide timescale, relative to the project or plan, when they will be implemented.**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed.**
	Approved technical specifications of such equipment will ensure appropriate discharge pollutant concentrations are adhered to. Authors are confident in the likely success of these mitigation measures.	This system will be installed during the construction phase and operational throughout the operational phase of the development.	This system will be installed, monitored, and serviced as per manufacturers guidelines.

Table 6-5: Stage 2 Appropriate Assessment

Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment).	The proposed development site is located off Pearse Road, Sligo, Co. Sligo (Grid Reference: G 69315 34291). The proposed development site is located approximately 1.7km southeast of Sligo town centre, 22.06km northwest of Castlebaldwin town centre, and 47.25km northeast of Ballina town centre. The site sits an elevation of approximately 51m. To the north, and northeast of the site are commercial and residential buildings associated with Sligo town centre. Pearse Road borders the site to the east, additionally, Markievicz Park GAA Stadium and Sligo Clinic are located to the east of the site. To the south of the site is residential developments, improved grassland, and commercial properties. To the west of the site is Caltragh Community Centre, Residential development and the N4 National Road between Dublin and Sligo. The site itself consists of grasslands, hedgerows, and treelines.

	The are two European designated sites within 2km of the development. These are Lough Gill SAC located 1.47km east of the development and Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC located 1.67km northwest of the development. Additionally, there are a further 9 European designated sites within 15km of the development. These are Union Wood SAC, Unshin River SAC, Ballysadare Bay SAC, Ben Bulben, Gleniff and Glenade Complex SAC, Drumcliff Bay SPA, Cummeen Strand SPA, Ballysadare Bay SPA, Sligo/Leitrim Uplands SPA and Ballintemple and Ballygilgan SPA. The current site has been used as an area of improved agricultural grassland. The site consists of habitats such as Immature Woodland, Scrub, Treelines, Improved Agricultural Grassland, Scattered Trees and Parkland, Hedgerows, Drainage Ditches, Refuse and Other Waste and Ornamental/Non-native Shrub. o Contaminated surface water runoff from the construction phase via percolation into a Karstified Regionally-Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through an effective and robust Construction Environmental Management Plan (CEMP), ensuring that best practice is applied to all aspects of the construction phase (See Appendix A for further details regarding the CEMP); o Inappropriate management of operations and Invasive Species during the construction phase within a construction site containing Himalayan Honeysuckle, Cherry Laurel, Buddleia and Snowberry, leading to the accidental spreading of highly invasive alien plant species, the spread of these invasive species could be facilitated by the removal off-site via potentially contaminated work gear, plant and machinery and equipment. This pathway could cause degradation of the overall environmental and ecological quality of further habitats and designated sites. This pollution pathway can be managed by the implementation of effective buffer zones around the identified invasive species and appropriate management in line with best practice guidelines, as outlined below in Appendix E. o Discharge of untreated surface water runoff from the operational phase via percolation into a Karstified Regionally-Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) which is hydrogeologically connected to protected sites causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed through the implementation of appropriate Sustainable Drainage Systems (SUDS) to align on-site drainage with natural water processes and the implementation of an appropriate surface water treatment in the form of a Class 1 interceptor or suitable alternative (see Appendix B & C for further details); and, o Discharge of untreated foul water runoff from the operational phase via percolation into a Karstified Regionally Important Aquifer with a high groundwater vulnerability status (areas able to easily transmit pollution to groundwater) causing degradation of overall environmental and ecological quality of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA, and Drumcliff Bay SPA. This pollution pathway can be managed by connecting foul water to public sewer system, or alternatively an appropriately sized on-site wastewater treatment system with a percolation area can be utilised. (see Appendix D)
Conservation objectives	<u>Lough Gill Conservation objectives:</u> o To restore the favourable conservation condition of Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation in Lough Gill SAC; o To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) in Lough Gill SAC; o To restore the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in Lough Gill SAC;

	o To restore the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)* in Lough Gill SAC; o To maintain the favourable conservation condition of White-clawed Crayfish (*Austropotamobius pallipes*) in Lough Gill SAC; o To restore the favourable conservation condition of Sea Lamprey (*Petromyzon marinus*) in Lough Gill SAC; o To restore the favourable conservation condition of Brook Lamprey (*Lampetra planeri*) in Lough Gill SAC; o To restore the favourable conservation condition of River Lamprey (*Lampetra fluviatilis*) in Lough Gill SAC; o To restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in Lough Gill SAC; and o To maintain the favourable conservation condition of Otter *(Lutra lutra*) in Lough Gill SAC. Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC Conservation Objectives: o To maintain the favourable conservation condition of Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To restore the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To restore the favourable conservation condition of Sea Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of River Lamprey in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC o To maintain the favourable conservation condition of Harbour Seal in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC Ballysadare Bay SAC Conservation Objectives: o To maintain the favourable conservation condition of Estuaries in Ballysadare Bay SAC o To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Ballysadare Bay SAC o To maintain the favourable conservation condition of Embryonic shifting dunes in Ballysadare Bay SAC o To restore the favourable conservation condition of Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes') in Ballysadare Bay SAC o To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes') in Ballysadare Bay SAC o To restore the favourable conservation condition of Humid dune slacks in Ballysadare Bay SAC o To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail in Ballysadare Bay SAC o To maintain the favourable conservation condition of Harbour Seal in Ballysadare Bay SAC Cummeen Strand SPA Conservation Objectives: o To maintain the favourable conservation condition of Light-bellied Brent Goose in Cummeen Strand SPA o To maintain the favourable conservation condition of Oystercatcher in Cummeen Strand SPA

	○ To maintain the favourable conservation condition of Redshank in Cummeen Strand SPA ○ To maintain the favourable conservation condition of wetland habitat in Cummeen Strand SPA as a resource for the regularly occurring migratory waterbirds that utilise it **Ballysadare Bay SPA Conservation Objectives:** ○ To maintain the favourable conservation condition of Light-bellied Brent Goose in Ballysadare Bay SPA ○ To maintain the favourable conservation condition of Grey Plover in Ballysadare Bay SPA ○ To maintain the favourable conservation condition of Dunlin in Ballysadare Bay SPA ○ To maintain the favourable conservation condition of Bar-tailed Godwit in Ballysadare Bay SPA ○ To maintain the favourable conservation condition of Redshank in Ballysadare Bay SPA ○ To maintain the favourable conservation condition of the wetland habitat in Ballysadare Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it. **Drumcliff Bay SPA Conservation Objectives:** ○ To maintain the favourable conservation condition of Sanderling in Drumcliff Bay SPA ○ To maintain the favourable conservation condition of Bar-tailed Godwit in Drumcliff Bay SPA ○ To maintain the favourable conservation condition of wetland habitat in Drumcliff Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it
Describe how the project or plan will affect key species and key habitats	The locations of proposed buildings, the nature of the construction activities and the potential proposed surface and foul water disposal methods on-site are likely to increase sediment, hydrocarbon concentrations, via drains, streams, rivers, surface water bodies, groundwater features or other pollutant pathways. These waterbodies and features are potential pathway from the development site to Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA for potentially contaminated surface and foul water runoff, causing degradation to the sensitive SAC/SPA selection features. Due to the distance and blocking features from the Natura 2000 site, it is not anticipated there will be direct disturbance to the qualifying features of Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA from site operations, such as the movement of people and machinery.
Describe how the integrity of the site (determined by structure and function and conservation objects) is likely to be affected by the project or plan.	Degradation of the adjacent aquatic environments from untreated foul wastewater and contaminated surface water runoff as a result of construction and operational phases of the development. Such degradation would have a direct impact on priority species relying on said environments. Spread of non-scheduled invasive species off-site and into further habitats within the wider environs of the application site via transfer of contaminated soil or material off-site.
Mitigation measures are to be introduced to avoid adverse effects on the integrity of the site.	➢ Implementation of an effective and robust Construction Environmental Management Plan (CEMP), to ensure best practice is maintained throughout works on-site. ➢ Implementation of effective buffer zones around the identified invasive plant species and appropriate management in line with best practice guidelines, as outlined below in Appendix E. ➢ Installation of Sustainable Drainage Systems (SuDS). ➢ Installation of an appropriately sized Class 1 interceptor or similar alternative; and

	➢ The installation of appropriate foul water treatment in the form of connection to public sewer system or an appropriately sized wastewater treatment system with a percolation area.

7. Likely Cumulative Impact (In-Combination)

7.1 Other Plans and Projects

The potential for the proposed works to contribute to a cumulative impact on European Sites was considered. The National Planning Application Database for Sligo County Council[60] was consulted on the 4th of September 2024. Additional projects identified in the townland and within close proximity to the site within the last five years were reviewed in conjunction with the Policies and Objectives of the Draft Sligo County Development Plan 2024-2030 and were considered as part of this assessment. Table 7 below details such considerations.

Table 7: Cumulative Impact Assessment

Plans	Key Policies and Objectives directly related to European Sites and Biodiversity in the Zone of Influence	Assessment of Potential Impact on European Sites
Draft Sligo County[61] Development Plan 2024-2030	Objective O- INW-2 Require that runoff from a developed area does not result in deterioration of downstream watercourses or habitats, and that pollution generated by a development is treated within the development area prior to discharge to local watercourses. Policy P-BD-1 Protect, conserve, enhance and sustainably manage the natural heritage, biodiversity, geological heritage, landscape, and environment of County Sligo. Policy P-BD-2 Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under EU Habitats Directive (92/43/EEC), the EU Birds Directive (2009/147/EC), European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended, Flora (Protection) Order 2015, the Wildlife Act 1976 (as amended), and the Wildlife (Amendment) Act 2000 as amended, including all statutory instruments made under each act.	The Development Plan was comprehensively reviewed, with reference to Policies and Objectives that relate to biodiversity, protected species, and designated sites. The proposal includes the following: The erection of 97 Housing units, including: 10-no. 1 bedroom properties, 23-no. 2 bedroom properties, 44-no. 3 bedroom properties, 20-no. 5 bedroom properties; Construction of a new Creche Building; and Construction of internal Tarmac Roads, Car Parking and Public Open Space Several planning applications have been granted planning permission or are under review in the preceding five years, and where necessary, these applications were accompanied by HRA reports (Stage I / Stage II). The majority of these applications are expected to result in minimal disruption, such as change of use of buildings, construction of single dwellings and single-storey extensions to dwellings. Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to AASR as required under Articles 6(3) of the Habitats Directive. A list of planning applications in close proximity to the site that have been granted in the past 5 years or are currently under review are listed below. • App. 2058 (16/06/2020) - Development consisting of: 1. Construction of a single storey extension to the front elevation of existing house and carry out material alterations to existing elevations. 2. Conversion of existing attached garage into habitable accommodation. 3. Reconnection to existing site services and associated site development works.

[60] Sligo County Council Planning Applications Online, Available at: https://www.sligococo.ie/planning/SearchPlanningApplications/
[61] Sligo County Development Plan, Available at: https://consult.sligococo.ie/sites/default/files/Natura%20Impact%20Report%20in%20support%20of%20the%20AA%20for%20the%20Draft%20Sligo%20CDP.pdf

	Policy P-BD-3 Ensure that the ecological impact of all development proposals on habitats and species are appropriately assessed by suitably qualified professionals, in accordance with best practice guidelines, taking full account of the precautionary principle where uncertainty exists. Policy P-BD-4 Minimise adverse impacts of proposed developments on existing habitats (whether designated or not) by including mitigation and/or compensation measures as appropriate. Policy P-DSNC-1 Protect and maintain the conservation status of all-natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA), Ramsar Sites, Statutory Nature Reserves, as identified by the Minister for Culture, Heritage and the Gaeltacht, and any other sites that may be proposed for designation during the lifetime of this Plan. In addition, the Council will identify, maintain and develop non-designated areas of high nature conservation value which serve as linkages or 'stepping stones' between protected sites in accordance with Article 10 of the Habitats Directive. Policy P-DSNC-2 Promote the maintenance and, as appropriate, achievement of 'favourable conservation statuses of habitats and species in association with the NPWS. Policy P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land-use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or	• App. 2297 (10/05/2022) - development consisting of: (1) Construction of 74 no. residential units comprising: • 5 no. 1-bed own-door apartments, • 19 no. 2-bed own-door apartments, • 8 no. 3-bed terrace houses, • 14 no. 3-bed semi-detached houses, • 2 no. 4-bed terrace houses, • 26 no. 4-bed semi-detached houses. (2) Provision of all associated surface water and foul drainage services and connections with all associated site works and ancillary services. (3) Pedestrian, cycle, and vehicular access/egress with Cairns Road, and pedestrian and cycle access/egress with the adjoining Ardcairn residential estate. (4) Provision of public open space, communal open space, private open space, site landscaping, public lighting, refuse storage, resident and visitor car parking including electric vehicle charging points, bicycle parking, boundary treatments, and all associated site development works. (5) Demolition of existing bungalow dwellinghouse and outbuildings located to the north-east of the development site. • App. 2214 (09/08/2022) - Development consisting of construction of nine dwelling houses on a vacant site. The development will consist of one detached and eight semi-detached houses, each with connections to the existing public services. • App. 22150 (27/06/2022) - Development consisting of construction of single storey extensions to front of dwelling house to include extension to living room space and porch extension with all associated works. • App. 19226 (04/08/2019) - Development consisting of construction of a 1st floor rear bedroom extension. • App. 21213 (28/07/2021) - consisting of the following; to install a Skylight/ Velux Window on the front/west roof elevation of dwelling together with all associated site works. • App. 23104 (27/01/2024) - Changes to box window on front elevation of house, retention for change of roof design, and alterations to window placement on garage and all associated site works, as previously granted under planning permission number 08/830. • App. 2368 (23/08/2023) – Development consisting of the proposed change of use of this unit from retail warehouse to use as a gym, proposed internal alterations to facilitate this change of use, proposed new signage to the front elevation, proposed external plants mounted onto the rear elevation, proposed change to the front elevation to replace existing doors with a single leaf opening door, and all associated site works necessary to facilitate the development. • App. 2392 (14/11/2023) - onsisting of: Change of use of the unit from retail warehouse to warehouse with trade counters (selling building related products

	associated ecological corridors and linkages in accordance with the Habitats Directive. All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000 (as amended). Policy P-DSNC-4 Ensure that all development proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate. Policy P-PS-1 Ensure that development does not have a significant adverse impact incapable of satisfactory mitigation on plant, animal or bird species protected by law. Policy P-NCODS-2 Ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive. Policy P- INW-3 Ensure that all proposed greenfield residential and commercial developments use sustainable drainage systems (SUDS) in accordance with best current practice, ensuring protection of the integrity of wetland sites in the adjoining area, including their hydrological regime. Policy P-INV-2 Require all development proposals to address the presence of invasive alien species on proposed development sites and (if necessary) require applicants to prepare and submit an Invasive Species Management Plan, in compliance with the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011-2015.	principally to trade but also for sales to the general public). External changes to the rear of the unit include: inclusion of mechanical plant to the rear wall of the building; marking out keep clear areas; and one removable security bollard. On the front elevation: replace sliding entrance door with new aluminium glazed door. All other works ancillary to the above works. • App. 19456 (11/01/2020) - Development consisting of the following: the erection of new external signage to the front elevation of Unit No. 4 and all associated site works. • App. 19364 (28/10/2019) - onsisting of the installation of 10 No external condenser's, 1 No Air Handling Unit within a 2.1 m high palisade fence compound, new double door and external vent louvre's within the service yard at rear. • App. 19198 (05/12/2019) - Development consisting of the construction of 9 new dwelling units, comprising of: 5 no. 2 storey 4 bedroom detached houses, and 4 no. 3 storey, 5 bedroom detached houses, together with creation of public open space, works to site boundaries, and all other associated site works and services. • App. 20182 (13/09/2020) - Development consisting of the construction of a 161sqm storage mezzanine, 67 sqm external WEEE enclosure, installation of 2 no external air handling units and condensers, elevational changes to the rear facade including installation of dock shelter/roller door, personnel door, distribution ductwork and all associated site works. • App. 19219 (31/07/2019) – Development consisting of permission for the alterations to the previous planning application Reg. Ref: PL18/275. Proposed altertions include; Existing 2 no. Single and 2 no. Double internally illuminated Triple Sided Poster and Menu signs to be replaced with 1 no. Single and 3 no. Double, digital Poster and Menu Signs and 1 no. proposed 15" Digital Screen at the Drive Thru Window and associated site works.. • App. 208 (12/03/2020) - consisting of modifications to the drive-thru arrangements to provide a side by side ordering arrangement: demolition of 6 sq m at the northern elevation reducing the corral and bin store from 30 sq m to 14 sq m and change of use of remaining space to dry storage; extension to existing collection booth/managers office (6.3 sq m) at eastern elevation; modifications to entrance arrangements to southern and western elevation; provision of an outdoor seating area including a canopy area in lieu of the existing outdoor play area; extension of extenal bin storage area by 13 sq m (providing a bin store of 30.4 sq m); 1 No goal post height restrictor; 2 No Customer Order Displays, 3 No. new double digital screen signs; 15" digital display sign to customer collection window; amendments to fascia signage comprising removal of existing illuminated

	<u>Policy P- INW-5</u> Ensure that proposed developments do not adversely affect groundwater resources and groundwater-dependent habitats and species.	'Golden Arch' sign to southern elevation and provision of a repositioned illuminated 'Golden Arch' sign (1,540mm X 1,540mm), provision of an illuminated 'Golden Arch' sign (1,540mm x 1,540mm) to northern elevation, removal of existing Illuminated 'Golden Arch' sign to western elevation and provision of a repositioned illuminated 'Golden Arch' sign (1,442mm X 1,729mm); relocation of existing sky sign; associated elevational changes; new road markings; speed control measures; protective bollards; directional signage; and all other associated site works. • App. 22248 (08/09/2022) - Development consisting of the following: a) The retention of a single storey side porch extension measuring circa 3.7 m2 and all associated site works and service connections. • App. 2385 (25/10/2023) - demolishing an existing extension, & to construct a new single storey extension to the east elevation, plus ancillary site works. • App. 2360230 (26/10/2023) - Development will comprise the the installation of solar panels to the roof of 3 No. bedroom blocks (total area of panels approximately 1280 sq. mtrs.), together with all ancillary works. We are also applying for planning permission to renovate and extend our existing staff changing facilities (additional area approximately 11.6 sq. mtrs.) to the rear of existing hotel building . • App. 22194 (27/07/2022) - Development consisting of construction of a pergola with a retractable roof that will surround the entrance to Sligo Park Bar. Works will also include minor alterations to the Sligo Park Suite, and all associated ancillary works All developments identified were relatively small-scale developments. The proposed development will not lead to any cumulative impacts upon any designated site when considered in combination with other developments.

8. Assessment of Potential Impacts to Designations

The proposed development at stage one screening test of likely significance has demonstrated that the proposal is likely to cause degradation to the sensitive Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA's aquatic environments from contaminated surface or ground water runoff. The prevention of contaminants, silts, and sediments from entering the sites pollution pathways hydrogeologically connected to Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA during construction and throughout the operational phase is therefore vital. Where this pathway can be eliminated, this will significantly reduce the potential impacts on the integrity of these sites so that no detrimental impacts are likely to occur.

The implementation and installation of the following mitigation measures will prevent the source (contaminants, silts, and sediments) from entering the aforementioned pollution pathways, therefore not adding to/increasing the total pollutant concentrations of the receptor (Lough Gill SAC, Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, Ballysadare Bay SAC, Cummeen Strand SPA, Ballysadare Bay SPA and Drumcliff Bay SPA).

- The implementation of an effective and robust Construction Environmental Management Plan (CEMP) to ensure best practice is maintained throughout work on-site (see Appendix A);
- The implementation of effective buffer zones around the identified invasive plant species and appropriate management in line with best practice guidelines, as outlined below in Appendix E.
- The installation of appropriate Sustainable Drainage Systems (SuDs) to align on-site drainage with natural greenfield water processes/runoff rates (see Appendix B);
- The installation of appropriate surface water treatment in the form of a Class 1 interceptor, or suitable alternative (see Appendix C);
- The installation of appropriate foul water treatment in the form of connection to public sewer system or an appropriately sized wastewater treatment system with a percolation area that is managed by a wastewater treatment management company (see Appendix D).

There are no concerning additional live projects/developments located within proximity. Therefore, it is considered that there is no additive effect for significant cumulative or in combination impacts on the Natura 2000 network to occur as a result of the development.

Appendix A - Construction Environmental Management Plan Requirements

The Principal Contractor should implement the following mitigation measures into a CEMP to ensure environmental and ecological issues are prevented as a result of construction activities on-site:

- Construction workers should take all possible steps to avoid impacts on wildlife, habitats, and designated sites. Environmental awareness and a responsible attitude towards the natural environment are essential. The environmental objectives of the construction phase of the development should include minimising the generation of pollutants (i.e., dust, sediment, waste etc.), ensure no pollution incidents occur and minimise disturbance to wildlife while protecting and enhancing biodiversity;
- Prior to any works undertaken, appropriate measures should be implemented to prevent any pollution inputs into the surrounding drains and areas likely to be affected through surface water runoff. If runoff is still likely to occur, surface water should be managed to ensure it does not run into excavations, over disturbed ground or onto haul roads.

Surface & Ground Water Management

- Surface water drains, check dams, silt fencing, sediment traps (dynamic separator, straw bales, straw wattles etc., as deemed necessary prior to works commencing), and geotextile materials will be installed where necessary during the construction phase of the development. These measures will protect the surrounding surface and ground water, drains and waterbodies from any sediment (loose soil and debris) that may arise in the event of surface or ground water runoff on-site;
- Existing surface water channels or, where necessary new appropriately sized channels will be installed to collect and channel all surface water runoff.
- Appropriately sized gravel check dams will be installed within all sediment management surface water channels to minimise sediment mobilisation. All surface water channels will be directed to appropriately sized and designed sediment traps;
- Where dewatering from excavated areas is required, water should be pumped to a suitably sized portable settlement tank with silt bags included at the outlet to assist in sediment removal. The location of this system if required should be determined in conjunction with an ECoW on-site prior to dewatering works being undertaken;
- Stockpiles will be kept to a minimum. If soil stockpiling is required, they will be covered with geotextile material, and a silt fence will be erected at the toe of said stockpiles to minimise sediment mobilisation. A perimeter channel will be installed around the base of the stockpiles and directed towards the on-site sediment management channels, which will capture and re-treat any excess stockpile surface water runoff. Timeframes, the soil is stockpiled, and stripped grounds are exposed, will be kept to a minimum.

Sediment Management

- Silt fencing and geotextile materials will be installed during the construction phase of the development. These measures will protect the adjacent watercourse from any sediment (loose soil and debris) that may arise in the event of surface water runoff on-site.
- Silt fencing will be installed along the site boundary to include between the adjacent watercourses and the main site;
- Appropriately sized channels will be installed, as detailed above, to collect and channel all surface water runoff. Appropriately sized gravel check dams will be installed within all sediment management surface water channels to minimise sediment mobilisation. All surface water channels will be directed to an appropriately sized and designed sediment traps;
- Earthworks should not be undertaken during heavy periods of rain;
- Daily inspection and monitoring of sediment management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors

<u>Fuels, Oils, Chemicals, Liquids & Hazardous Materials</u>

- All fuels, oils, chemicals, liquids, and hazardous materials will be stored in a designated location with an impervious base and adequately bunded. This area should be located within the construction compound or at an alternative agreed location to secure these materials from possible accidental or intentional damage. This storage location must be located on level ground at least 10 meters from any drain, ditch, or possible route of connectivity with the designations. This area must have appropriate signage;
- All material containers will be clearly labelled and stored in resealable containers;
- Bunding must have a minimum capacity of 110% of the volume of the largest tank or 25% of the total storage capacity, whichever is greater. Bunding will be impermeable to the substance being stored;
- Where a Contractor is responsible for materials stored in a bunded area, that Contractor will implement measures for the regular inspection of bunds and emptying of rainwater (when uncontaminated);
- Material storage areas will be at a safe distance from live construction activities;
- All fuels, oils, chemicals, liquids, and hazardous materials brought on-site must be accompanied by a Safety Data Sheet (SDS). These products will be stored in accordance with any specific requirements of the SDS;
- A complete register of all SDS's in use on-site will be maintained. Copies of all SDS's will be retained;
- Careful ordering of materials to minimise quantities present on-site;

- Daily inspection and monitoring of fuels, oils, chemicals, liquids and hazardous materials management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors.

Cement, Concrete, Grout & On-Site Washing Facilities

- If concrete is mixed on-site, such activities will be carried out on an impermeable designated area located at least 10 meters from any watercourse or surface water drain to reduce the risk of runoff entering a watercourse;
- Surplus dry concrete, cement and grout will be used elsewhere on-site if possible. Where this is not possible, this material will be disposed of off-site at a suitable disposal facility and transported using a registered waste carrier;
- Excess concrete shall be returned to the batching plant where possible;
- Concrete mixing and delivery lorries shall return to the batching plants for washout;
- All vehicles and equipment used for on-site activities shall be washed out in a designated bunded washout area, specifically designed to contain such wash water. The washout area will be located at least 10 meters away from any watercourse or other elements sensitive to contamination to reduce the risk of runoff entering a watercourse;
- No detergents shall be used in any on-site washdown processes;
- Wash waters will be stored to allow solids to settle out and recirculated to minimise the risk of pollution. Recirculation of wash water will ensure reduced water usage on-site;
- Daily inspection and monitoring of cement, concrete, grout and on-site washing facilities management measures and their effectiveness will be undertaken. Maintenance measures will be implemented as required. Waste will be disposed of in accordance with the Waste Hierarchy using licenced contractors.

Air Quality – Dust Minimisation

- All construction-related traffic will have speed restrictions on unsurfaced roads to 15 kph;
- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and windy conditions;
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy conditions;
- The designated public roads outside the site and the main transport routes to the site will be periodically inspected for cleanliness and cleaned as necessary;
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind;
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- Daily inspection and monitoring of dust minimisation measures and their effectiveness will be undertaken.

Noise Minimisation

Best Practicable Means (BPM) of noise control will be applied during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors arising from construction activities.

The general principles of noise management are given below:

Control at source:

- Equipment – noise emissions limits for equipment brought to site;
- Equipment – method of directly controlling noise e.g. by retrofitting controls to plant and machinery;
- Equipment - indirect method of controlling noise e.g. acoustic screens;
- Equipment - indirect method of controlling noise e.g. benefits and practicality of using alternative construction methodology to achieve the objective e.g. vibratory piling techniques or hydrodemolition as opposed to more conventional but noisier techniques; selection of quieter tools/machines; application of quieter processes.

Control across the site by:

- Administrative and legislative control;
- Control of working hours;
- Control of delivery areas and times;
- Careful choice of compound location;
- Physically screening site;
- Control of noise via Contract specification of limits;
- Noise Monitoring, to check compliance with noise level limits, cessation of works until an alternative method is found;
- Many of the activities which generate noise can be mitigated to some degree by careful operation of machinery and use of tools.

Ecological Clerk of Works

Due to the sensitive nature of the site. The CEMP will include for the provision of an Ecological Clerk of Works (ECoW) for the duration of the construction phase, as required.

- An Ecological Clerk of Works (ECoW) will be appointed as part of the construction process;
- The ECoW will be an experienced ecologist and shall have the authority to stop or delay the works if necessary, should there be an ecological issue;
- The ECoW will carry out weekly monitoring visits at a minimum;

- The ECoW may appoint an appropriately qualified deputy to carry out monitoring visits;
- There will be clear point of contact within the project team for the ECOW so that issues can be easily raised, and any urgent problems on the ground can be communicated to the works team;
- The ECoW will be 'on call' to deal with any ecological issues as they arise.

Appendix B - Sustainable Drainage Systems

Sustainable drainage is a broad term centred on clear objectives related to both volumetric and quality control on storm runoff and the promotion of habitat diversity. The objectives are:

- Volumetric
  - Reduce runoff rate and reduce risk of flooding
  - Reduce additional runoff volumes and frequencies resulting from paved surface
  - Promote natural groundwater recharge minimising impacts on surface water bodies
- Quality
  - Minimise impact on groundwater aquifers through treatment and filtration
  - Reduce pollutant concentration in discharge
  - Control and containment of accidental spills
- Promote habitat diversity

Paving in a rural area will result in a larger volume of runoff and a higher discharge peak rate. There is also a lesser volume of base flow to rivers and streams, thereby reducing flow rates in such water bodies. By adopting the above SuDS objectives, these effects are minimised through mimicking the greenfield site conditions, i.e. conditions prior to development.

The volumetric and qualitative effects of paving (CIRIA C697 2007) can be summarised as follows:

- Changes to streamflow
  - Increase in runoff volumes
  - Increase in peak runoff rates
  - Flooding
- Changes to stream morphology
  - Stream widening
  - Erosion
  - Loss of riparian habitat

- Channel bed profile

➢ Water Quality impacts

- Loss of pool riffle structure
- Impacts on aquatic diversity (dissolved and particulate phase)
- Siltation
- Reduce O2
- Base metals (lead, zinc, copper, nickel, chromium, cadmium) and PAHs
- De-icing salt – normally rock salt and grit but also cyanide, phosphates as anti-caking and corrosion inhibitors, heavy metals, urea and ethylene glycol.

Examples of SuDs:

- Rainwater harvesting systems can collect rainwater from roofs and other paved surfaces for use on-site.
- Green roofs, where a planted soil layer is constructed on a roof to create a living surface, can reduce surface runoff.
- Pervious pavements provide a hard surface that can be used for pedestrians or vehicles while allowing rainwater to pass through to the soil or underground storage.
- Bioretention systems (including rain gardens) collect runoff, allowing it to pond temporarily on the surface before filtering through vegetation and underlying soils.
- Trees capture rainwater and provide evapotranspiration, biodiversity and shade.
- Swales, detention basins, ponds and wetlands slow the flow of water, store and treat runoff while draining it through the site and encouraging biodiversity.
- Soakaways and infiltration basins promote infiltration as an effective means of controlling runoff and supporting groundwater recharge.
- Controlled flow-limiting attenuated surface water to greenfield runoff rates to align on-site drainage with natural greenfield water processes.

For more information on SuD's, please refer to CIRIA C753 – The SuDS Manual – London, 2015

Recommended SuD's, as detailed above, include but are not limited to appropriately scaled attenuation and hydrobreak. Installations of appropriately scaled equipment will ensure green field runoff rates.

Appendix C – Class 1 Interceptor or Suitable Alternative Examples

A suitably sized Class 1 oil separator/interceptor. This Class 1 system should be designed to achieve a discharge concentration of Less than 5mg/l. An example of such a system is Kingspan NSB Range, as detailed below.

Klargester Bypass Separators

NSB RANGE

Concentration Less Than

5

MG/L

Bypass separators are used when it is considered an acceptable risk to not provide full treatment for very high flows, such as where the risk of a large spillage and heavy rainfall occurring at the same time is small. Typical applications include surface carparks, roadways and lightly contaminated commercial areas.

Product Benefits

- Light and easy to install.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.
- Vent points within necks.
- Oil alarm system available (required by EN 858-1 and PPG3).
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- GRP or polyethylene construction (subject to model).

Performance & Compliance

- Fully compliant and tested to EN 858-1.
- Bypass separators are tested by British standards institute (BSI).
- Certified flow and process performance assessing effluent qualities to the requirements of EN 858-1.
- The unit is designed to treat the 'first flush' - 10% of peak flow. The calculated drainage areas served by each separator are indicated according to the formula given by PPG3 NSB = 0.0018A(m2).
- Class I separators are designed to achieve a concentration of less than 5mg per litre.

Appendix D – On-site Wastewater Treatment System

A suitably sized on-site wastewater treatment system should be installed where connection to the public sewer system is not possible. This on-site wastewater treatment system should be large enough to cater for the proposed development. It is recommended that any sewage treatment system which will service the development is fit for purpose and has the ability to accept the required volumes of waste. Any outflow should be treated within the system to ensure that polluted water does not enter the downstream environments. A management contract should be drawn up with a wastewater treatment management company to ensure the appropriate management of the system. The sewage treatment system should be regularly serviced and de-sludged in accordance with manufacturers guidelines to ensure it is operating sufficiently at all times.

An example of such a system is the WCS Environmental Engineering's, HiPAF® midi and modular that caters for developments from 60 up to 2,000 population equivalent (PE) as detailed below.

Three-stage system for safer processing

Each WPL HiPAF treatment plant includes a three-stage process - primary settlement, biological treatment (biozone) and final settlement. The segmented biozone process chambers in stage two eliminate the risk of process short-cuts and mitigates risks associated with variable loads.

Stage 1 – Primary settlement

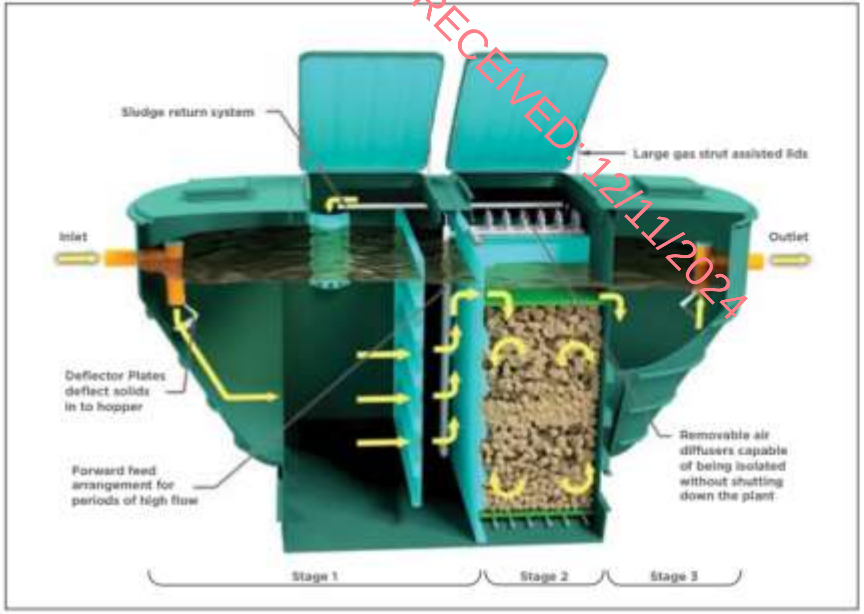
- Incoming wastewater enters the primary settlement stage where organic and inorganic matter settles
- The sludge is held in this section until it requires de-sludging
- A unique forward-feed arrangement uses an airlift to deposit wastewater into the biological treatment stage (biozone), which keeps peak flows from entering the system and prevents hydraulic surges

Stage 2 – Biological treatment

- Settled liquor enters the biological section either by displacement or via the airlift
- High-voidage plastic media, contained between two floors within the biozone, encourages the growth of bacteria and other organisms which treat the wastewater
- Air required for the treatment process is delivered by air-blowers housed in a weatherproof kiosk
- The air also helps to scour the media bed, preventing the filter from blocking
- A series of diffusers installed beneath the media bed ensure an even distribution of air

Stage 3 – Final settlement

- The treated wastewater (final effluent) enters the final settlement section
- Dead biomass (humus sludge) from the process settles out
- An airlift automatically transfers settled humus sludge back to the primary settlement section for co-settlement
- The final effluent is discharged through gravity displacement to either a watercourse or a sub-surface irrigation field



WPL HiPAF midi packaged sewage treatment plant illustration (above)

Internal Configuration

The internal sections of the plant can be accessed from the top of the unit to make servicing, maintenance and de-sludging easier. Plants are fitted-as-standard with large, stainless steel, gas strut assisted lids to give full access to the relevant parts of the plant.

Air is introduced to the WPL HiPAF unit by a series of air diffusers. Each diffuser is capable of being isolated and removed individually without the need to shut down the plant or affect air supply to the rest of the unit.

The complete absence of mechanical and electrical components within the hostile environment provides safe and clean working conditions on site.

Internal air diffusers (left) and large gas strut lids (right)

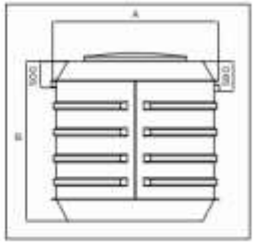
Technical Specification

Use the tables below as an indicative guide to selecting the right packaged treatment plant for your site. For advice on the modular system or more information on the range please contact WPL or a qualified contractor.

WPL HiPAF compact system 1 to 60 PE

Model PE	Standard Consent*	A Diameter (m)	B Height (m)	Inlet Invert (mm)	Outlet Invert (mm)
10	20:30:20	2.32	2.64	500	580
20	20:30:20	2.32	2.80	500	580
30	20:30:20	2.61	2.70	500	580
40	20:30:20	2.86	2.70	500	580
50	20:30:20	3.20	3.00	500	580
60	20:30:20	3.20	3.20	500	580

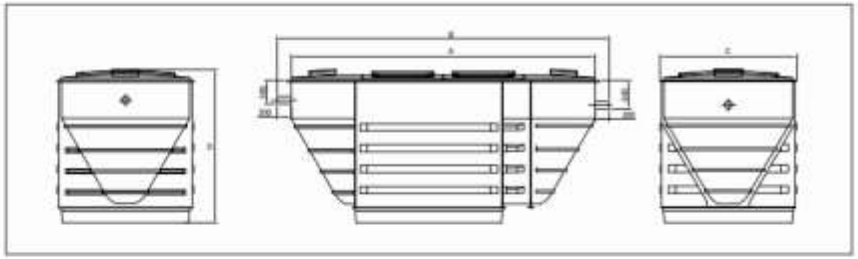
*Typical consent standards shown, tighter consent standards available to meet all requirements specified by the EA



WPL HiPAF midi system 60 to 300 PE

Model PE	Standard Consent**	A Length (m)	B Length w/pipes (m)	C Width (m)	D Height (m)	Inlet Invert (mm)	Outlet Invert (mm)	Weight (Tonne)
70	20:30:20	4.30	4.90	2.88	3.20	500	600	1.60
90	20:30:20	4.80	5.40	2.88	3.20	500	600	1.90
110	20:30:20	5.20	5.80	2.88	3.20	500	600	2.25
130	20:30:20	5.80	6.40	2.88	3.20	500	600	2.50
150	20:30:20	6.40	7.00	2.88	3.20	500	600	2.90
175	20:30:20	7.00	7.60	2.88	3.20	500	600	3.40
200	20:30:20	7.60	8.20	2.88	3.20	500	600	3.90

** Typical consent standards shown - tighter consent standards available to meet all requirements specified by the EA. For options above 200PE please contact WPL.



The tables are an indicative guide only. All applications are specified to comply with the British Water Code of Practice for Flows and Loads. Further technical information can be found on the WPL website, visit www.wplinternational.com.

WPL offers a complete in-house design and specification service. Each packaged treatment plant can be designed to site-specific requirements.

Each system is supplied with an installation manual and an operation and maintenance manual. Civil installation of the units can be arranged through a WPL recommended contractor.

WPL suggests that maintenance should only be undertaken by a reputable service company with British Water accredited service engineers.

Design parameters

Design Criteria	British Water's Flows and Loads 4
Peak flow treatment	Generally 3 dry weather flow
Invert depth	0.5m as standard, other invert depths available up to 1.5m
Discharge standards	The WPL HiPAF will typically attain BOD^5 20mg/l, SS 30mg/l, NH_4-N 20mg/l as standard. With biological treatment, stricter standards can be achieved, meeting BOD^5 10mg/l, SS 10mg/l, NH_4-N 2mg/l (with tertiary treatment). Higher standards are achievable. With the use of additional equipment WPL can produce effluent to meet phosphate standards when required.

Design options

- Inverts up to 1.5m with turret extensions
- Pumped inlet flow control
- Control panels are available to cater for single and three phase electrical supplies
- Alarm beacon for mechanical failure and loss of air pressure
- Duty/standby blowers with automatic changeover to ensure an uninterrupted air supply
- Energy-saving options such as variable speed drive blowers
- GSM telemetry for remote monitoring of the plant
- WPL Sand Filters/WPL Micro-screens can improve final effluent for strict consent requirements

Kiosk Options

Each WPL HiPAF treatment plant comes with a weatherproof kiosk to house the control panel and air blowers on site. The standard issue kiosk, which is acoustically-lined, houses a control panel, which automatically manages the operation of the plant; the air distribution manifold and one or more air blowers as required.

Features include thermostatic cut-off controls and air filtering monitoring which can alert the operator to loss of air pressure. Ten metres of high temperature resistant airline hose is supplied to connect blowers to the treatment plant – extra lengths can be supplied if the kiosk is sited further than 10m from the treatment unit.

Appendix E – Invasive Species Management Strategy

4-no. non-scheduled, non-native invasive plant species were identified along the application site boundary. As development works on-site will include works within these locations within the development area, these non-scheduled invasive species will be managed in line with best practice guidelines outlined below.

All exclusion/bio-secure zones will be set up surrounding areas of non-scheduled invasive plant species within the designated works area. The setup of exclusion/bio-secure zones will include the establishment of suitable buffer zones, with a minimum buffer of 3m or as far as is reasonably practicable. These buffer distances will vary depending on the specific species, as highlighted below:

- **Himalayan Honeysuckle (*Leycesteria formosa*)**: Minimum 7m buffer recommended where possible to prevent accidental spread via seed dispersal.
- **Cherry Laurel (*Prunus laurocerasus*)**: Minimum 3m buffer recommended where possible due to potential root spread.
- **Buddleia (*Buddleja davidii*)**: Minimum 7m buffer recommended where possible to mitigate its fast colonization and seed dispersal.
- **Snowberry (*Symphoricarpos albus*)**: Minimum 3m buffer recommended where possible to prevent rhizome spread and re-establishment.

The bio-secure zones will be cordoned off using Heras fencing or a suitable alternative, with adequate signage clearly indicating the presence of invasive species within the area. This setup will ensure that invasive species are confined and do not spread into surrounding areas or off-site during construction.

In addition to the buffer zones, biosecurity protocols will be enforced to prevent the accidental transportation of plant material off-site, including cleaning of machinery and monitoring of vehicles to ensure no plant material is dispersed beyond the boundaries of the work area.

<u>Himalayan Honeysuckle</u>

Himalayan Honeysuckle is not included in the Third Schedule. Therefore, its presence at the site does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011). The species, however, is listed as a medium-impact invasive species by Invasive Species Ireland. Considering such, due care and consideration should be given to the management of Himalayan Honeysuckle.

Himalayan Honeysuckle is a tall (2 metres), deciduous shrub which has escaped into the wild and now is found in hedgerows, woodland and roadsides. It can grow in a variety of conditions, such as wet or dry soil, sun or shade. Invasive exotic honeysuckles invade forest understories, crowding out native shrubs, groundcovers, and ephemerals. Invasive exotic honeysuckles can rapidly form dense shrub layers in the forest understory.

1. Physical Control

   Dig out this weed throughout the year to be able to remove it chemical-free. Push a narrow trowel or knife into the ground next to the taproot. Carefully loosen the soil. Repeat this step around the taproot. Grasp stem at ground level, rock plant backwards and forwards and pull gently. Tap the roots carefully to dislodge the soil. Replace disturbed soil and pat down lightly.

2. Chemical Control

   One can apply a solution directly on the leaves or cut them and spray with a cover-up that has been mixed in water. The most effective herbicide for getting rid of Himalayan Honeysuckle is glyphosate-based herbicides. It may take 2-3 years to completely remove the plant.[62]

Snowberry (*Symphoricarpos albus*)

Snowberry is not included in the Third Schedule. Therefore, its presence at the site does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011). Snowberry is not included as either a medium/high impact invasive species, or in the NRA Guidelines, however, it is recognised as an invasive species in Northern Ireland under the Invasive Species Northern Ireland (ISNI) guidelines produced by NIEA[63].

Snowberry spreads through new shoots from its root system; in the right conditions the root system (rhizome) can grow rapidly and out-compete native plants. Once established, the species can form dense thickets and suppress the growth of native plants. Recommended treatment options are provided below.

1. Physical Control

   Physical removal is only applicable where there are only minor infestations at the initial stage of invasion. Young plants may be hand-picked, but care should be taken to avoid soil disturbance which could lead to further spread via new seedlings or re-rooting from cuttings. Plants should not be removed when in seed as there is a risk of spreading the seeds further. If removal of mature plants is not immediately feasible, then the flower heads should be removed in June before they go to seed. It is essential to plant the ground with native species immediately following removal to prevent new seedlings taking hold. Excavated material can be incinerated or disposed of to a licensed landfill.

2. Chemical Control

[62] Management Options for Himalayan Honeysuckle: https://knotweedremoval.tips/types_of_weeds/himalayan-honeysuckle/

[63] ISNI Snowberry Guide: https://invasivespeciesni.co.uk/wp-content/uploads/2020/11/NIEA-ID-Guide-ISNI-website-Symphoricarpos-albus-SnowberryV2.pdf

The best herbicide to use for Snowberry is glyphosate. It may be eradicated by spraying with a strong glyphosate-based herbicide, which must be applied when the plant is in full leaf. Several applications may be required. Alternative methods of application such as weed wiping or stem-injection may be more appropriate in terms of the location of the snowberry plant.

Buddleia (*Buddleja davidii*)

Buddleia is not included in the Third Schedule. Therefore, its presence at the site does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011). Buddleia is listed as a medium-impact invasive species by Invasive Species Ireland. Considering such, due care and consideration should be given to the management of Buddleia.[64]

Buddleia can form thickets and quickly cover open ground, outcompeting native plants and reducing biodiversity. Monospecific stands can also impede access.[65] Recommended treatment options are provided below.

1. Physical Control

   Physical control includes grubbing cotoneasters at any time of the year when the soil is suitably dry. Hand-picking of young plants is feasible but should be undertaken with care to avoid soil disturbance which can give rise to a flush of new seedling. Grubbing of mature stands as a sole attempt at control is not recommended for the same reason. After uprooting, it is essential to plant the ground in order to prevent a flush of new seedling growth. When it is cut, Buddleia grows back from the stump very vigorously. Mowing of young plants does not provide control as they re-sprout with vigour. Where removal of mature plants is not feasible in the short term, the flower heads should be cut off in June before seed set.

2. Chemical Control

   To kill small shrubs and control regrowth, the herbicides glyphosate or triclopyr can be applied. Recommended practice for the application of herbicides requires cutting back of plants to a basal stump during active growth (late spring to early summer) which is then treated (brushed on) immediately with a systemic weed killer mix.[66]

Cherry Laurel (*Prunus laurocerasus*)

[64] Risk of Medium Impact invasive species in Ireland https://invasives.ie/app/uploads/2022/01/Invasives_taggedMediumImpact_2013RA-2.pdf
[65] NIEA ID Guide – Butterfly Bush - https://invasivespeciesni.co.uk/wp-content/uploads/2020/07/NIEA-ID-Guide-ISNI-website-Buddleja-davidii-Butterfly-bushV2.pdf
[66] NRA Guidelines on the Management of Noxious Weeds and Non-native Species on National Roads 2010

Cherry Laurel is not included in the Third Schedule. Therefore, its presence at the site does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011). Cherry Laurel is listed as a high impact invasive species by Invasive Species Ireland. Considering such, due care and consideration should be given to the management of Cherry Laurel[67].

Cherry Laurel outcompetes native species and suppresses regeneration by forming thick stands and avoids herbivory by wildlife[68]. Recommended treatment options are provided below.

1. Physical Control

   Small plants can be dug up when the soil is moist. To control larger plants, cut stems and trunks by hand or chainsaw, cut as close to the ground as possible and remove stems to make it easier to control re-growth. Stems can be chipped and used as mulch or taken to a landfill. Leaving stems on moist ground might result in some stem rooting.

2. Chemical Control

   Direct stump treatment by painting or spot spraying freshly cut low stumps with a herbicide immediately after being cut. Glyphosate (20% solution) or tryclopyr (8% solution) are known to be effective during suitable weather conditions, i.e., dry weather. The herbicide concentrations used, and timings of applications vary according to which chemical is used. Glosphate optimal treatment time is between November and April, and triclopyr is suitable all year round.[69]

[67] Risk of High Impact invasive species in Ireland: https://invasives.ie/app/uploads/2022/01/Invasives_taggedlist_HighImpact_2013RA-1.pdf

[68] Maguire, C. M., Kelly, J. & Cosgrave, P. J., 2008. Best Practice Management Guidelines Rhododendron (Rhododendron ponticum) and Cherry Laurel (Prunus laurocerasus), s.l.: Prepared for NIEA and NPWS as part of Invasive Species Ireland.

[69] Kent Wildlife Trust: https://www.kentwildlifetrust.org.uk/sites/default/files/2018-06/KWT%20Land%20Mgt%20Advice_Sheet%209%20-%20Woodland%20management%20-%20control%20of%20rhododendron.pdf

Appendix F – Current Site Plan

LEGEND:

House Type		no. of Beds	Description	Storeys	Floor Area (m²)	Total units	Total Area (m²)
A/A1		2	Semi detached / Terraced	2	92	20	1800
B		1	Semi Detached Single storey	1	94.4	2	188.8
C		3	Detached/ Semi Detached	3	117	6	702
D		3	Semi detached	2	111	38	4218
E/E1		5	Detached / Semi Detached	3	156	8	1248
F/F1		5	Semi Detached	3	171	12	2052
G		1	Apartment	1	49	8	392
H		2	Semi detached / Terraced	2	94.4	3	283.2
					TOTAL:	**97**	**10, 884**

Housing Mix: 10.3% 1 bed / 24% 2 bed / 45.4% 3 bed / 20.6% 4+ bed

SITE STATISTICS	
Site Area	3.04 ha
Net Developable Area	2.67ha
Public Open Space	4,144 sqm / 15.5%
Density	36.3 UPH

PLANNING

FI RESPONSE

LEGEND:

- POSITION OF SITE NOTICE
- SUBJECT SITE OUTLINED IN RED
- RIGHT OF WAY
- SHEFFIELD STANDS

Rev	Description	By	Date

VINCENT HANNON ARCHITECTS
E: info@vha.ie
www.vha.ie

Galway
Suite 4 Cloch Mhíle,
Dublin Road,
Galway, H91 V97E
T: 091 483 934

Sligo
2nd Floor Hanson Building,
Doorly Park Road,
Sligo, F91 P7N2
T: 071 915 0022

Dublin
81 Amiens Street
Dublin 1,
D01 N2F5
T: 01 876 4600

Client: Caltragh Construction Ltd.

Project: Pearse Road Residential Development

Drawing Description: Site Layout Plan FI Response

Scale: 1:500@A1

Status: Planning

Drawing No: 231002-DR-VHA-AR-117

Rev:

Date: Sept 24 | Drawn by: AM | Checked by: VHA