Crawford Architecture

Strandhill Road Housing Development

Appropriate Assessment:

Stage 1 - AA Screening Report & Stage 2 - Natura Impact Statement

Woodrow Ref: P00016664

Date: 17 July 2025

COMMERCIAL IN CONFIDENCE

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STATEMENT OF AUTHORITY

APEM Group Woodrow, trading as Woodrow Sustainable Solution Limited, is an established and accomplished environmental consultancy committed to delivering robust ecological assessment services for clients in the private and public sectors. Woodrow provides an in-house team of ecologists and environmental professionals whose primary specialisms include botany, habitats, birds, bats, mammals, invertebrates and aquatic ecology. Woodrow's investment in high-technology field equipment and software, and the development of our own field-data collection app (Eco-Log), ensures reliability and confidence in our work. Woodrow staff are fully conversant with wildlife legislation in both Ireland and the UK, and work to exacting standards, according to established guidelines issued by the Chartered Institute of Ecology and Environmental Management (CIEEM).

This report was written by Ana Lencastre, reviewed by Meadhbh Costigan and approved internally by Rory Canavan.

Ana Lencastre is an Assistant Ecologist with APEM Group Woodrow. She holds a BSc in Environmental Science with Ecology from ATU Sligo (2024) and a Bachelor of Law from the Catholic University of Portugal (2015). Ana has worked on several habitat and botanical projects, including large-scale habitat and biodiversity monitoring projects, with a focus on peatland and farmland habitats. She has strong expertise in botanical identification and habitat classification, and frequently contributes with her skills in report writing, GIS mapping and data management. She is a qualifying member of CIEEM.

Qualifications:

- BSc Environmental Science with Ecology, Atlantic Technological University Sligo, Ireland.
- Bachelor of Law, Catholic University of Portugal.

Meadhbh Costigan is a Senior Ecologist with APEM Group Woodrow. She has conducted fieldwork in the Republic of Ireland and Northern Ireland – gaining experience in habitat identification (according to Fossitt 2000, Phase 1 JNCC, National Vegetation Classification (NVC), Irish Vegetation Classification (IVC) and the National Survey of Upland Habitats), botanical identification, the biodiversity-metric, and invertebrate surveys. She is a leading author on Appropriate Assessments, Habitat Regulation Assessments, Ecological Impact Assessments, Habitat Management Plans, and Local Biodiversity Action Plans. She is a qualifying member of CIEEM and is an elected member of the CIEEM Irish Section Committee.

Qualifications:

- BA (Hons) Natural Science, Trinity College Dublin, Ireland.
- MSc Ethnobotany, University of Kent, UK.

CONTENTS

1. INTRODUCTION

1.1. Background

APEM Group Woodrow ("Woodrow") was commissioned by Crawford Architecture to prepare an Appropriate Assessment (AA) Screening Report and Natura Impact Statement (NIS) for a proposed housing development located at Strandhill Road, County Sligo ("Proposed Development").

The Proposed Development site ("Application Site") is located at Strandhill Road, Knappagh More, approximately 1 km to the west of the centre of Sligo Town, County Sligo (ITM: E167593 N335953). The Proposed Development will include the demolition and removal of existing buildings and temporary structures and the construction of 11 no. dwelling houses with all associated siteworks (detailed in **Section 3** of this report.).

This report has been prepared in accordance with the requirements of Article 6(3) of the EU Habitats Directive (92/43/EEC) and aims to assist the competent authority (Sligo County Council) in carrying out Stages 1 and 2 of the AA process and establish whether the Proposed Development, alone or in combination with other plans or projects, may adversely affect the integrity of any Natura 2000 sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)).

During Stage 1 of the AA process (AA Screening), a Source-Pathway-Receptor (S-P-R) model is used to determine whether the Proposed Development poses a risk of Likely Significant Effects (LSE) on any Natura 2000 site. Where LSE cannot be ruled out, the assessment must proceed to Stage 2 (AA), which requires the preparation of a Natura Impact Statement (NIS).

The NIS provides a detailed impact assessment in order to determine whether the Proposed Development may result in adverse effects on the integrity of any Natura 2000 site, in view of its qualifying interests (QIs), Special Conservation Interests (SCIs) and conservation objectives (COs). Additionally, the NIS details any required mitigation measures to be implemented to avoid potential adverse effects.

1.2. Legislative Context

1.2.1. EU Birds and Habitats Directives

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ("the Habitats Directive"), provides legal protection for habitats and species of European importance.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds ("the Birds Directive") is aimed at protecting all wild bird species naturally occurring in the EU and their habitats.

The Habitats and Birds Directives are transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477/2011) (consolidating the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition

failures identified in recent CJEU Judgements) (hereafter referred to as the Habitats Regulations) and the Planning and Development (Amendment) Act, 2021.

1.2.2. The Natura 2000 Network

The Natura 2000 Network, established under the Habitats Directive and the Birds Directive, is an EU-wide network of areas designated for the protection of habitats and species of international conservation importance, also referred to as European sites. These include Special Areas of Conservation (SACs), designated under the Habitats Directive, and Special Protection Areas (SPAs), designated under the Birds Directive. Each EU Member State is responsible for identifying and designating SACs and SPAs within their territory.

Special Areas of Conservation (SACs) are selected based on the occurrence of habitats listed in Annex I and species listed in Annex II of the Habitats Directive. The specific habitats and species for which SACs are designated are referred to as Qualifying Interests (QIs).

Special Protection Areas (SPAs) are designated to protect bird species of conservation concern, migratory species and wetlands of international importance. The species for which SPAs are designated are referred to as Special Conservation Interests (SCIs).

1.2.3. Requirement for Appropriate Assessment

The requirement for AA is set out in Article 6(3) of the Habitats Directive, which requires that:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected 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".

1.2.4. The Stages of Appropriate Assessment

The European Commission's guidance promotes a staged process, as set out below, the need for each being dependent upon the outcomes of the preceding stage.

- Stage 1: Screening For Appropriate Assessment
- Stage 2: Appropriate Assessment
- Stage 3: Assessment of Alternative Solutions
- Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)

Stage 1: Screening for Appropriate Assessment

Stage 1 of the process is intended to identify whether the project is "likely to have a significant effect" upon a Natura 2000 site, referred to as "Screening for Appropriate Assessment".

It establishes whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the screening process identifies effects to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2. Screening is undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided though the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan or project.

Stage 2: Appropriate Assessment

Stage 2 of the process considers potential impacts in greater detail, including whether further mitigation measures are necessary.

The stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse impacts on the integrity of a Natura 2000 site with respect to the site's structure and function and its conservation objectives, and includes any mitigation measures necessary to avoid, reduce or offset negative effects.

The proponent of the plan or project will be required to submit a Natura Impact Statement (NIS). This document is a careful targeted examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view its conservation objectives, taking account of in-combination effects.

If the assessment is negative, i.e., adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned.

Stage 3: Alternative Solutions

If adverse effects upon the site's integrity cannot be ruled out, then Stage 3 will need to be undertaken to assess whether alternative solutions exist. If no alternatives exist that have a lesser effect upon the Natura 2000 site/s in question, the project can only be implemented if there are 'imperative reasons of overriding public interest' (IROPI), as detailed in Article 6(4).

Stage 4: Imperative Reasons of Over-riding Public Interest

If a plan or project is found to have adverse effects on the integrity of Natura 2000 sites and there are no other options available, the plan can only proceed if it can be proven that there are imperative reasons of overriding public interest that supersede the negative effects. In such cases, compensatory measures will be necessary.

2. METHODOLOGY

2.1. Desk Study

A desk study was conducted to investigate the location of Natura 2000 sites in the vicinity of the Application Site and their QIs/SCIs. This facilitated a targeted approach to conducting ecological surveys to inform the AA process with a focus on species and habitats listed as QIs/SCIs for the Natura 2000 sites.

Primary sources of information for the desktop study were:

- National Parks and Wildlife Service Designations Viewer was used to identify the location of sites designated for nature conservation (NPWS, n.d.). Shapefiles and metadata for designated sites have been downloaded and are updated annually for use by Woodrow ecologists on local GIS.
- NPWS site synopses and conservations objectives for relevant Natura 2000 sites (NPWS).
- Environmental Protection Agency (EPA) online Map Viewer, used to investigate hydrological connectivity to sites designated for nature conservation, aquifer vulnerability and groundwater vulnerability (EPA, n.d.).
- NBDC online Biodiversity Maps, to investigate the presence of relevant species in previous records, in particular QI species and invasive non-native species (INNS) (NBDC, n.d.).

2.2. Field Survey

A field survey was carried out on 22 April 2025 to establish an ecological baseline within the Application Site to inform the AA process. The area of the Application Site was surveyed and assessed, with a focus on the following:

- Identification of potential connections between the Application Site and any Natura 2000 sites or their QIs/SCIs, including surface water routes and other ecological pathways.
- Classification of habitats using Fossitt 2000 and assessment for potential Annex I habitats.
- Identification of INNS within the Application Site.

Georeferenced photos of the Application Site were taken, and field notes were recorded using the field mobile app Survey123.

2.3. Approach to Screening

2.3.1. Zone of Influence

The Zone of Influence (ZoI) for a project refers to the area within which ecological features may be affected by changes arising from a plan or project and its associated activities. It is determined on a case-by-case basis, taking into account the nature, size, and location of the project, as well as the sensitivities of ecological receptors in the surrounding environment (CIEEM, 2024). A distance of 15 km is currently recommended (DEHLG, 2010), but the ZoI can often extend well beyond this, particularly where ecological or hydrological connectivity exists. It may vary for different ecological features, depending on their vulnerability to environmental changes.

Guidance from the Office of the Planning Regulator states that the ZoI of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the QIs or SCIs of a Natura 2000 site (OPR, 2021). Where a potential connectivity is identified, the Source-Pathway-Receptor (S-P-R) model is used to assess whether a potential route to impact exists.

2.3.2. Source – Pathway – Receptor Model

The S-P-R model is the standard conceptual approach that is used across European Directives to characterise the means (pathways) via which impact sources (such as the works being proposed)

could be experienced by receptors (sensitive QIs/SCIs of a Natura 2000 site). Only where there is an identifiable source, a pathway and a sensitive receptor, is there likely to be a significant effect.

S-P-R relationships are not always linear, and effects might be transmitted beyond the 'footprint' e.g., via hydrological pathways or enabled by impacts on another receptor (indirect effects). Notwithstanding this, how an effect might progress from its source along pathways to a particular Natura 2000 site can easily be discerned with reference to the receiving environment. Consideration of supporting habitat (defined as areas that can be used by a species, particularly those which may be listed as a feature of a Natura 2000 site, to support that species survival and/or reproduction) is also important. Species mobility should also be considered, and pathways will change between mobile receptor type.

- Source - aspects of the project which may impact upon the Natura 2000 site and its qualifying interests/conservation objectives.
- Pathway - functional link between the project and the Natura 2000 sites. Pathways can include hydrological, hydrogeological, air, ecological, etc.
- Receptor - Natura 2000 sites and their QIs/SCIs.

Through the S-P-R model, it is possible to identify Natura 2000 sites (and their QIs/SCIs) that may be subject to LSEs through the determination of a series of search parameters. These search parameters can then be extended to identify the other plans and projects that require consideration within the assessment of in-combination effects.

2.3.3. Assessment of LSE

Using the principles of the ZoI and S-P-R model, a preliminary impact assessment is made, taking into account the characteristics of the project and the ecological receptors, the information gathered during the desk and field surveys, and other available environmental information.

Following this process, for each Natura 2000 site within the ZoI it will be concluded that either:

- There are no LSE on Natura 2000 site and its QIs/SCIs, and therefore no further assessment is required; or,
- The potential for LSE on the Natura 2000 site and its QIs/SCIs cannot be ruled out and therefore Stage 2 (NIS) is necessary.

A precautionary approach is applied and if the effects are deemed to be significant, potentially significant, or uncertain, or it the screening process becomes overly complicated, then the process must proceed to Stage 2 (DEHLG, 2010).

2.4. Relevant Guidance

The following guidance documents and sources of information were utilised:

- Office of the Planning Regulator (2021). OPR Practice Note PN01: Appropriate Assessment Screening for Development Management. Dublin: OPR.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, as amended in 2010. Dublin: DEHLG.

- National Parks and Wildlife Service (2010). Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 & PSSP 2/10. Dublin: NPWS.
- European Commission (2021a). Commission Notice: Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Luxembourg: Publications Office of the European Union.
- European Commission (2021b). Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Luxembourg: Publications Office of the European Union.
- European Commission (2019). Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC. Luxembourg: Publications Office of the European Union.
- Environmental Protection Agency, n.d. *EPA Maps*.
- National Parks and Wildlife Service, n.d. *NPWS MapViewer*.
- European Community Habitats Directive (92/43/EEC) – The Habitats Directive (European Commission 1992).
- European Communities (Natural Habitats) Regulations 1997 (European Commission 1997).

3. DESCRIPTION OF PROPOSED DEVELOPMENT

3.1. Location

The Application Site is located on Knappagh More, Strandhill Road, approximately 1 km to the west of the centre of Sligo Town, County Sligo (ITM: E167593 N335953). The Application Site is located within the Sligo Bay catchment and the Carrowgobbadagh_010 sub-catchment. There is a small watercourse which runs alongside the eastern and northern borders of the Application Site, which is identified by the EPA as the KNAPPAGH (Sligo)_010 (IE_WE_35K420630) ("the Knappagh").

The location within the wider geographical context can be seen in Figure 1Figure 1. An aerial overview of the Application Site can be found in Figure 2.Figure 2

3.2. Proposed Works

The Proposed Development will be constructed within a total site area of approximately 0.53 hectares. The proposed layout is outlined in **Figure 3Error! Reference source not found.**.

The development will consist of:

- The demolition of an existing one storey derelict office building, derelict shed and removal of temporary structures.
- The construction of 11 no. dwelling houses, comprising of:
    - 3 no. detached four bedroom houses
    - 1 no. detached three bedroom house
    - 2 no. semi-detached three bedroom houses
    - 2 no. end of terrace three bedroom houses
    - 2 no. semi-detached two bedroom houses
    - 1 no. terraced two bedroom house
- The construction of all associated siteworks, new estate roads, public lighting and landscaping.

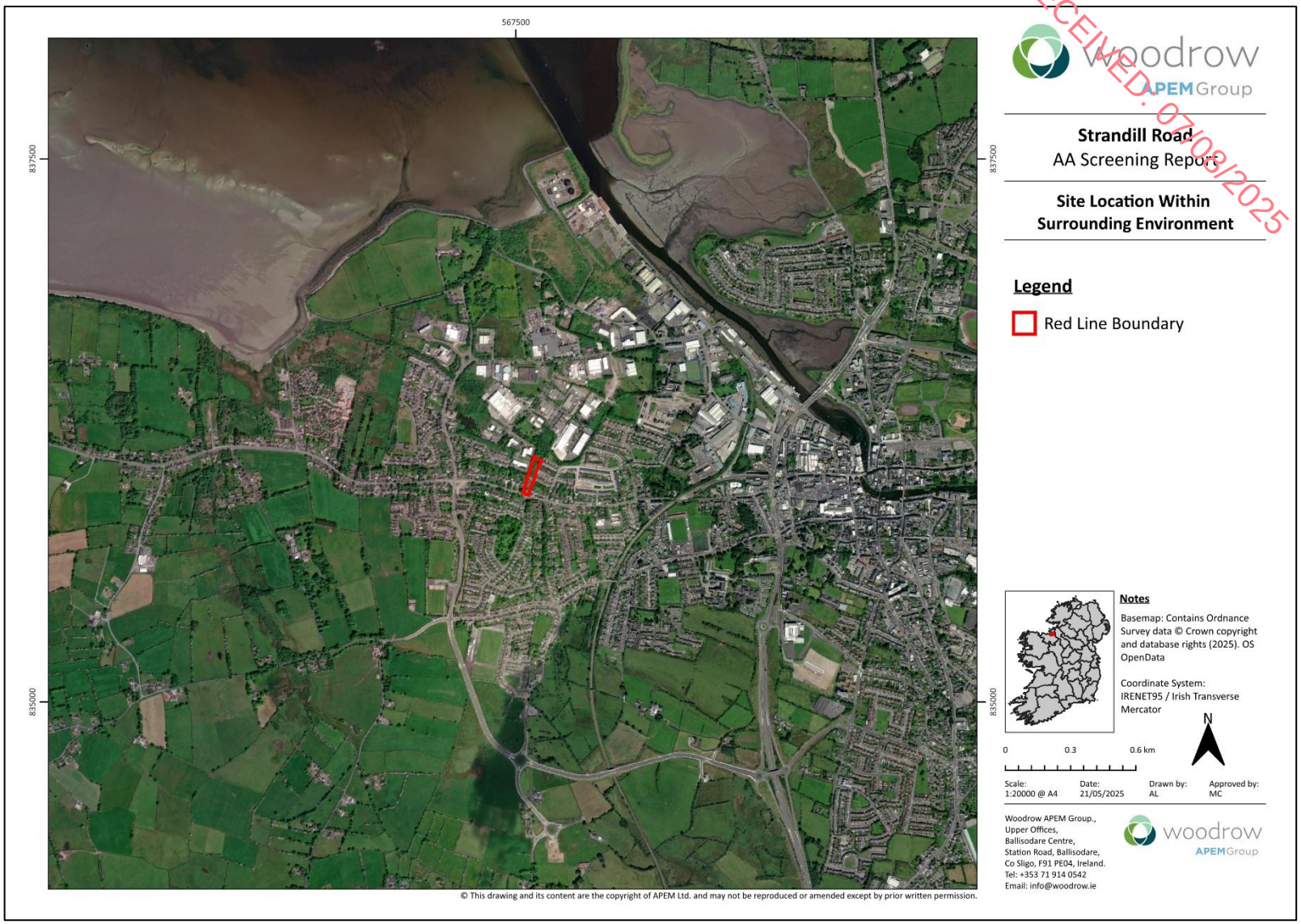

Figure 1 – Location of the Proposed Development withing the wider geographical context

Figure 2 – The Proposed Development at Strandhill Road

Figure 3 - Site Layout plan for the Proposed Development

3.3. Receiving Environment

There is no direct overlap between the Application Site and any Natura 2000 site. The closest Natura 2000 sites over straight-line distance are Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (000627) and Cummeen Strand SPA (004035), both at approximately 1 km to the northeast of the Application Site. There is direct surface water hydrological connectivity between the Application Site and these two Natura 2000 sites, via the Knappagh watercourse.

The Application Site is located within an urban area, and in its close vicinity is surrounded by residential and industrial buildings, interspersed with some amenity green areas. In the wider surrounding area, land use is predominantly urban to the east, and agricultural to the south and west.

3.3.1. Surface and Groundwater

The Application Site is located within the Sligo Bay catchment (Id 35) and the Carrowgobbadagh_010 sub-catchment (Id 35_1).

There is a short watercourse which runs alongside the borders of the Application Site, which is identified by the EPA as the KNAPPAGH (Sligo)_010 (IE_WE_35K420630). The water quality status of this river waterbody (2016-2021) is Good.

This watercourse empties into the Garavogue Estuary (IE_WE_470_0100). The water quality status of this transitional waterbody (2016-2021) is Moderate.

The underlying groundwater body is Drumcliff-Strandhill (IE_WE_G_0044) Drumcliff-Strandhill. The water quality status of this groundwater body (2016-2021) is Good. The groundwater vulnerability in this area is High ("Groundwater here has natural characteristics that make it highly vulnerable to contamination by human activities").

3.3.2. Habitats

The Application Site comprises a mosaic of habitat types including mixed broadleaved woodland, scrub, grassland, bare ground and artificial surfaces, as well as several man-made structures. No Annex I habitats were recorded within the Application Site Boundary.

A broadleaved woodland (WD1) strip runs along the western section of the Application Site, dominated by various willow species, primarily goat willow (*Salix caprea*) and eared willow (*Salix aurita*), with an average canopy height of approximately 5 m. Downy birch (*Betula pubescens*) was occasionally present.

In the southern portion of the woodland, ground flora diversity was generally low and dominated by ivy (*Hedera helix*) and sycamore saplings (*Acer pseudoplatanus*). The northern portion supported a more diverse understory, still dominated by ivy and sycamore saplings, but also including hawthorn (*Crataegus monogyna*), and some saplings of ash (*Fraxinus excelsior*) and rowan (*Sorbus aucuparia*). Ground flora in this area included species such as dandelion (*Taraxacum officinale*), wild strawberry (*Fragaria vesca*), meadow buttercup (*Ranunculus acris*), and a moderately dense bryophyte layer dominated by red-stemmed feathermoss (*Pleurozium schreberi*). There were several large stands of butterfly-bush (*Buddleja davidii*).

In the centre of the Application Site there is an area covered by artificial surface (BL3) transitioning into areas of recolonising bare ground (ED3). Vegetation here includes ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), and dandelion, with occasional willow saplings.

This recolonising bare ground occurs in a mosaic with areas of grassland which are likely to have been previously managed as amenity grassland, now undergoing natural succession and showing some increased diversity and characteristics of neutral semi-natural grassland (GS1). The dominant grass species is Yorkshire fog (*Holcus lanatus*), with frequent herbs such as ribwort plantain and white clover. Other occasional species include oxeye daisy (*Leucanthemum vulgare*), and bird's-foot trefoil (*Lotus corniculatus*). The bryophyte layer is moderately well-developed, mostly comprised of pointed spear-moss (*Calliergonella cuspidata*).

Areas of mixed scrub (WS1) throughout the Application Site are dominated by bramble (*Rubus fruticosus*) and willow, alongside dog rose (*Rosa canina*), hawthorn, sycamore sapling, broad-leaved dock (*Rumex obtusifolius*) and hogweed (*Heracleum sphondylium*).

A large ditch (FW4) was observed at the north end of the Application Site. The ditch contained water but showed no visible flow at the time of the survey. However, this feature is marked on the river network maps provided by the EPA, and identified as part of the Knappagh river, which flows west towards Cummeen Strand. The ditch was mostly unvegetated, with marsh marigold (*Caltha palustris)* being the only frequent species found along the margins. There was a significant amount of large and small litter and debris.

There are multiple buildings and man-made structures (BL3) throughout the Application Site, which are not currently in use and are in significantly degraded condition.

3.3.3. Invasive Non-Native Species (INNS)

Two medium-impact INNS were recorded on site during the field survey: sycamore (*Acer pseudoplatanus*) and butterfly-bush (*Buddleja davidii*). There are no previous records of other INNS on the Application Site according to the NBDC's National Invasive Species Database.

Since no high-impact or Third Schedule INNS were recorded, it is not expected that there will be any LSE in relation to the spread of INNS on to nearby Natura 2000 sites

4. APPROPRIATE ASSESSMENT SCREENING

4.1. Zone of Influence

This section identifies and examines the Natura 2000 sites which might be directly or indirectly affected by the Proposed Development.

Figure 4 shows all the Natura 2000 sites within the ZoI of the Proposed Development. As recommended by DEHLG guidance (2010), the ZoI includes all Natura 2000 sites within a 15 km radius of the Application Site, as well as any which have a potential direct or indirect connectivity via surface water, groundwater, or other ecological connectivity. This connectivity was investigated using the S-P-R model, as described in **Section 2** of this report.

Detailed information for each Natura 2000 site is listed on **Table 1.**

4.2. Assessment of Likely Significant Effects

Each Natura 2000 site was assessed to determine potential interactions with the Proposed Development. The screening assessment was undertaken with consideration of the receiving environment description, connectivity and QIs/SCIs to identify potential impacts.

Table 1 details the potential S-P-R connectivity and LSE arising from the Proposed Development on each Natura 2000 site, having into account each site's QIs/SCIs and characteristics.

As shown in **Table 1**, a hydrological connection was identified between the Proposed Development and two Natura 2000 sites: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. This surface water connection via the Knappagh is illustrated in **Figure 5.**

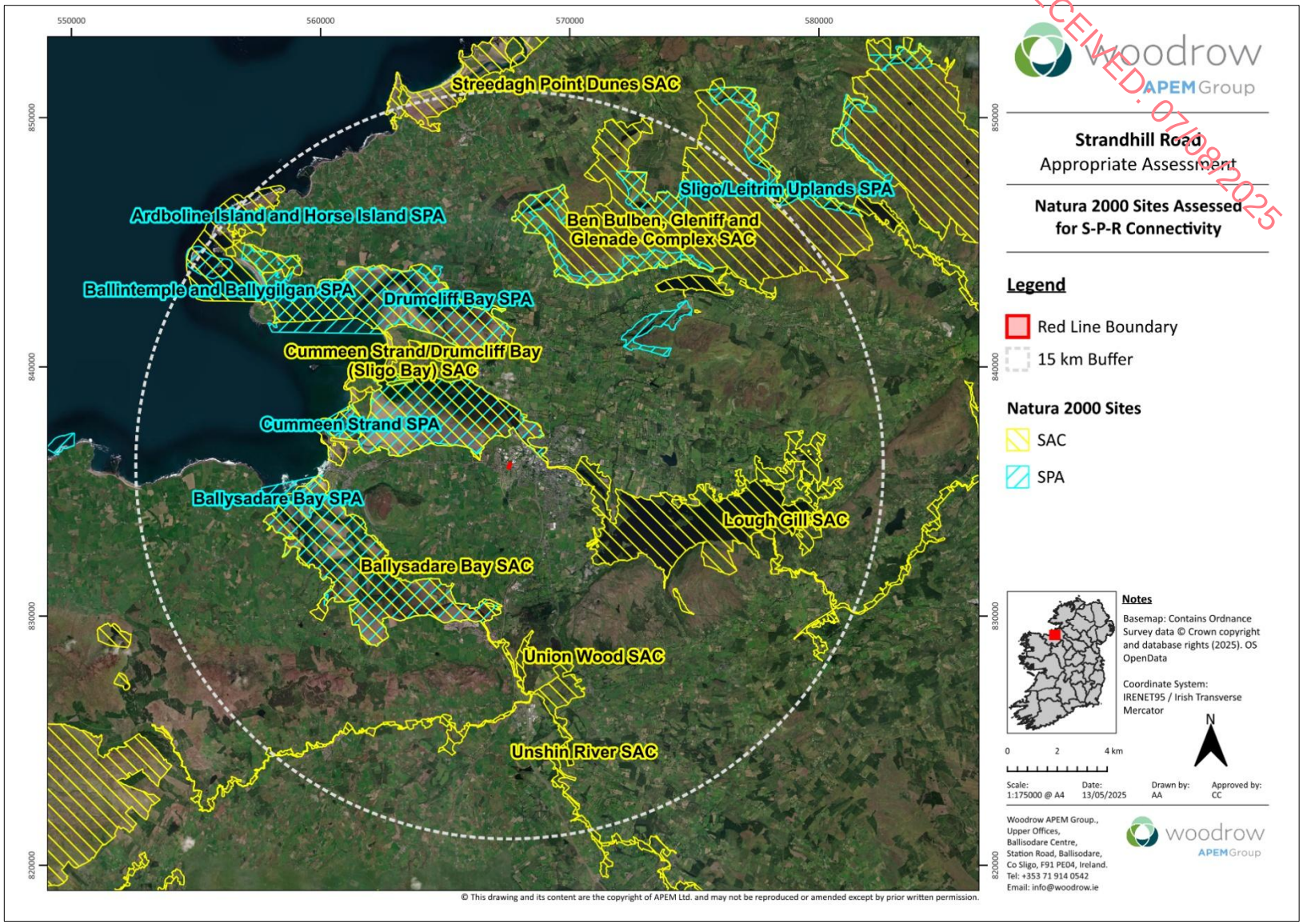

Figure 4 – Natura 2000 sites within the Zone of Influence of the Proposed Development

Table 1 - Natura 2000 sites within the ZoI of the Proposed Development

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
Special Areas of Conservation (SAC)					
Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627)	[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 coastal dunes with herbaceous vegetation (grey dunes) [5130] *Juniperus communis* formations on heaths or calcareous grasslands [7220] Petrifying springs with tufa formation (Cratoneurion) [1014] Marsh Snail (*Vertigo angustior*) [1095] Sea lamprey (*Petromyzon marinus*) [1099] River lamprey (*Lampetra fluviatilis*) [1365] Harbour seal (*Phoca vitulina*)	1 km to the northeast	Yes. There is surface water hydrological connectivity between the Application Site and this SAC, via the Knappagh, which flows along the east and north of the Application Site and into the SAC. The Application Site is 1.3 km upstream of the SAC.	The identified hydrological connection provides a pathway for water quality effects to reach this SAC during the construction or operational phase, through an increase in suspended sediments and/or accidental pollution spill. Thus, it cannot be ruled out that there will be LSEs impacting this SAC.	**Yes**
Lough Gill SAC (001976)	[1092] White-clawed crayfish (*Austropotamobius pallipes*) [1095] Sea lamprey (*Petromyzon marinus*) [1096] Brook lamprey (*Lampetra planeri*) [1099] River lamprey (*Lampetra fluviatilis*)	1.5 km to the east	There is no surface water connectivity between the Application Site and this SAC. This SAC does not share a groundwater body connection with the Application Site.	There are no LSE within this SAC as a result of the Proposed Development.	No

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
	[1106] Salmon (*Salmo salar*) [1355] Otter (*Lutra lutra*)		There is no S-P-R connectivity between the Application Site and this SAC.		
Ballysadare Bay SAC (000622)	[1130] Estuaries [1140] Mudflats and sandflats not covered by seawater at low tide [1365] Harbour seal (*Phoca vitulina*) [2110] Embryonic shifting dunes [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2190] Humid dune slacks [1014] Narrow-mouthed snail (*Vertigo angustior*)	5.2 km to the Southwest	There is no surface water hydrological connectivity between the Application Site and this SAC. There is a potential groundwater connection between the Application Site and this SAC (Drumcliff-Strandhill groundwater body)	Due to the distance, large dilution factor, and scale of the Proposed Development, there are no LSE expected from the groundwater connection.	No
Unshin River SAC (001898)	[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 calcareous substrates (Festuco-Brometalia) (important orchid sites) [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	6.4 km to the south	There is no surface water connectivity between the Application Site and this SAC. This SAC does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SAC.	There are no LSE within this SAC as a result of the Proposed Development.	No

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
	[91E0] Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) [1106] Salmon (*Salmo salar*) [1355] Otter (*Lutra lutra*)				
Union Wood SAC (000638)	[91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	6.6 km to the south	There is no surface water connectivity between the Application Site and this SAC. This SAC does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SAC.	There are no LSE within this SAC as a result of the Proposed Development.	No
Ben Bulben, Gleniff and Glenade Complex SAC (000623)	[3260] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [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 substrates	7.6 km to the northeast	There is no surface water hydrological connectivity between the Application Site and this SAC. There is a potential groundwater connection between the Application Site and this SAC (Drumcliff-Strandhill groundwater body)	Due to the distance, large dilution factor, and scale of the Proposed Development, there are no LSE expected from the groundwater connection.	No

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
	(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 [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) [8120] Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii) [8210] Calcareous rocky slopes with chasmophytic vegetation				
Streedagh Point Dunes SAC (001680)	[1140] Mudflats and sandflats not covered by seawater at low tide [1220] Perennial vegetation of stony banks	13.6 km to the northwest	There is no surface water connectivity between the Application Site and this SAC.	There are no LSE within this SAC as a result of the Proposed Development.	No

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
	[1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1410] Mediterranean salt meadows (Juncetalia maritimi) [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) [1014] Narrow-mouthed whorl snail (*Vertigo angustior*)		This SAC does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SAC.		
Special Protection Areas (SPA)					
Cummeen Strand SPA (004035)	[A046] Light-bellied brent goose (*Branta bernicla hrota*) [A130] Oystercatcher (*Haematopus ostralegus*) [A162] Redshank (*Tringa totanus*) [A999] Wetlands and waterbirds	1 km to the northeast	Yes. There is surface water hydrological connectivity between the Application Site and this SPA, via the Knappagh, which flows along the East and North of the Application Site and into the SPA. The Application Site is 1.3 km upstream of the SPA.	The identified hydrological connection provides a pathway for water quality effects to reach this SPA during the construction or operational phase, through an increase in suspended sediments and/or accidental pollution spill. There is potential for disturbance impacts due to the proximity to the habitats used by the SCI species. Thus, it cannot be ruled out that there will be LSEs impacting this SPA.	**Yes**

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
Drumcliff Bay SPA (004013)	[A144] Sanderling (*Calidris alba*) [A157] Bar-tailed godwit (*Limosa lapponica*) [A999] Wetlands and waterbirds	4.7 km to the north	There is no surface water connectivity between the Application Site and this SPA. This SPA does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SPA.	There are no LSE within this SPA as a result of the Proposed Development.	No
Ballysadare Bay SPA (004129)	[A046] Light-bellied brent goose (*Branta bernicla hrota*) [A141] Grey plover (*Pluvialis squatarola*) [A149] Dunlin (*Calidris alpina alpina*) [A157] Bar-tailed godwit (*Limosa lapponica*) [A162] Redshank (*Tringa totanus*) [A999] Wetlands and waterbirds	5.2 km to the south	There is no surface water hydrological connectivity between the Application Site and this SPA. There is a potential groundwater connection between the Application Site and this SPA (Drumcliff-Strandhill groundwater body).	Due to the distance, large dilution factor, and scale of the Proposed Development, there are no LSE expected from the groundwater connection.	
Sligo / Leitrim Uplands SPA (004187)	[A103] Peregrine (*Falco peregrinus*) [A346] Chough (*Pyrrhocorax pyrrhocorax*)	6.5 km to the northeast	There is no surface water hydrological connectivity between the Application Site and this SPA. There is a potential groundwater connection between the Application Site and this SPA	Due to the distance, large dilution factor, and scale of the Proposed Development, there are no LSE expected from the groundwater connection.	

Natura 2000 Site Name and Code	Qualifying Interest (QI) or Special Conservation Interest (SCI) Features * = Priority Habitats	Direct Distance from the Application Site	Source-Pathway-Receptor Connectivity	Likely Significant Effects	Screened in
			(Drumcliff-Strandhill groundwater body).		
Ballintemple and Ballygilgan SPA (004234)	[A045] Barnacle goose (*Branta leucopsis*)	7.8 km to the northwest	There is no surface water connectivity between the Application Site and this SPA. This SPA does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SPA.	There are no LSE within this SPA as a result of the Proposed Development.	No
Ardboline Island and Horse Island SPA (004135)	[A017] Cormorant (*Phalacrocorax carbo*) [A045] Barnacle goose (*Branta leucopsis*)	13.7 km to the northwest	There is no surface water connectivity between the Application Site and this SPA. This SPA does not share a groundwater body connection with the Application Site. There is no S-P-R connectivity between the Application Site and this SPA.	There are no LSE within this SPA as a result of the Proposed Development.	No

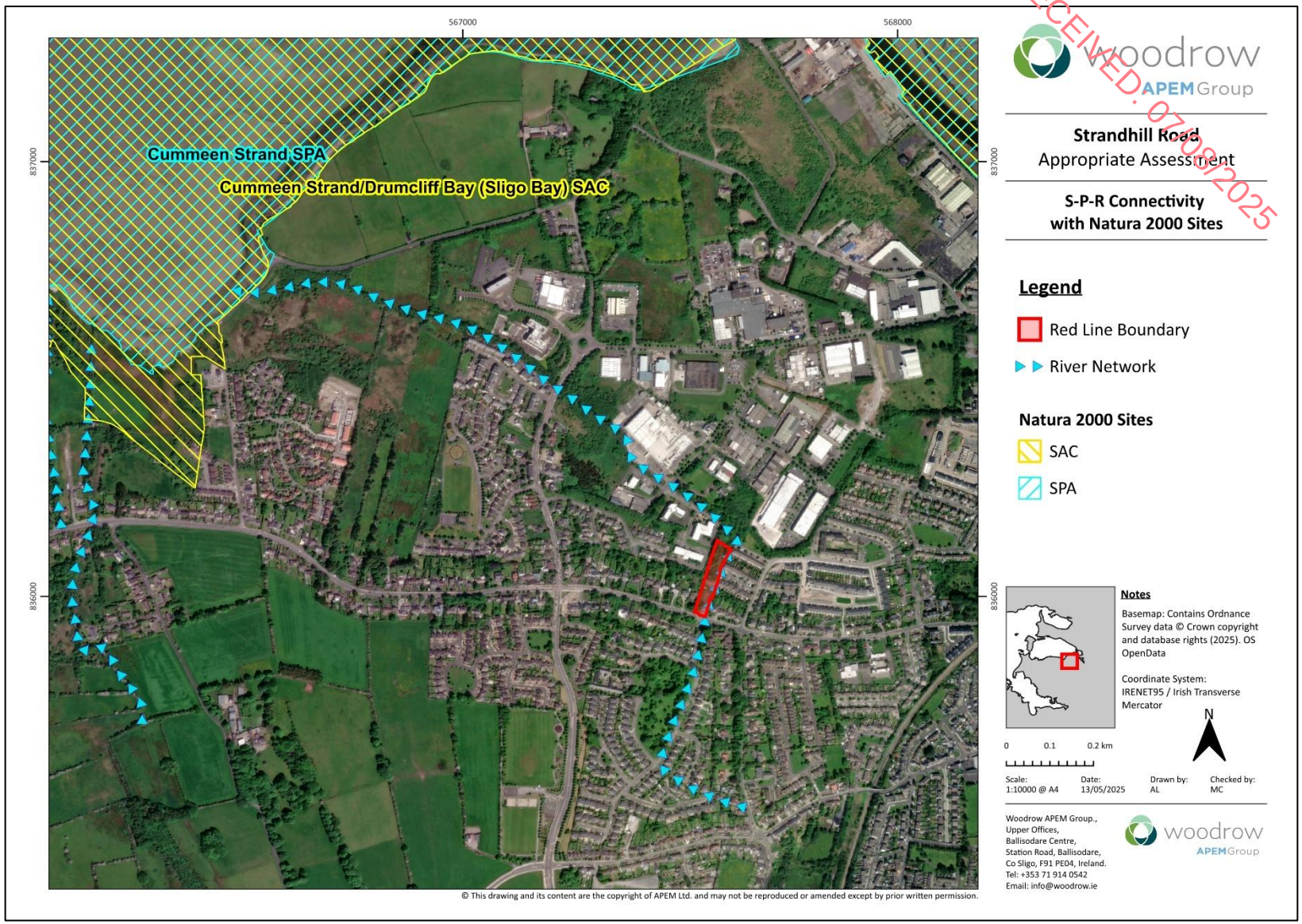

Figure 5 – Hydrological surface water connectivity between the Proposed Development and Natura 2000 sites

5. CONCLUSIONS OF SCREENING FOR APPROPRIATE ASSESSMENT

In accordance with Article 6(3) of the Habitats Directive, this AA Screening report has examined the details of the Proposed Development and the relevant Natura 2000 sites.

The Proposed Development is not associated with or necessary for the management of any Natura 2000 site.

There is no predicted direct loss or destruction of habitat associated with a Natura 2000 site, as there is no overlap between those and the Application Site.

At its closest point, the Application Site is situated approximately 1 km south of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. Additionally, the Application Site is hydrologically connected with these two Natura 2000 sites via surface water through the Knappagh. This provides a pathway for adverse water quality effects to reach these Natura 2000 sites during the construction or operational phase of the Proposed Development through an increase in suspended sediments or accidental pollution events. Additionally, potential disturbance effects associated with construction could not be ruled out at this stage.

Therefore, based on the best scientific information, this report has provided information to determine that LSEs cannot be ruled out for the following Natura 2000 sites:

- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (000627)
- Cummeen Strand SPA (004035)

In line with the recommendations of guidance and case law, it is considered that the Proposed Development must progress to Stage 2 of the AA process, the preparation of a Natura Impact Statement, to determine if the proposed project will adversely affect the integrity of the qualifying interests of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC or Cummeen Strand SPA.

6. NATURA IMPACT STATEMENT

6.1. Identification of Potential Effects

The AA screening, using the ZoI approach and S-P-R model, could not rule out LSE on two Natura 2000 sites. Where potential for LSEs on a Nature 2000 site has been identified, there is a requirement to consider whether those effects will adversely affect the integrity of the Natura 2000 site in view of its COs. Detailed information for the following Natura 2000 sites is presented within this section, including their COs, main pressures and threats, and assessment of effects for each QI.

- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]
- Cummeen Strand SPA [004035]

There were two main types of LSE identified during the AA Screening:

- Adverse water quality impacts – the existing surface water connection provides a pathway for adverse water quality effects to reach the Natura 2000 sites during the construction or operational phase of the Proposed Development through an increase in suspended sediments or accidental pollution events.
- Potential disturbance impact on avian species arising from construction works.

6.2. Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

At its closest point, the SAC is approximately 1 km north-east of the Application Site and approximately 1.3 km downstream of the Application Site with hydrological connectivity via the Knappagh. This is a large coastal site which encompasses two large shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. It covers a wide variety of habitats including estuarine habitats, sand dunes, grasslands, saltmarsh, sandy beaches, and rocky sea cliffs. It is a site of high conservation value due to the many Annex I habitats and Annex II species present, as well as important populations of waterfowl and seabirds, and several rare plant species. The QIs for this SAC are listed below and will be individually assessed in the following sections:

- [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 coastal dunes with herbaceous vegetation (grey dunes)
- [5130] *Juniperus communis* formations on heaths or calcareous grasslands
- [7220] Petrifying springs with tufa formation (Cratoneurion)
- [1014] Marsh Snail (*Vertigo angustior*)
- [1095] Sea lamprey (*Petromyzon marinus*)
- [1099] River lamprey (*Lampetra fluviatilis*)
- [1365] Harbour seal (*Phoca vitulina*)

The main pressures affecting Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (NPWS n.d. a) are:

- G02.01 Golf course
- G01.02 Walking, horse-riding and non-motorised vehicles
- A02.01 Agricultural intensification
- J02.11.01 Polderisation
- I01 Invasive non-native species
- D03.01 Port areas
- G05.01 Trampling, overuse
- E01.03 Dispersed habitation
- E03.03 Disposal of inert materials
- J01.01 Burning down
- G01.03.02 Off-road motorized driving
- J02.12.01 Sea defence or coast protection works, tidal barrages
- G02.08 Camping and caravans
- F01.01 Intensive fish farming, intensification
- D03 Shipping lanes, ports, marine constructions
- G02.09 Wildlife watching

6.2.1. [1130] Estuaries

6.2.1.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex I habitat type [1130] Estuaries in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes.
- **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.
- **Community structure: *Mytilus edulis*:** 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.

6.2.1.2. Main Pressures

- F20 Residential or recreational activities and structures generating marine pollution.
- A28 Agricultural activities generation marine pollution.
- G16 Marine aquaculture generating marine pollution.

6.2.1.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The COs for this QI as listed above include the conservation of species and communities which rely on the maintenance on water quality close to natural conditions.

The main pressures identified for this QI at national level relate to aquatic pollution of various sources.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.2.2. [1140] Mudflats and sandflats not covered by seawater at low tide

6.2.2.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex I habitat type [1140] Mudflats and sandflats not covered by seawater at low tide in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat Area**: The permanent habitat area is stable or increasing, subject to natural processes.
- **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.
- **Community structure: *Mytilus edulis***: 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 crustaceans and *Scololepis (Scololepis) squamata* community complex; Fine sand with *Angulus* spp. and *Nephtys* spp. community complex.

6.2.2.2. Main Pressures

- F20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution.
- A28 Agricultural activities generation marine pollution.
- G16 Marine aquaculture generating marine pollution.

6.2.2.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The COs for this QI, as listed above, include the conservation of species and communities which rely on the maintenance on water quality close to natural conditions.

The main pressures identified for this QI at national level relate to aquatic pollution of various sources.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.2.3. [2110] Embryonic shifting dunes

6.2.3.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex I habitat type [2110] Embryonic shifting dunes in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat Area**: Area stable or increasing, subject to natural processes including erosion and succession.
- **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 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 sub-communities** : 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.

6.2.3.2. Main Pressures

- F07 Sports, tourism and leisure activities.
- F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures)
- L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)
- C01 Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell)
- E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging)
- F01 Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)
- F06 Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning
- L02 Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)

6.2.3.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 6 km west of the Application Site and approximately 6 km downstream of the Application Site with hydrological connectivity via the Knappagh. There is, however, a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of this QI.

The COs for this QI, as listed above, are concerned with the structure and composition of particular coastal vegetative communities which are terrestrial in nature.

The main pressures identified for this QI at national level relate to tourism, land use, infrastructure, mineral extraction and natural abiotic processes. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on Embryonic shifting dunes within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.4. [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

6.2.4.1. Conservation Objectives

The COs are to restore the favourable conservation condition of Annex I habitat type [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat Area**: Area increasing, subject to natural processes including erosion and succession
- **Habitat distribution**: No decline, or change in habitat distribution, subject to natural processes, 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 (i.e. green plant parts above ground and flowering heads present)
- **Vegetation composition: typical species and sub-communities**: Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*)
- **Vegetation composition: negative indicator species:** Negative indicator species (including non-native species) to represent less than 5% cover.

6.2.4.2. Main Pressures

- F07 Sports, tourism and leisure activities
- F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures)
- L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)
- E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)
- E03 (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging)
- F01 Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)
- F06 Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning
- I02 Other invasive alien species (other than species of Union Concern)

6.2.4.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 6 km west of the Application Site and approximately 6 km downstream of the Application Site with hydrological connectivity via the Knappagh. There is, however, a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of this QI.

The COs for this QI, as listed above, are concerned with the structure and composition of particular coastal vegetative communities which are terrestrial in nature.

The main pressures identified for this QI at national level relate to tourism, land use, infrastructure, invasive species and natural abiotic processes. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.5. [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes)

6.2.5.1. Conservation Objectives

The COs are to restore the favourable conservation condition of Annex I habitat type [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat Area**: Area increasing, subject to natural processes including erosion and succession
- **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 sub-communities: 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
- **Vegetation composition: scrub/trees**: No more than 5% cover or under control

6.2.5.2. Main Pressures

- A10 Extensive grazing or undergrazing by livestock
- I02 Problems related to invasive alien species other than those covered by EU Regulation 1143/2014
- A02 Conversion from one type of agricultural land use to another (excluding drainage and burning)
- A09 Intensive grazing or overgrazing by livestock
- F07 Sports, tourism and leisure activities
- F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures)
- L02 Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)

6.2.5.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 6 km west of the Application Site and approximately 6 km downstream of the Application Site with hydrological connectivity via the Knappagh. There is, however, a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of this QI.

The COs for this QI, as listed above, are concerned with the structure and composition of particular coastal vegetative communities which are terrestrial in nature.

The main pressures identified for this QI at national level relate to inappropriate agricultural management, tourism, coastline modification, infrastructure and natural abiotic processes. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on Fixed coastal dunes with herbaceous vegetation (grey dunes) within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.6. [5130] *Juniperus communis* formations on heaths or calcareous grasslands

6.2.6.1. Conservation Objectives

The COs are to restore the favourable conservation condition of Annex I habitat type [5130] *Juniperus communis* formations on heaths or calcareous grasslands in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Formation area**: Area stable or increasing, subject to natural processes.
- **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

6.2.6.2. Main Pressures

No pressures were identified as being of high or medium importance nationally.

6.2.6.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 6.1 km northwest of the Application Site and approximately 7.5 km downstream of the Application Site with hydrological connectivity via the Knappagh. There is, however, a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of this QI.

The COs for this QI, as listed above, are concerned with the structure and composition of the vegetation formation, which is terrestrial in nature.

There were no significant pressures identified at national level for this habitat. Occasionally it can be impacted by overgrazing and scrub removal. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on *Juniperus communis* formations on heaths or calcareous grasslands within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.7. [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)

6.2.7.1. Conservation Objectives

The COs are to restore the favourable conservation condition of Annex I habitat type [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat area**: Area stable or increasing, subject to natural processes.
- **Habitat distribution:** No decline, subject to natural processes.
- **Vegetation composition: positive indicator species:** At least seven positive indicator species present in monitoring stop or, if five to six 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: non-native 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

6.2.7.2. Main Pressures

- A02 Conversion from one type of agricultural land use to another
- A10 Extensive grazing or undergrazing by livestock
- C01 Extraction of minerals
- A09 Intensive grazing or overgrazing by livestock
- I02 Other invasive alien species
- I04 Problematic native species

6.2.7.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 5.2 km northwest km west of the Application Site. This is a terrestrial habitat which does not have hydrological connectivity with the Application Site.

The COs for this QI, as listed above, are concerned with the structure and composition of the vegetative community, which is terrestrial in nature.

The main pressures identified for this QI at national level relate to changes in agricultural management, mineral extraction and invasive species. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.8. [7220] Petrifying springs with tufa formation (Cratoneurion)

6.2.8.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex I habitat type [7220] Petrifying springs with tufa formation (Cratoneurion) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Habitat area**: Area stable or increasing, subject to natural processes.
- **Habitat distribution**: No decline, subject to natural processes.
- **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.

6.2.8.2. Main Pressures

- A06 Abandonment of grassland management (e.g. cessation of grazing of mowing)
- A10 Extensive grazing or undergrazing by livestock
- E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)
- F07 Sports, tourism and leisure activities
- J01 Mixed source pollution to surface and ground waters (limnic and terrestrial)
- K02 Drainage
- K04 Modification of hydrological flow

6.2.8.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this QI can be found approximately 2.9 km north west of the Application Site and approximately 3.6 km downstream of the Application Site with hydrological connectivity via the Knappagh. There is a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of this QI.

The COs for this QI as listed above include the maintenance of water quality conditions, as well as hydrological regime and vegetation composition.

The main pressures identified for this QI at national level include inappropriate management, tourism, changes to flow, and aquatic pollution of various sources.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.2.9. [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*)

6.2.9.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II species [1014] Narrow-mouthed Whorl Snail (*Vertigo angustior*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Distribution: occupied sites**: No decline.
- **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 (minimum 5 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
- **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 suboptimal

6.2.9.2. Main Pressures

- A06 Abandonment of grassland management (e.g. cessation of grazing or of mowing)
- A10 Extensive grazing or undergrazing by livestock
- F07 Sports, tourism and leisure activities
- F05 Creation or development of sports, tourism and leisure infrastructure (outside the urban or recreational areas)

6.2.9.3. Assessment of Effects

According to the habitat distribution as mapped in the COs document, at its closest point this species can be found approximately 6.7 km west of the Application Site. This is a terrestrial species that uses coastal habitats such as dunes and grasslands. There is potential hydrological connectivity between the Application Site and some of this species preferred habitats, via the Knappagh. There is, however, a large dilution factor to consider, as the Knappagh empties into the Garavogue Estuary, which sits between the Proposed Development and the closest occurrence of these habitats.

The COs for this QI, as listed above, are concerned with the quality and extent of this species' habitat.

The main pressures identified for this QI at national level include inappropriate grassland management, and human activities and infrastructure. Aquatic pollution or adverse water quality have not been identified as a major pressure on this QI.

Considering the above-mentioned factors, it is determined that the Proposed Development will not result in any adverse effects on Narrow-mouthed Whorl Snail within Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC.

6.2.10. [1095] Sea Lamprey (*Petromyzon marinus*)

6.2.10.1. Conservation Objectives

The COs are to restore the favourable conservation condition of Annex II species [1095] Sea Lamprey (*Petromyzon marinus*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following attribute and target:

- **Distribution: extent of anadromy**: No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa

6.2.10.2. Main Pressures

- D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure
- N03 Increases or changes in precipitation due to climate change
- A19 Application of natural fertilisers on agricultural land
- A20 Application of synthetic (mineral) fertilisers on agricultural land
- A31 Drainage for use as agricultural land
- G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations
- Xo Threats and pressures from outside the Member State

6.2.10.3. Assessment of Effects

According to the COs document, although it is not anticipated that there would be any suitable spawning habitat for this QI within the SAC. Migrating adults pass through the site when travelling to and from the Garavogue river.

Although the COs document does not specify the geographical distribution of the species within the SAC, it can be determined that, at its closest point, the habitat used by this QI can be found approximately 1.2 km west of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The COs for this QI as listed above are focused on ensuring there are no barriers to the migration of the species.

The main pressures identified for this QI at national level include anthropogenic infrastructure, pollution from the application of fertilisers and fish harvesting.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.2.11. [1099] River Lamprey (*Lampetra fluviatilis*)

6.2.11.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II species [1099] River Lamprey (*Lampetra fluviatilis)* in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following attribute and target:

- **Distribution: extent of anadromy**: No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa

6.2.11.2. Main Pressures

- D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure
- N03 Increases or changes in precipitation due to climate change
- A19 Application of natural fertilisers on agricultural land
- A20 Application of synthetic (mineral) fertilisers on agricultural land
- A31 Drainage for use as agricultural land
- E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging)

6.2.11.3. Assessment of Effects

According to the COs document, although it is not anticipated that there would be any suitable spawning habitat for this QI within the SAC, migrating adults pass through the site when travelling to and from the Garavogue river.

Knowing this, although the COs document does not specify the geographical distribution of the species within the SAC, it can be determined that, at its closest point, the habitat likely used by this QI can be found approximately 1.2 km west of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The COs for this QI as listed above are focused on ensuring there are no barriers to the migration of the species.

The main pressures identified for this QI at national level include anthropogenic infrastructure, pollution from the application of fertilisers and fish harvesting.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.2.12. [1365] Harbour Seal (*Phoca vitulina*)

6.2.12.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II species [1365] Harbour Seal (*Phoca vitulina*) in Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC, which is defined by the following list of attributes and targets:

- **Access to suitable habitat**: Species range within the site should not be restricted by artificial barriers to site use.
- **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.

6.2.12.2. Main Pressures

- C09 Geotechnical surveying
- G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species

6.2.12.3. Assessment of Effects

According to the COs document, at its closest point the habitat used by this QI species can be found approximately 1.2 km west of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The COs for this QI, as listed above, relate to the maintenance of habitat in natural condition.

The main pressures identified for this QI at national level relate to commercial and recreational anthropogenic activities.

Considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this QI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.3. Cummeen Strand SPA

At its closest point, the SPA is approximately 1 km north-east of the Application Site and approximately 1.3 km downstream of the Application Site with hydrological connectivity via the Knappgh. Cummeen Strand is a large shallow bay stretching from Sligo Town 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 extensive sand and mudflats support a diverse invertebrate fauna which provides an important food supply to many wintering waterfowl. This site supports an internationally important population of Light-bellied Brent goose. The SCIs for this SPA are listed below and will be individually assessed in the following sections:

- [A046] Light-bellied brent goose (*Branta bernicla hrota*)
- [A130] Oystercatcher (*Haematopus ostralegus*)
- [A162] Redshank (*Tringa totanus*)
- [A999] Wetlands and waterbirds

The main pressures affecting Cummeen Strand SPA (NPWS n.d. b) are:

- E02 Industrial or commercial areas
- D01.02 Roads, motorways
- H Pollution
- F01 Marine and Freshwater Aquaculture
- A08 Fertilisation
- E02 Industrial or commercial areas
- E01 Urbanised areas, human habitation
- D03.02 Shipping lanes
- J02.01.02 Reclamation of land from sea, estuary or marsh
- F02.03 Leisure fishing
- F02.03 Leisure fishing
- D03.02 Shipping lanes
- D01.02 Roads, motorways

6.3.1. [A046] Light-bellied Brent goose (*Branta bernicla hrota*)

6.3.1.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II bird species [A046] Light-bellied Brent Goose in Cummeen Strand SPA, which is defined by the following list of attributes and targets:

- **Population trend:** Long term population trend stable or increasing.
- **Distribution**: No significant decrease in the range, timing and intensity of use of areas by light-bellied brent goose, other than that occurring from natural patterns of variation.

6.3.1.2. Main Pressures

- G01 - Outdoor sports and leisure activities, recreational activities
- D02 - Utility and service lines
- C03 - Renewable abiotic energy use
- A02 - Modification of cultivation practices
- A11 - Agriculture activities not referred to above
- F01 - Marine and Freshwater Aquaculture
- G05 - Other human intrusions and disturbances
- 03 - Marine water pollution
- H07 - Other forms of pollution
- I01 - invasive non-native species
- J03 - Other ecosystem modifications

6.3.1.3. Assessment of Effects

The principal supporting habitat for this SCI within the SPA is intertidal mud and sand flats. At its closest point, this habitat type can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The main pressures identified for this SCI at national level relate to various types of anthropogenic activity and intrusion, including marine water pollution, and invasive species (Common cord-grass, *Spartina anglica*).

This genus has low to medium sensitivity to disturbance, and a buffer zone of 200 m is recommended to avoid disturbance (Goodship and Furness, 2022). This species has not been recorded within the Application Site. The habitat and vegetation composition present at the Application Site, in addition to its urban surroundings, make the site unsuitable for foraging by this species. For these reasons, there is not considered to be potential to cause disturbance impact on this species.

However, considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this SCI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.3.2. [A130] Oystercatcher (*Haematopus ostralegus*)

6.3.2.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II bird species [A130] Oystercatcher in Cummeen Strand SPA, which is defined by the following list of attributes and targets:

- **Population trend**: Long term population trend stable or increasing.
- **Distribution**: No significant decrease in the range, timing and intensity of use of areas by oystercatcher, other than that occurring from natural patterns of variation.

6.3.2.2. Main Pressures

- F02 - Fishing and harvesting aquatic ressources
- J02 - human induced changes in hydraulic conditions
- H03 - Marine water pollution
- G01 - Outdoor sports and leisure activities, recreational activities
- F01 - Marine and Freshwater Aquaculture
- C03 - Renewable abiotic energy use

6.3.2.3. Assessment of Effects

The principal supporting habitat for this SCI within the SPA is intertidal mud and sand flats. At its closest point, this habitat type can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The habitat and vegetation composition present at the Application Site, in addition to its urban surroundings, make it unsuitable for foraging by this species.

The main pressures identified for this SCI at national level relate to various types of anthropogenic activity and intrusion, including marine water pollution.

This species has medium sensitivity to disturbance, and a buffer zone of 300 m is recommended to avoid disturbance (Goodship and Furness, 2022). This species has not been recorded within the Application Site. The habitat and vegetation composition present at the Application Site, in addition to its urban surroundings, make it unsuitable for foraging by this species. For these reasons, there is not considered to be potential to cause disturbance impact on this species.

However, considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this SCI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.3.3. [A162] Redshank (*Tringa totanus*)

6.3.3.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of Annex II bird species [A162] Redshank in Cummeen Strand SPA, which is defined by the following list of attributes and targets:

- **Population trend**: Long term population trend stable or increasing.
- **Distribution**: No significant decrease in the range, timing and intensity of use of areas by redshank, other than that occurring from natural patterns of variation.

6.3.3.2. Main Pressures

- G01 - Outdoor sports and leisure activities, recreational activities
- M - medium importance
- C03 - Renewable abiotic energy use
- F01 - Marine and Freshwater Aquaculture
- F02 - Fishing and harvesting aquatic resources
- H03 - Marine water pollution
- J02 - Human induced changes in hydraulic conditions
- J 03 - Other ecosystem modifications

6.3.3.3. Assessment of Effects

The principal supporting habitat for this SCI within the SPA is intertidal mud and sand flats. At its closest point, this habitat type can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

The main pressures identified for this SCI at national level relate to various types of anthropogenic activity and intrusion, including marine water pollution.

This species has medium sensitivity to disturbance, and a buffer zone of 300 m is recommended to avoid disturbance (Goodship and Furness, 2022). This species has not been recorded within the Application Site. The habitat and vegetation composition present at the Application Site, in addition to its urban surroundings, make it unsuitable for foraging by this species. For these reasons, there is not considered to be potential to cause disturbance impact on this species.

However, considering the above-mentioned factors, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this SCI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.3.4. [A999] Wetlands and waterbirds

6.3.4.1. Conservation Objectives

The COs are to maintain the favourable conservation condition of wetland habitats in Cummeen Strand SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

- **Habitat area**: The permanent area occupied by the wetland habitat should be stable and not significantly less than 1732 hectares, other than that occurring from natural patterns of variation.

6.3.4.2. Assessment of Effects

At its closest point this SCI can be found approximately 1 km north-east of the Application Site and approximately 1.4 km downstream of the Application Site with hydrological connectivity via the Knappagh.

Considering existing connectivity and aquatic nature of this SCI, if no mitigation is implemented, there is potential for the Proposed Development to have an impact upon this SCI due to:

- Potential deterioration in water quality during works, arising from suspended sediment and deposition, or accidental pollution.

To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, as outlined in **Section 7**.

6.4. Summary of Potential Effects

The table below presents a summary of the results of the assessment of potential impacts, before and after mitigation.

Table 2 – Summary of potential effects

Natura 2000 Site and QIs/SCIs	Before mitigation	After mitigation
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC		
• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Petrifying springs with tufa formation (Cratoneurion) [7220] • Sea lamprey (*Petromyzon marinus*) [1095] • River lamprey (*Lampetra fluviatilis*) [1099] • Harbour seal (*Phoca vitulina*) [1365]	If no mitigation is implemented, there is potential for the Proposed Development to have an impact upon these QIs due to a potential deterioration in water quality arising from the works.	To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, which are outlined in **Section 7.** With full and correct implementation of these mitigation measures, there will be no adverse effects on these QIs.
• 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] • Marsh Snail (*Vertigo angustior*) [1014]	It is determined that the Proposed Development will not result in any adverse effects on these QIs.	
Cummeen Strand SPA [004035]		
• Light-bellied brent goose (*Branta bernicla hrota*) [A046] • Oystercatcher (*Haematopus ostralegus*) [A130] • Redshank (*Tringa totanus*) [A162] • Wetlands and waterbirds [A999]	If no mitigation is implemented, there is potential for the Proposed Development to have an impact upon these SCIs due to a potential deterioration in water quality arising from the works.	To mitigate these risks, it is required to implement suitable water quality mitigation measures during all phases of the Proposed Development, which are outlined in **Section 7.** With full and correct implementation of these mitigation measures, there will be no adverse effects on these SCIs.

7. MITIGATION MEASURES

In light of the information provided and assessed in the previous section, it is determined that, without proper mitigation, there is a risk for adverse water quality effects to impacts multiple QIs/SCIs. The following sections outline the mitigation measures to be implemented to mitigate any potential adverse negative effects during the construction, operation and decommissioning phase of the Proposed Development.

7.1. Construction Phase

7.1.1. Standard Best Practice

There are several standard best practice guidelines on working near water, and standard mitigation measures for controlling pollution and sediment from construction sites. The following measures will be implemented by the contractor to ensure the protection of downstream waters and habitats in Natura 2000 sites. The measures have been based on the following best practice guidelines to ensure that water bodies are adequately protected during construction work. These include the following documents:

- Construction Industry Research and Information Association (CIRIA), (2001). C532 Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- CIRIA, (2023). C811D Environmental Good Practice on Site Guide (5th ed)
- CIRIA, (2015). C753F The SUDS Manual.
- CIRIA, (2006). C648 Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006).
- CIRIA, (2006). C648 Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006).
- Inland Fisheries Ireland (IFI), (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Relevant mitigation measures from these documents are to be implemented to ensure there are no water quality impacts on Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. Specific emphasis should be placed on minimising and containing the level of silt/sediments, organic matter, hydrocarbons and concrete effluent on site.

7.1.2. Protection of downstream water quality

The contractor will be required to implement standard practice construction methods and mitigation measures for in-stream or near-stream works. The following measures are to be read and implemented in conjunction with the Construction Environmental Management Plan (CEMP) and Surface Water Management Plan:

- Maintain recommended buffer zones of 10 m from surface water features and 50 m from wells and boreholes, in order to mitigate impacts from tracks, foundations, borrow pits, and spoil.

    - Spoil will be stored in line with a spoil management plan, which is included as part of the detailed CEMP.

- For works occurring within 50 m of a watercourse, weather forecasts will be monitored prior to and during works to avoid working in adverse weather conditions such as heavy rains. No excavations are to take place during a yellow rain warning or higher issued by Met Éireann.
    - In the event of heavy rainfall, open excavations will be secured, and emergency drainage measures will be implemented to prevent water backup and pollution.
- It will be ensured that roadside drains do not discharge directly into watercourses, but rather through a riparian buffer area of intact vegetation as denoted on design drawings. All outflows from drainage associated with construction activities will be treated through temporary settlement ponds prior to release and will be released by diffuse overland drainage at appropriate locations.
- Silt traps and fencing will be placed in working areas that have the potential to carry silt-laden material from the working area to aquatic environments.
- Refuelling of machinery will take place in bunded enclosures, at a minimum of 10 m away from watercourses to prevent runoff into nearby watercourses. All machinery must carry an onboard spill kit in the event of an oil/fuel spill during all phases.
    - A complete mechanical check of all hoses and fluid reservoirs of machinery will be carried out by a competent member of the construction team before the machinery arrives at the site.
- To reduce the amount of silt-laden water to be treated, temporary cut-off drains will be created to divert water away from dirty water and construction areas. This will lessen the volume of water to be treated onsite.
- Deposition areas for spoil will be enclosed with silt fencing to prevent mobilisation of solids during adverse weather conditions and no drainage from these areas will be directed into the temporary drainage systems. A Sustainable Urban Drainage System (SUDS) will be implemented to allow controls to be designed for the retention of large volumes of water that may arise from spoil deposition areas.
- Re-seeding of all areas of bare ground or the placement of jute matting will take place as soon as practicable to prevent run-off.
- All onsite welfare facilities will be installed and managed as per regulations to prevent nutrient overloading of aquatic environments.

7.1.3. Measures specific to earthworks

- Earthworks and exposed areas/soil stockpiles will be re-vegetated to stabilise surfaces as soon as practicable, using appropriate native plant seed from a local source.
- Hessian, mulches or tackifiers will be used where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Vegetation removal and exposure of soils will be minimised as far as possible, with only areas being actively worked on being exposed, to minimise silt mobilisation.

7.2. Operational Phase

7.2.1. Mitigation to ensure protection of downstream water quality

The operational phase of the Proposed Development will generate surface water runoff and foul water, which, if not adequately managed, could result in the deterioration of water quality in the receiving Natura 2000 sites. To mitigate this, best practice control measures have been integrated into the design of the Proposed Development, as described within the Drainage Design Report.

7.3. Decommissioning Phase

The Proposed Development is considered to be permanent. No effects are anticipated to occur in association with decommissioning works.

7.4. Conclusion of Appropriate Assessment (Alone)

With the full correct implementation of the mitigation measures described in this section, it is concluded that the Proposed Development will not result in any adverse effect on the integrity of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA.

8. IN-COMBINATION EFFECTS

Article 6 of the EU Habitats Directive states that any plan or project that may, either alone or in combination with other plans or projects, significantly affect a Natura 2000 site should be the subject of an Appropriate Assessment. The assessment of in-combination effects is therefore an important part of the assessment process.

Table 3 below lists details for planning applications submitted in the last five years within a 1 km of the and which have been granted permission or are awaiting a decision from the planning authority.

Most of nearby proposed developments are small-scale projects consisting in alterations and extensions to single dwelling houses. Those which are larger than a single housing unit (highlighted orange in **Table 3**) have been identified and assessed for their potential to result in in-combination effects.

After assessing in-combination effects, given the nature and scale of the Proposed Development and neighbouring projects plans, and the mitigation measures to be put in place, it was determined that no new or cumulative impacts will result from the combination of the surrounding projects and the Proposed Development.

Table 3 – Planning applications submitted in the last five years within 1 km of the Application Site. Projects larger than one single dwelling house have been highlighted for assessment of in-combination impacts

Planning Reference	Description of development	Grant Date
2162	Development consisting of the construction of dwelling house and domestic garage and all associated siteworks at junction	12/08/2021
2198	Development consisting of the following (1) alterations to existing bungalow of 127.5 sq m (2) demolition of existing rear kitchen, utility, WC and external boiler room consisting of 15.5 sq m (3) provision of a new single-storey extension of 182 sqm, to side of existing bungalow (4) all necessary ancillary & site works to facilitate this development	23/07/2021
21108	Development consisting of the proposed alteration, demolition to part of, and extensions to existing dwelling and garage, and all associated site works and landscaping	24/06/2021
21331	Development consisting of the construction of 3 new dwelling units, comprising of; 2 no. 3 bedroom semi-detached houses and 1 no. 4 bedroom detached house, together with connection to existing public sewer system, works to site boundaries, and all other associated site works and services constructed in conjunction with previously approved planning application PL19/49	29/03/2023
21403	Development consisting of the construction of a 1722 sqm single storey extension to its existing factory premises to comprise the following: (a) re-location of existing storage area to the rear (south west) of the proposed extension which will also facilitate an increase in production floor space (b) the construction of a 278 sqm single storey enclosed service link corridor lean-to structure built along the north west elevation of the main building connecting the extension with the existing production spaces (c) 43 sqm extension to existing free standing ESB MV sub/switchroom block (d) extension to the rear (south west) concrete hardstanding, relocation of rear entrance and the provision of additional car parking and associated site services	11/01/2022
21406	PP - development consisting of the following: 1. Removal of existing small store and construction of a new three-bay extension to the rear of our existing factory for Assembly Area/Storage use (floor area - 487.7m2), 2. Connection to existing foul, storm and watermain services, 3. Provision of additional carparking, landscaping and all associated site works	08/04/2022
21473	PP - development consisting of change of use from warehouse to offices and clean room, floor area 1,080 sq.m. In existing factory. The development will include alterations to the north elevation to provide glazing	22/04/2022
21495	Development consisting of an extension and alterations to existing factory to provide a warehouse and store. Floor area of proposed extensions: 466sqm. Permission is sought for associated site works at good4u factory premises	31/03/2022
2212	Development consisting of the demolition of existing attached garage and garden shed. Construction of new garage and extension to existing dwelling house	14/04/2022
2236	Development consisting of (1) retention of an existing detached domestic garden shed to the rear of my property with a gross internal floor area of 35m2, (2) permission for the erection of a separate detached domestic shed to the rear of property with a gross internal floor area of 18 m2	14/10/2022
2267	Development consisting of the installation of external insulation and render, changes to front porch, changing and extending side porch and changing and extending rear of existing dwelling house incorporating a new balcony	20/05/2022
2292	Development consisting of first floor extension over garage, with conversion of ground floor garage to bedroom, with alterations to the façade consisting of at ground level extension of the low horizontal brick band and at first floor level a Flemish bond brick façade with	13/06/2022

Planning Reference	Description of development	Grant Date
	screening over front facing windows, brick façade continues to the side and rear, main roof to be extended, solar panels to front roof and all ancillary site works	
2299	Development consisting of rear single and two storey extension to existing dwelling	17/06/2022
22123	Development consisting of the conversion of attic to living accommodation and associated alterations to south and west elevations all to existing semi-detached dwelling	01/07/2022
2310	Development consisting of construction of a single storey extension to an existing dwelling and all ancillary works	28/04/2023
2360075	1. Planning permission for, a) Extension & renovation to existing house to include a small extension to the porch, additional floor area to the rear at ground level and a new bedroom at first floor level, b) The removal of the existing hipped roofs and construct new gable ended roofs, c) Elevational changes to all sides of the house, d) Demolition of small storage shed to the rear of the house, e) Widening of existing vehicular entrance to dwelling. 2. Retention permission of existing domestic shed. 3. And all associated site works at Saint Anthony, Knappagh Beg, Knappagh Road, Sligo, Co. Sligo, F91 R82K.	02/08/2023
2360177	Single storey side and rear extension to existing dwelling	16/10/2023
2438	Proposed extension to the rear of dwelling	26/11/2024
2460134	Conversion of attic to living accommodation and associated alterations to north, south and east elevations all to existing semi-detached dwelling	23/07/2024
2460135	Conversion of attic to living accommodation and associated alterations to north, south and west elevations all to existing semi-detached dwelling	23/07/2024
2460136	Conversion of attic to living accommodation and associated alterations to north, west and east elevations all to existing semi-detached dwelling	26/04/2024
2460171	Conversion of attic to living accommodation and associated alterations to north, south and east elevations all to existing semi-detached dwelling	06/08/2024
2460180	Development consisting of the following: alterations to the existing dwelling house, including new roof windows, gable windows and conversion of the attic space into living accommodation	19/08/2024
2460323	Retention of attic conversions to house numbers 9,10,11 & 12 inclusive with all associated works	17/12/2024
2560078	(1) Retention of existing side extension to existing dwelling house; and (2) Demolition of existing side extension to existing dwelling house; and (3) Retention of elevation changes to existing dwelling house consisting of an additional window to west side elevation; and (4) Permission for proposed extension to side and rear of existing dwelling house and proposed elevation changes to existing dwelling house consisting of a new window to west side elevation and a new window to east side elevation and all associated site works	20/05/2025

8.1. Conclusion of Appropriate Assessment (In-Combination)

Based on the analysis of in-combination effects, it is concluded that the Proposed Development, even in combination with other plans or projects, will not lead to any significant cumulative adverse effect any Natura 2000 site. This conclusion is based on the full correct implementation of effective mitigation measures across relevant projects.

9. CONCLUSION

This report has examined whether, in view of best scientific knowledge and applying the precautionary principle, the Proposed Development, either individually, or in combination with other plans or projects, may have an adverse effect on the integrity of Natura 2000 sites.

Two Natura 2000 sites were identified during the Appropriate Assessment Screening stage as having potential to be negatively impacted by the Proposed Development: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. As it was not possible to rule out LSE, it was determined that a Natura Impact Statement was required.

- Adverse water quality impacts – the existing surface water connection provides a pathway for adverse water quality effects to reach the Natura 2000 sites during the construction or operational phase of the Proposed Development through an increase in suspended sediments or accidental pollution events.
- Potential disturbance impact on avian species arising from construction works.

The potential impacts identified were for adverse effects on QIs/SCIs due to potential deterioration of water quality and potential disturbance impacts on avian species.

Having assessed the potential effects on the relevant QIs/SCIs, it was determined that there was no significant impact resulting from disturbance. However, it was found that, without mitigation, there would be a risk of water quality deterioration. Effective mitigation measures must be fully implemented as set out in **Section 7**, to address these potential impacts on Natura 2000 sites.

Provided that the mitigation and guidance referred to in this document is fully and correctly implemented, in view of best scientific knowledge and in view of the conservation objectives of the aforementioned Natura 2000 sites, the Proposed Development **will not have any adverse effects** on the integrity of any Natura 2000 sites, either alone or in-combination with other plans or projects.

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APPENDIX 1 – SITE PHOTOGRAPHS

Figure 6 - WD1 Mixed broadleaved woodland

Figure 7 - WD1 Mixed broadleaved woodland

Figure 8 - ED3 Recolonising bare ground

Figure 9 - GS1 Dry calcareous and neutral grassland

Figure 10 - WS1 Scrub

Figure 11 - WS1 Scrub

Figure 12 - FW4 Drainage ditch

Figure 13 - BL3 Buildings and artificial surfaces

Figure 14 - INNS Butterfly bush