SCREENING STATEMENT

in support of

Appropriate Assessment

for

Internal Works & Change in Activity at Abbvie Ireland, NL B.V Ballytivnan, Sligo

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prepared for

on behalf of

by

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JACOBS

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Table of Contents

1	INTR	ODUCTION	1
	1.1	BACKGROUND	
	1.2	LEGISLATIVE CONTEXT	
	1.3	GUIDANCE	
	1.4	Approach	3
	1.4.1	Stages of AA	3
	1.4.2	Desktop Studies	4
	1.4.3	Source-Pathway-Receptor Model	4
	1.4.4	Zone of Influence	4
2	DESC	RIPTION OF THE PROJECT	5
	2.1	EXISTING ABBVIE FACILITY & RECEIVING ENVIRONMENT	5
	2.2	PROPOSED DEVELOPMENT	
3	SCRE	ENING FOR APPROPRIATE ASSESSMENT	7
	3.1	INTRODUCTION TO SCREENING	7
		Background to Screening	7
	3.2	IDENTIFICATION OF RELEVANT EUROPEAN SITES	
		ner ner	
	A.C.C.F		40
4	ASSE	SSMENT CRITERIA	16
4	ASSE 4.1	Background to Screening IDENTIFICATION OF RELEVANT EUROPEAN SITES	16
4	ASSE 4.1 4.2	IS THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS	16 16
4	4.1	IS THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS	
4	4.1 4.2 4.3 <i>4.3.1</i>	IS THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	
4	4.1 4.2 4.3 <i>4.3.1</i> <i>4.3.2</i>	IS THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.)	
4	4.1 4.2 4.3 <i>4.3.1</i> <i>4.3.2</i> <i>4.3.3</i>	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air)	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements.	
4	4.1 4.2 4.3 <i>4.3.1</i> <i>4.3.2</i> <i>4.3.3</i> <i>4.3.4</i> <i>4.3.5</i>	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction Operation, Decommissioning	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction, Operation, Decommissioning Reduction of Habitat Area	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8 4.3.9	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction Operation, Decommissioning Reduction of Habitat Area Disturbance to Key Species Habitat or Species Fragmentation or Reduction in Species Density	
4	4.1 4.2 4.3 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8 4.3.9 4.3.1	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction Operation, Decommissioning Reduction of Habitat Area Disturbance to Key Species Habitat or Species Fragmentation or Reduction in Species Density Changes in Key Indicators of Conservation Value (Water Quality Etc.)	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8 4.3.9	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction, Operation, Decommissioning Reduction of Habitat Area Disturbance to Key Species Habitat or Species Fragmentation or Reduction in Species Density Changes in Key Indicators of Conservation Value (Water Quality Etc.)	
4	4.1 4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7 4.3.8 4.3.9 4.3.1 4.3.1	Is THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES? ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS Land Take Resource Requirements (Drinking Water Abstraction Etc.) Emissions (Disposal to Land, Water or Air) Excavation Requirements Transportation Requirements Duration of Construction Operation, Decommissioning Reduction of Habitat Area Disturbance to Key Species Habitat or Species Fragmentation or Reduction in Species Density Changes in Key Indicators of Conservation Value (Water Quality Etc.)	

List of Figures

FIGURE 2.1 HABITATS PRESENT ON SITE - FURTHER DETAIL CAN BE FOUND IN THE BIODIVERSITY CHAPTER OF THE ACCOMPANYIN	G
Environmental Impact Assessment	5
FIGURE 3.1 EUROPEAN SITES WITHIN THE 15KM ZOI OF THE PROJECT AREA	15
FIGURE 3.2 MAP OF RIVER SYSTEMS SURROUNDING THE ABBVIE FACILITY	15

List of Tables

TABLE 3.1 EUROPEAN SITES WITHIN THE 15 KM ZOI OF THE SITE.	9
TABLE 4.1 SCREENING ASSESSMENT OF EUROPEAN SITES WITH POTENTIAL PATHWAYS TO THE PROJECT BOUNDARY	20
TABLE 5.1 PLANS AND PROJECTS LIKELY TO CAUSE IN-COMBINATION EFFECTS	



INTRODUCTION 1

1.1 BACKGROUND

Environmental Impact Services has been engaged by Abbvie Ireland NL B.V (hereafter referred to as Abbvie) to prepare this screening statement in support of the Appropriate Assessment (AA) of a proposed Proposed Biopharmaceutical Manufacturing Facility Expansion and associated works in accordance with the requirements of Article 6(3) of EU Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive").

This screening statement considers the existing Abbvie facility in Ballytivnan County Sligo and the surrounding receiving environment. This information aims to contextualise the report and serves as baseline information to assess likely effects on surrounding European sites. The characteristics of the proposed project are examined to assess their dispersion potential and the interactions with ecological process. This is undertaken with specific focus on the ecological integrity of European sites.

This screening has been undertaken based on the design information available at this stage in the development of the proposal. It should be reviewed when final design information is available and before any planning application is made. If required it should be updated at that time to ensure that it is consistent with the final project details.

1.2 LEGISLATIVE CONTEXT

only any other use. An AA is a requirement of Article 6 of the Directive. The overall aim of the Directive is to maintain or restore the "Favourable Conservation Status" of mabitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds¹ Directives with Special Areas of Conservation and Special Protection Areas designated to afford protection to the most vulnerable of them. These two designations are collectively known as European sites.

European and national legislation places a collective obligation on Ireland and its citizens to maintain or restore habitats and species in the European sites at/to favourable status. The Government and its agencies are responsible for the implementation and enforcement of regulations (in particular Part XAB of the Planning and Development (Amendment) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477) (often referred to as the Habitats Regulations) to ensure the ecological integrity of these sites. AA is an assessment of whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a European site in view of the site's conservation objectives.

The Habitats Directive provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. In Ireland, these are candidate Special Areas of Conservation (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC), generally referred to as European sites hereafter.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites. Article 6(3) establishes the requirement for AA:

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

¹ Directive 2009/147/EC on the conservation of wild birds

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

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

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

These requirements are implemented in Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations consolidate 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 judgements of the Court of Justice of the European Onion (CJEU).

If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project may nevertheless be carried out for "*imperative reasons of overriding public interest*", including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of the network of European sites is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

AA should be based on best scientific knowledge and scientific data (ecological and hydrological expertise) should be utilised. This report provides a Screening Statement to inform the AA process which will be finalised by the competent authority.

1.3 GUIDANCE

This AA Screening Statement has been prepared in accordance with the following guidance:

- *AA of Plans and projects in Ireland. Guidance for Planning Authorities,* Department of the Environment, Heritage and Local Government, 2009
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2002.
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC:* European Commission, 2000.
- Assessment of Plans and projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC 2001);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest,

compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg (EC 2007).

In addition, a detailed online review of published scientific literature and 'grey' literature was conducted. This included a detailed review of the National Parks and Wildlife Service (NPWS) website including mapping and available reports for relevant sites and in particular sensitive qualifying interests/special conservation interests described and their conservation objectives. The EPA Envision Map-viewer (www.epa.ie) and available reports were also reviewed.

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC' (EC, 2000).

- The conservation status of a natural habitat is defined as the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species;
- The conservation status of a species is defined as the sum of the influences acting on the • species concerned that may affect the long-term distribution and abundance of its population;
- The integrity of a Natura 2000 site is defined as the coherence of the site's ecological ٠ structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified;
- Significant effect should be determined in relation to the specific features and environmental st Jr pro Pupose on to any other use. Net required for any other use. conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives.

1.4 APPROACH

1.4.1 Stages of AA

There are four main stages in the AA process the requirements for each depending on likely effects i copyright on European sites. For

Stage One: Screening

The process which identifies the likely effects upon a European site of a project or plan, either alone or in combination with other projects or plans and considers whether these effects are likely to be significant.

Stage Two: AA

The consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse effects, an assessment of the potential mitigation of those effects. If adequate mitigation is proposed to ensure no significant adverse effects on European sites, then the process may end at this stage. The report that detailed the considerations outlined above is known as a Natura Impact Statement (NIS). However, if the likelihood of significant effects remains, then the process must proceed to Stage 3.

Stage Three: Assessment of Alternative Solutions

The process which examines alternative ways of achieving the objectives of the project or plan that avoids adverse effects on the integrity of the European site.

Stage Four: Assessment where no alternative solutions exist and where adverse effects remain

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any effects on European sites by identifying possible effects early in the design process in order to avoid such effects. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse effects on the site(s) remain. If such adverse effects cannot be avoided, no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effects.

1.4.2 Desktop Studies

An ecological desktop study was completed to support the AA of the project comprising the following elements:

- Identification of European sites within an appropriate zone of influence (ref section 3.2);
- Review of the NPWS site synopses and conservation objectives for European sites with identification of potential pathways from the proposed development; and
- A series of ecological desk studies were undertaken in April 2018. These included but were not limited to the collation of information on protected species including bats, otters, bird species (including Annex I species), Annex II habitat types, protected and Red Data Book Flora species, invertebrates and amphibians. The results of these studies are included as part of the AA where they were deemed relevant to the European sites and their qualifying interests (QIs) / Special Conservation Interest (SCIs).

1.4.3 Source-Pathway-Receptor Model

Ecological impact assessment of potential effects on European sites is conducted following a standard source-pathway-receptor model, where, in order for an impact to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) e.g. pollutant run-off from proposed works.
- Pathway(s) e.g. groundwater connecting to nearby qualifying wetland habitats.
- Receptor(s) qualifying aquatic habitats and species of European sites.

For the purposes of this report, receptors are the ecological features which are known to be utilised by the qualifying interests or special conservation interests of a European site. A source is any identifiable element of the project which is known to have interactions with ecological processes. The pathways are any connections or links between the source and the receptor. This report determines if direct, indirect and in combination adverse effects (however minor) will arise from the proposed development.

1.4.4 Zone of Influence

Following the source-pathway-receptor model, a Zone of Influence (ZOI) is determined based on the characteristics of the development (detailed in Section 2.2) and the foreseen distribution of likely effects through any pathways identified. Once the ZOI is established, all European sites within it are assessed with specific reference to the sensitive receptors of each site and pathways that relate to the ecological integrity of the site.

2 DESCRIPTION OF THE PROJECT

2.1 EXISTING ABBVIE FACILITY & RECEIVING ENVIRONMENT

The existing Abbvie facility is an operational medical device manufacturing plant. The site sits to the north of Sligo town, on the edge of the urban sprawl area. It lies less that 200m west of the N15 and is bordered by agricultural fields and residential properties. The surrounding area north of the site is dominated by agricultural lands. The Willsborough Stream (35W01) flows westward, at the northern corner of the site; the Shannon Eighter Stream (35S29) flows southward along the east of the site and joins the Willsborough Steam just before entering Sligo Bay.

None of the habitats on the site were found to contain Annex I type features; additionally, all of the habitats present on site were of low ecological importance at both landscape and local scales. Habitats recorded on site include Buildings and Artificial Surfaces (BL3), Re-colonised Bare Ground (ED3), Hedgerows (WL1), Agricultural Grassland and Amenity Grassland (GA2); a full habitat map can be found in Figure 2.1. There were no species identified on site which are invasive and subject to restrictions (Third Schedule) under Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011. There were no significant habitats found directly adjacent to the site. Refer to Appendix 6.3 for further detail on habitat characteristics and descriptions.

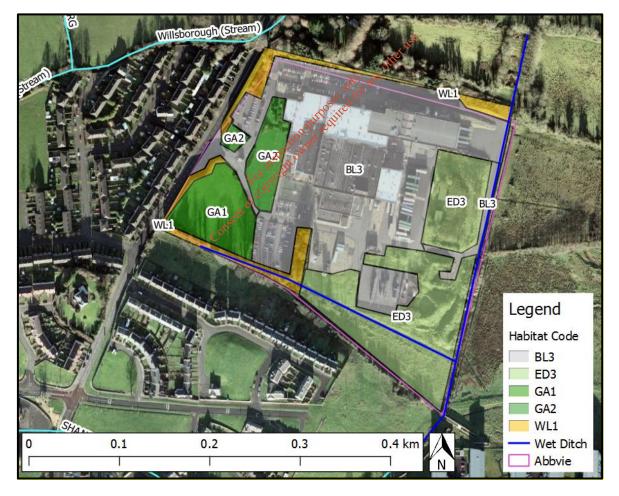


Figure 2.1 Habitats present² on site – further detail can be found in the Biodiversity Chapter of the accompanying Environmental Impact Assessment

² As at March 2018: Habitat codes: BL3 – Building and artificial surfaces; ED3 – Recolonised bare ground; GA1 – Improved Agricultural Grassland; GA2 Amenity Grassland (improved); WL1 – Hedgerow.

2.2 PROPOSED DEVELOPMENT

The proposed development consists of the following:

- Internal alterations to accommodate an integrated Bio-Chemical manufacturing facility sized 3,476 square metres (m²), within the existing Abbvie Ballytivnan building.
- New roof-mounted plant and Penthouse Louvres 1.8 m high and removal of existing roofmounted equipment .
- The construction of additional plant room internal mezzanines, sized 645 m² within the existing building and an external single storey extension sized 20 m² and 9.6 m high, located to the north of the existing facility.
- A revised yard layout, located to the north of the existing facility, including a new single storey electrical room extension sized 155 m² and 7.1 m high.
- The enclosure of an existing walled yard area with a new roof and cladding, sized 150 m², to house chillers.
- The addition of 4 no. new boiler flues, 17.5 m high above ground level and 500 mm diameter.
- 2 no. new above-ground bunded waste water holding tanks , housed in a building sized 110 m² and 9 m high, and associated tanker un-loading area.
- 2 no. bunded underground tanks house $\frac{1}{100}$ building sized 75 m² and 4 m high.
- 3 no. cooling towers 9 m high. A nitrogen tank sized 8 m high and 2 m diameter, and an emergency generator and its associated diesel tank and its 10 m high stack.
- Site works include revised road and car parking layouts, additional temporary contractor related car parking for 109 cars located to the east of the existing electrical substation. Underground and over-ground utilities, landscaping and a landscaped berm. A single storey sprinkler pumphouse sized 24 m² and 6 m high. New sprinkler tank and site fencing.

3 SCREENING FOR APPROPRIATE ASSESSMENT

3.1 INTRODUCTION TO SCREENING

3.1.1 Background to Screening

This stage of the process identifies any likely significant effects on European sites from a project or plan, either alone or in combination with other projects or plans. The screening phase is progressed in the following stages. A series of questions are asked during the Screening Stage of the AA process in order to determine:

- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European site.
- Whether a project will have a potentially significant effect on a European site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential effects.

An important element of the AA process is the identification of the, '**Qualifying Interests**', '**Special Conservation Interests**' and/ or '**conservation objectives**' of European sites requiring assessment.

Qualifying Interests (QIs) are the habitat features and species disted in Annex I & II of the EU Habitats Directive (92/43/EEC) for which each European site has been designated and afforded protection. The '**Special Conservation Interests**' (SCIs) are wetland habitats and bird species listed within Annex I & II of the Birds Directive. The threats to the ecological / environmental conditions that are required to support QIs and SCIs prost be considered as part of an AA.

Site specific **'conservation objectives**' have been designed to define favourable conservation status for a particular habitat or species at that site According to the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', paragraph 4.6(3) states:

"The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

The screening stage of the AA takes account of the elements detailed above with regard to the details and characteristics of the project or plan to determine if potential for effects on the integrity of European sites are likely.

3.2 IDENTIFICATION OF RELEVANT EUROPEAN SITES

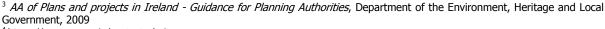
This section of the screening process describes the European sites which exist within the ZOI of the site. National Guidance on AA³ recommends a 15km buffer zone be considered around the site, in the absence of significant hydrological links, the characteristics of this project (detailed in section 2) will not impose effects beyond this 15km ZOI.

European sites that occur within 15km of the site are listed in Table 3.1 and mapped in Figure 3.1 below. The site is connected to an adjacent stream which is linked to the Sligo Bay.

In order to determine the potential for effects from the project, information on the Qualifying Interest's (QI's), Special Conservation Interest's (SCI's), known vulnerabilities and threats to site integrity pertaining to any potentially affected European sites was reviewed. Background information on threats to individual sites and vulnerability of habitats and species that was used during this assessment included the following:

- Ireland's Article 17 Report to the European Commission "Status of EU Protected Habitats and Species in Ireland", NPWS, 2013
- Site Synopses⁴
- NATURA 2000 Standard Data Forms⁴

The conservation objectives for the European sites focus on maintaining the favourable conservation condition of the QI's/SCI's of each site, the screening process concentrated on assessing the potential effects of the project against the QI's/SCI's of each site. Where sources and pathways for potential effects are identified a closer look at the conservation objectives of each site will be examined. Less than half of the sites had Site Specific Conservation Objectives (SSCO's) identified by the NPWS. For these sites the targets and attributes of the SSCO's were considered by the assessment.



⁴ https://www.npws.ie/protected-sites

Table 3.1 European sites within the 15 km ZOI of the site.

Name	Site	Distance	Site Description	Qualifying Interests / Special Conservation
	Code	[km]		Interests ⁴ [Habitats Directive codes]
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	000627	0.71	This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the northeast. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The site is largely underlain by Carboniferous limestone, but acidic rocks are also found on the Rosses Point peninsula. At Serpent Rock in the north-western section of the site the most complete section of the northwestern Carboniferous strata is exposed. Here are found an excellent series of fossilised corals which, in some strata, stand out from the rock matrix. There are no site-specific threats identified by the NPWS. The targets and attributes of the SECO's relate to the maintenance of the structure and function of habitat and community dynamics ⁵	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Petromyzon marinus (Sea Lamprey) [1095] Lampetra fluviatilis (River Lamprey) [1099] Phoca vitulina (Harbour Seal) [1365]
Cummeen Strand SPA	004035	0.77	Cummeen Strand is a large shallow bay stretching from Sligo Town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay and is situated between Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel. At low tide, extensive sand and mud flats are exposed. There are no site-specific threats identified by the NPWS and the SSCO's identify targets and attributes related to population trends, distribution of species and habitat area ⁶ .	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Oystercatcher (Haematopus ostralegus) [A130] Redshank (Tringa totanus) [A162] Wetland and Waterbirds [A999]
Lough Gill SAC	001976	1.16	This site includes Lough Gill, Doon Lough to the north-east, the Bonet River (as far as, but not including, Glenade Lough), and a stretch of the Owenmore River near Manorhamilton in Co. Leitrim. Lough Gill itself, 2 km east of Sligo town, lies at a geological junction of ancient metamorphic rocks which produce acid groundwater, and limestone which dissolves in the groundwater.	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Old sessile oak woods with Ilex and Blechnum in the

⁵ NPWS (2013) Conservation Objectives: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC 000627. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. ⁶ NPWS (2013) Conservation Objectives: Cummeen Strand SPA 004035. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

			No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ⁷ .	British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]
Sligo/Leitrim Uplands SPA	004187	3.97	The Sligo/Leitrim Uplands SPA is located north-east of the town of Sligo in the mountain ranges of Ben Bulben, Arroo and Cope's Mountain/Crockauns. The site straddles the Co. Sligo/Co. Leitrim border. The site includes six separate lengths of cliffs in these ranges, including those of King's Mountain, Benbulbin, Benwiskin, Gleniff, Truskmore, Tievebaun, Glenade, Glencar, Arroo Mountain and Cope's Mountain/Crockauns. The upper boundary of the site is taken to be 50 m from the cliff top except in the King's Mountain area, above Glencar Lough, where an expanse of suitable foraging habitat c. 200 m from the cliff top is included. These uplands are formed of Carboniferous limestone, capped in places by shales. They stand on a high plateau, 300–450 m above the surrounding countryside, and the edges form ofty cliffs from 15 to 300 m in height. Areas of scree occur below the cliffs on slopes of 40-50°. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ⁸ .	Peregrine (Falco peregrinus) [A103] Chough (Pyrrhocorax pyrrhocorax) [A346]
Drumcliff Bay SPA	004013	4.14	Drumcliff Bay, Co, Sigo is the most northerly of Sligo Bay's three estuarine inlets. The bay comprises an inner area of sheltered estuarine habitat and an outer area of shallow seawater. It extends 9 km east to west from Drumcliff village to Raghly Point. Drumcliff Bay is the estuary of the Drumcliff River, a substantial river flowing from Glencar Lough to the east. The inner part of Drumcliff Bay is sheltered by a sandy/grassy peninsula extending north from Rosses Point. The northern part of the bay is fringed by fine sandy beaches - Ballygilgan Strand, Lissadell Strand and Ardtermon Strand. Salt marsh occurs in the most sheltered areas and at low tide, extensive inter-tidal flats are exposed. A bed of Dwarf Eelgrass (Zostera noltii) occurs near the south-eastern corner of	Sanderling (Calidris alba) [A144] Bar-tailed Godwit (Limosa lapponica) [A157] Wetland and Waterbirds [A999]

 ⁷ NPWS (2018) Conservation objectives for Lough Gill SAC [001976]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.
 ⁸ NPWS (2018) Conservation objectives for Sligo/Leitrim Uplands SPA [004187]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

			the bay. There are no site-specific threats identified by the NPWS and the SSCO's identify targets and attributes related to population trends, distribution of species and habitat area ⁹ .	
Ben Bulben, Gleniff and Glencade Complex SAC	000623	5.65	This large SAC site is located in the uplands around Ben Bulben, King's Mountain, Benwiskin, Truskmore and Tievebaun (or Eagle's Rock), straddling the Sligo/Leitrim county boundary. These uplands are formed of Carboniferous limestone, capped in places by shales. They stand in a high plateau, 300-450 m above the surrounding countryside, and the edges form lofty cliffs ranging from 15 to 300 m in height. Below these cliffs, block scree usually occurs on slopes of 40-50 degrees. The mesa type of landform (i.e. flat-topped hill) found at this site, which has arisen from the long exposure of the upland areas to erosion, is of great interest geomorphologically. So too are the upper Viséan reefs exposed on the cliffs and on some of the summits. In addition, this region is also the type locality for the Ben Bulben shale, the Glencar limestone and the Dartry limestone. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ¹⁰	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Transition mires and quaking bogs [7140] Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230] Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110] Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii) [8120] Calcareous rocky slopes with chasmophytic vegetation [8210] Vertigo geyeri (Geyer's Whorl Snail) [1013] Lutra lutra (Otter) [1355]
Ballysadare Bay SPA	004129	7.40	Ballysadare Bay extends for approximately 10 km westwards from the town of Ballysadare, County Sligo. It is the most southerly of three inlets that form the eastern part of the larger Sligo Bay complex. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the Strandhill Dunes sand spit. The bay is underlain by sedimentary rocks of limestones, sandstones and shales which are exposed as	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Grey Plover (Pluvialis squatarola) [A141] Dunlin (Calidris alpina) [A149] Bar-tailed Godwit (Limosa lapponica) [A157] Redshank (Tringa totanus) [A162] Wetland and Waterbirds [A999]

⁹ NPWS (2013) Conservation Objectives: Drumcliff Bay SPA 004013. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. ¹⁰ NPWS (2018) Conservation objectives for Ben Bulben, Gleniff and Glenade Complex SAC [000623]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

			low cliffs and small sections of bedrock shore at several locations. There are no site-specific threats identified by the NPWS and the SSCO's identify targets and attributes related to population trends, distribution of species and habitat area ¹¹ .	
Ballysadare Bay SAC	000622	7.53	Ballysadare Bay extends for about 10 km westwards from the town of Ballysadare, Co. Sligo, and is the most southerly of three inlets of the larger Sligo Bay. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the spit at Strandhill dunes. The bay is underlain by sedimentary rocks of limestones, sandstones and shales, which are exposed as low cliffs and small sections of bedrock shore at several locations. Knocknarea Mountain overlooks the site. The bay is little- used for fishing or boating, but marsh shooting is common in the upper reaches. Aquaculture is little-developed in this bay compared to nearby Sligo and Drumcliff Bays. Dune systems are sensitive to developments which alter their structure. Grazing is also a critical factor; the correct level of grazing maintains an open, species-rich sward, but the presence of too many grazers causes damage to the vegetation and may exacerbate dune erosion. Agricultural improvement, and particularly the application of fertilisers, threatens dune vegetation, leading to the eventual loss of species diversity. The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics ¹² .	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Phoca vitulina (Harbour Seal) [1365]
Union Wood SAC	000638	8.12	Union Wood is located on the eastern bank of the Ballysadare River between Ballysadare and Collooney in Co. Sligo. The site contains old oak woodland which is typical of western Oak wood (Blechno- Quercetum) and one of the best remaining in the region. No Site- Specific threats were identified by the NPWS and there are no SSCO's for the site ¹³ .	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
Unshin River SAC	001898	8.44	The Unshin River runs from Lough Arrow north to Ballysadare Bay, Co. Sligo. The river is largely undrained and unaltered along much of its course. The marginal vegetation associated with the river is also included in the site, along with other semi-natural habitats adjacent to the river (included in order to enhance its protection). Many of these habitat types are interesting and of conservation value in their own right. Other watercourses included within the site are the Owenboy/ Owenbeg and a number of smaller	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt- laden soils (Molinion caeruleae) [6410]

¹¹ NPWS (2013) Conservation Objectives: Ballysadare Bay SPA 004129. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
 ¹² NPWS (2013) Conservation Objectives: Ballysadare Bay SAC 000622. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
 ¹³ NPWS (2018) Conservation objectives for Union Wood SAC [000638]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht

			tributaries. The Unshin River flows across a number of geological boundaries between sandstone, shales and limestone. This results in unusual physico-chemical qualities which in turn are reflected in the rich and varied plant and animal populations. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ¹⁴	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]
Ballintemple and Ballygilgan SPA	004234	12.40	Ballintemple and Ballygilgan SPA comprises two separate areas of fields supporting agriculturally-improved grassland, situated on the north side of Drumcliff Bay, Co. Sligo. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ¹⁵ .	Barnacle Goose (Branta leucopsis) [A045]
Streedagh Point Dunes SAC	001680	12.86	Streedagh Point Dunes SAC is a sand dune and estuary system, and lies approximately 4 km west of Grange, a small village about 16 km north of Sligo town. The site consists of a tombolo formation, with a shingle spit overlain by sand dunes joining Conors Island to Streedagh Point. The landward side of the site comprises an area of sand flats, the estuary of the River Grange. The underlying bedrock is of stratified sedimentary rocks - argillaceous and oolitic limestones, conglomerates and chert; some strata are rich in fossils. The main land uses within the site are sheep grazing and recreation, both of which have led to some erosion in the dunes, although in places grazing has maintained a short sward used by geese and Choughs for feeding. The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics ¹⁶ .	Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]
Bunduff Lough and Machair/Trawalua/Mullaghmore SAC	000625	14.49	This site is situated on the south side of Donegal Bay, 5 km south- west of Bundoran, and it falls in the counties of Sligo and Leitrim. The part of the site west of Mullaghmore Head is very exposed to the prevailing wind and swells from the Atlantic, whereas the head itself affords moderate shelter to the eastern part of the site. The underlying geology is of sedimentary rocks including limestone, shale and sandstone. Windblown sand is common in places, covering much of the underlying rocks and shingle. The machair and dunes within this site are grazed by sheep and	Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Reefs [1170] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Machairs (* in Ireland) [21A0]

May 2018

 ¹⁴ NPWS (2018) Conservation objectives for Unshin River SAC [001898]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht
 ¹⁵ NPWS (2018) Conservation objectives for Ballintemple and Ballygilgan SPA [004234]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.
 ¹⁶ NPWS (2010) Conservation Objectives: Streedagh Point Dunes SAC 001680. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

			cattle. Amenity use close to Mullaghmore village is high, with fishing and shooting also occurring nearby. Bunduff Strand is a busy recreational beach and water sports are popular here. A sewage discharge at Thumb Rock may be having a deleterious effect on water quality and sediment communities. The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics ¹⁷ .	Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Alkaline fens [7230] Euphydryas aurinia (Marsh Fritillary) [1065] Petalophyllum ralfsii (Petalwort) [1395]
Ardboline Island and Horse Island SPA	004135	14.70	Ardboline Island and Horse Island are two small marine islands located approximately 500 m from the mainland at Dooneragh Point in Co. Sligo. The islands support short coastal grassland and are underlain by Carboniferous limestone, which is exposed at low tide as intertidal reef. The surrounding seas to a distance of 200m and an area of marine water between the two islands, where seabirds forage, bathe and socialise are included in the site. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site ¹⁸ .	Cormorant (Phalacrocorax carbo) [A017] Barnacle Goose (Branta leucopsis) [A045]
Glenade Lough SAC	001919	14.73	Glenade Lough is situated approximately 9 km north-west of Manorhamilton in Co. Leitrim. It is a relatively small lake situated on the upper reaches of the Bonet River and in a valley between the Arroo and Benbulben Mountain ranges. The lough is underlain by Carboniferous limestone and shales. This confers a calcareous nature to the lake and the marginal vegetation. It is a naturally eutrophic lake, but although eutrophic, the system shows mesotrophic features - the water is clear, well aerated and relatively nutrient poor and the shoreline is stony or sandy. The lake has a maximum depth of 7.25 m. Some areas of surrounding wet grassland, marshes and fens are also included in the site. The main land use around the site is low to moderate intensity agriculture, mostly grazing. Some boating and fishing occur on the lake. These practises may cause minor disturbances or damage to the site. There are no SSCO's prepared by the NPWS for the site ¹⁹ .	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Austropotamobius pallipes (White-clawed Crayfish) [1092] Najas flexilis (Slender Naiad) [1833]

 ¹⁷ NPWS (2016) Conservation Objectives: Bunduff Lough and Machair/Trawalua/Mullaghmore SAC 000625. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
 ¹⁸ NPWS (2018) Conservation objectives for Ardboline Island and Horse Island SPA [004135]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.
 ¹⁹ NPWS (2018) Conservation objectives for Glenade Lough SAC [001919]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

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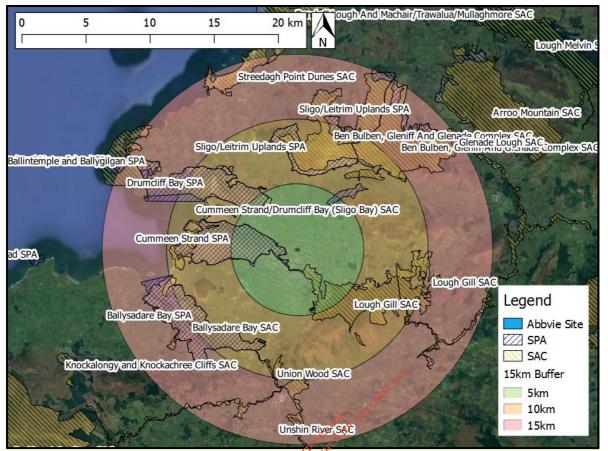


Figure 3.1 European sites within the 15km 201 of the project area²⁰

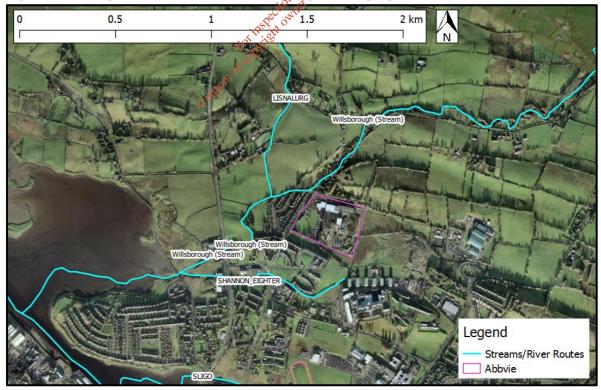


Figure 3.2 Map of River systems surrounding the Abbvie Facility

²⁰ Source: NPWS (datasets downloaded January 2018)

4 ASSESSMENT CRITERIA

4.1 IS THE PROJECT NECESSARY TO THE MANAGEMENT OF EUROPEAN SITES?

Under the Habitats Directive, projects that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the project, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of this Abbvie Expansion is not related to the management of any European sites, but to provide for development within the Abbvie Site. Therefore, the project is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

4.2 ELEMENTS OF THE PROJECT WITH POTENTIAL FOR EFFECTS

The operational phase elements of the project will be consistent with current activities on site and within the surrounding area. The construction of the proposed facility improvements, extension works and car park changes are likely to interact with existing ecological processes and therefore they may affect European Sites. For this reason, activities associated with construction are considered in relation to conservation objectives of each of the European sites within the ZOI.

4.3 IDENTIFICATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

This section documents the final stage of the screening process. It has used the information collected on the sensitivity of each European site and describes any likely significant effects resulting from the proposed project. This assumes the absence of any controls, conditions, or mitigation measures. In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity and reported threats to European sites were evaluated. Secondly, the individual elements of the proposed project and the potential effects they may cause to the sites were considered. The elements of the proposed project with potential to affect to European sites are presented in Table 4.1 below.

Sites are screened out based on one or a combination of the following criteria:

- where it can be shown that there are no pathways for effects such as hydrological links between activities of the proposed project and the European site being screened;
- where the site is located at a distance from proposed project such that effects are not foreseen;
- where known threats or vulnerabilities at a site cannot be linked to potential effects that may arise from the proposed project.

The following parameters are described when characterising effects (following CIEEM (2016), EPA (2002) and NRA (2009)):

Direct and Indirect Effects - An impact can be caused either as a direct or as an indirect consequence of a proposed development.

Magnitude - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.

Extent - The area over which the impact occurs – this should be predicted in a quantified manner.

Duration - The time for which the effect is expected to last prior to recovery or replacement of the resource or feature.

- Temporary: Up to 1 Year;
- Short Term: The effects would take 1-7 years to be mitigated;
- Medium Term: The effects would take 7-15 years to be mitigated;
- Long Term: The effects would take 15-60 years to be mitigated;
- Permanent: The effects would take 60+ years to be mitigated.

Likelihood – The probability of the effect occurring taking into account all available information.

- Certain/Near Certain: >95% chance of occurring as predicted;
- Probable: 50-95% chance as occurring as predicted;
- Unlikely: 5-50% chance as occurring as predicted;
- Extremely Unlikely: <5% chance as occurring as predicted.

The Chartered Institute of Ecology and Environmental Management (CIEEM) *guidelines for ecological impact assessment* (2016) define an ecologically significant impact as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area. The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified (CIEEM, 2016).

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its conservation objectives. The NPWS are in the process of drawing up conservation management plans for some areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

Site-specific conservation objectives (SSCOs) have been prepared for a number of European sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at those sites by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Defined in the habitats directive as the following:

Favourable conservation status of a **species** can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is nother being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a **habitat** can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable'.

Within the SSCOs there are often generic conservation objectives for cSACs such as:

• To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

One generic Conservation Objective has been provided for SPAs as follows:

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

EC guidance²¹ outlines the types of effects that may affect European sites. These include effects from the following activities:

• Land take

²¹ Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article *6(3)* and *(4)* of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2001

- Resource Requirements (Drinking Water Abstraction Etc.)
- Emissions (Disposal to Land, Water or Air)
- Excavation Requirements
- Transportation Requirements
- Duration of Construction, Operation, Decommissioning

In addition, the guidance outlines the following likely changes that may occur at a designated site, which may result in effects on the integrity and function of that site:

- Reduction of Habitat Area
- Disturbance to Key Species
- Habitat or Species Fragmentation
- Reduction in Species Density
- Changes in Key Indicators of Conservation Value (Water Quality Etc.)
- Climate Change

The elements detailed above were considered with specific reference to each of the European sites identified in Section 3.2.

4.3.1 Land Take

No European sites or qualifying habitat features exist within 0.71 km of the site, therefore there will be no effects posed to European sites in this respect.

4.3.2 Resource Requirements (Drinking Water Abstraction Etc.)

There are no resource requirements of the proposed development which will be additional to existing requirements. Therefore, there will be no interactions with resources necessary for the maintenance of the ecological integrity of any European sites.

4.3.3 Emissions (Disposal to Land, Water or Air)

Drainage for the site will be managed by the existing site surface water drainage system. Construction phase elements of the plan may give rise to increased temporary site effects such as noise or contamination due to dust. Given the distance between the closest European site and the development, combined with the relatively small scale of the development, these effects are determined to be negligible.

4.3.4 Excavation Requirements

There are no major excavation works. There will be small scale temporary excavations in relation to construction compounds and the storage area surfaces. A detailed hydrological assessment was undertaken (see section 8 of the associated EIA) which determined the existing water quality conditions will be maintained. Therefore, given the scale of the development and distance the effects arising from these works will be negligible.

4.3.5 Transportation Requirements

There will be a minor temporary increase in traffic during the construction phase and increased operational traffic due to the delivery of raw materials. However, these effects are considered to be negligible with regard to European sites due to the distances observed and details of the hydrological assessment contained in Section 8 of the EIA.

4.3.6 Duration of Construction, Operation, Decommissioning

The proposed project duration is 16 months, with all works to be completed within this time. The development will be a permanent feature with no decommissioning phase. The duration of the

construction and operational phases will have no effects on European sites given the distances identified and taking the hydrological assessment into consideration (details in section 8 of the associated EIA).

4.3.7 **Reduction of Habitat Area**

No European sites or qualifying habitat features exist within 0.71 km of the site, therefore there will be no reduction of habitat area posed to European sites in this respect.

4.3.8 Disturbance to Key Species

None of the species and/or habitats identified in Table 3.1 were recorded on site. The nearest European site is 0.71 km away from the Abbvie Site and therefore disturbance effects due to noise or lighting etc. are not present.

4.3.9 Habitat or Species Fragmentation or Reduction in Species Density

The existing site has low ecological value comprised of predominantly built structures and manages grassland. All hedgerows will remain intact and the details within the CEMP ensure that lighting condition during both construction and operational phases will be managed to ensure there is no barrier effect caused to maintain connectivity with regard to lighting. The nearest European site is 0.71km from the existing facility. A detailed noise assessment was undertaken (see section 10 of the EIA) which identified that there will be no noise pollution at the SPA. Given the existing low ecological value of the development site combined with its scale and distance from the European site the proposal is considered to have no potential effects on any European site in this regard.

4.3.10 Changes in Key Indicators of Conservation Value (Water Quality Etc.)

The site is 0.71 km from the closest European site the project is also small scale with negligible effects identified. A detailed hydrological assessment was undertaken (see section 8 of the associated EIA) which determined the existing water quality conditions will be maintained. Specifically, Short term -Imperceptible Impact with a neutral impace on water quality during construction phase and a Long term*imperceptible significance with a neutral impact on water quality* during operation phase. Therefore, given the scale of the development and distance the effects arising from these works will be negligible.

4.3.11 Climate Change

consent Due to the nature and scale of the proposed development, its effects of the proposed development on climate and Ireland's obligations under the Kyoto Protocol are not anticipated to be significant.

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC	000627	0.71	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Petromyzon marinus (Sea Lamprey) [1095] Lampetra fluviatilis (River Lamprey) [1099] Phoca vitulina (Harbour Seal) [1365]	The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics. These habitat and community dynamics are vulnerable to direct interactions, and/or interactions with water quality and turbidity. The proposed works will have no direct interaction with the SAC and there will be to direct effects to the targets or attributes of the site. The project is hydrologically connected to the SAC. However, section 8 of the EIA provides a detailed hydrological assessment that shows the proposed works will have <i>Short term – Imperceptible Impact with a neutral impact on water quality</i> during construction phase and a <i>Long term- imperceptible significance with a neutral impact on water quality</i> during operation phase. Additionally, the CEMP submitted as part of the project design details the best practice approach that will be undertaken during construction. These measures take account of possible interactions with water quality. Therefore, there will be no sources for significant effects to the ecological integrity of the SAC.	No	No

Table 4.1 Screening Assessment of European sites with potential pathways to the project boundary

²² https://www.npws.ie/sites/default/files/publications/pdf/Art17-Vol1-web.pdf

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
Cummeen Strand SPA	004035	0.77	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Oystercatcher (Haematopus ostralegus) [A130] Redshank (Tringa totanus) [A162] Wetland and Waterbirds [A999] Wetland and Waterbirds [A999]	There are no site-specific threats identified by the NPWS and the SSCO's identify targets and attributes related to population trends, distribution of species and habitat area. The proposed works will have no direct interaction with the habitats of the SPA and there will be no direct effects to the targets or attributes of the site. The project is hydrologically connected to the SPA However, section 8 of the EIA provides a detailed hydrological assessment that shows the proposed	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
Lough Gill SAC	001976	1.16	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Austropotamobius pallipes (White- clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [±106] Lutra lutra (Otter) [±355]	ecological integrity of the SPA. No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Sligo/Leitrim Uplands SPA	004187	3.97	Peregrine (Falco peregrinus) [A103] Chough (Pyrrhocorax pyrrhocorax) [A346]	No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Drumcliff Bay SPA	004013	4.14	Sanderling (Calidris alba) [A144] Bar-tailed Godwit (Limosa lapponica)	There are no site-specific threats identified by the NPWS and the SSCO's	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
			[A157] Wetland and Waterbirds [A999]	identify targets and attributes related to population trends, distribution of species and habitat area. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.		
Ben Bulben, Gleniff and Glencade Complex SAC	000623	5.65	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (* important orchid sites) [6210] Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Transition mires and quaking bogs [7140] Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230]	No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site.	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
			Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110] Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii) [8120] Calcareous rocky slopes with chasmophytic vegetation [8210] Vertigo geyeri (Geyer's Whorl Snail) [1013] Lutra lutra (Otter) [1355]	NSC.		
Ballysadare Bay SPA	004129	7.40	Light-bellied Brent Goose (Branta bernicla hrota) [A046] Grey Plover (Pluvialis squatarola) [A141] Dunlin (Calidris alpina) [A149] Bar-tailed Godwit (Limosa lapponica) [A157] Redshank (Tringa totanus) [A162] Wetland and Waterbirds [A999] For press	There are no site-specific threats identified by the NPWS and the SSCO's identify targets and attributes related to population trends, distribution of species and habitat area. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Ballysadare Bay SAC	000622	7.53	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]	Dune systems are sensitive to developments which alter their structure. Grazing is also a critical factor; the correct level of grazing maintains an open, species-rich sward, but the presence of too many grazers causes damage to the vegetation and may exacerbate dune erosion. Agricultural improvement, and particularly the application of fertilisers, threatens dune vegetation, leading to the eventual loss of species diversity.	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
			Phoca vitulina (Harbour Seal) [1365]	The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics.		
				The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.		
Union Wood SAC	000638	8.12	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	No Site-Specific threats were identified by the NPWS and there are no SSCO's	No	No
Unshin River SAC	001898	8.44	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion	effects to the SAC.No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site.The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
			incanae, Salicion albae) [91E0] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]			
Ballintemple and Ballygilgan SPA	004234	12.40	Barnacle Goose (Branta leucopsis) [A045]	No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Streedagh Point Dunes SAC	001680	12.86	Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks require [1220] Atlantic salt meadows (Glauco, on Puccinellietalia maritimae) [4330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]	The main land uses within the site are sheep grazing and recreation, both of which have led to some erosion in the dunes, although in places grazing has maintained a short sward used by geese and Choughs for feeding. The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Bunduff Lough and Machair/Trawalua/Mulla ghmore SAC	000625	14.49	Mudflats and sandflats not covered by seawater at low tide [1140] Large shallow inlets and bays [1160] Reefs [1170]	The machair and dunes within this site are grazed by sheep and cattle. Amenity use close to Mullaghmore village is high, with fishing and shooting	No	No

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
			Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Alkaline fens [7230] Euphydryas aurinia (Marsh Fritillary) [1065] Petalophyllum ralfsii (Petalwort) [1395]	also occurring nearby. Bunduff Strand is a busy recreational beach and water sports are popular here. A sewage discharge at Thumb Rock may be having a deleterious effect on water quality and sediment communities. The targets and attributes of the SSCO's relate to the maintenance of the structure and function of habitat and community dynamics. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.		
Ardboline Island and Horse Island SPA	004135	14.70	Cormorant (Phalacrocorax Carbo) [A017] Form Barnacle Goose (Branta Jeucopsis) [A045] Consent	No Site-Specific threats were identified by the NPWS and there are no SSCO's for the site. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.	No	No
Glenade Lough SAC	001919	14.73	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Austropotamobius pallipes (White- clawed Crayfish) [1092] Najas flexilis (Slender Naiad) [1833]	The main land use around the site is low to moderate intensity agriculture, mostly grazing. Some boating and fishing occur on the lake. These practises may cause minor disturbances or damage to the site. There are no SSCO's prepared by the NPWS for the	No	No

AA Screening for Proposed Internal Works at Abbvie, Ballytivnan Co. Sligo

Name	Site Code	Distance [km]	Qualifying Interests & Special Conservation Interests ⁴ (Sensitive Receptors ²²)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European site)	Pathway for Significant Effects	Potential for In- Combination Effects
				site. The localised nature of effects from the proposed development (detailed above) combined with the location and distance between the sites as well as the absence of a hydrological link ensures that there are no pathways for effects to the SAC.		

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5 OTHER PLANS AND PROJECTS

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely impact upon European Sites. The characteristics of the Project are foreseen to have very low effects to any European Sites. Therefore, the in-combination effects do not need to be considered, as per the CIEEM 2016 guidelines. However, following a precautionary approach relevant plans and projects have been assessed. Table 5.1 outlines projects within the surrounding area of the Abbvie site that were considered which may interact with the proposed Project to cause in-combination effects to European Sites.

Consent of convient on the required for any other use.

Plan or project	Status	Overview	Possible significant effects from plan or project	Possible significant in- combination effects	Risk of significant in- combination effects with the proposed Abbvie Project
Protogenia Ltd	Pending (Further Information Requested)	Development consisting of the change of use of 21 executive hotel apartments to student accommodation with minor internal alterations in a detached 3 storey block located to the rear of the Clayton Hotel with all associated site works. The development is located on the grounds and within the curtilage of Protected Structures	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
AbbVie Ireland NL BV	01/08/2014	development consisting of a single storey cladded building enclosure (322m2) over the existing drum storage yard to the north west of facility, the new building is to match the existing drum store; construction of a new forklift access ramp and pedestrian access stairs to the rear (south) of the existing drum store and re-landscaping of the area; 3 no 3.8m wide x 15.2m long x 3.5m high storage container units installed adjacent and to the west of the existing drum store and all associated site works (this application relates to a development which comprises or is for the purposes of an activity requiring an Integrated Pollution Control Licence), all at the Manorhamilton Road Pharmaceutical facility	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust water quality effects etc. This project was subject to its own EIA' and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.

Table 5.1 Plans and p	projects likely	v to cause in-co	mbination effects
	nojecto inter		

Abbvie Ireland	14/03/2014	(a) construction of a three storey lift extension (height 15.5 metres) to the existing Administration Building, (b) construction of 45sqm new office space in an existing void within the existing Production / Tableting Building, (c) construction of an external covered walkway to connect the Administration Building to the Tableting Building and the API Building, (d) ancillary works to include for the re-arrangement of carparking areas and site works associated with the above listed items at the ABBVIE IRELAND Pharmaceutical Campus	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
AbbVie Ireland	14/03/2014	(a) alteration to part of the south façade of the Administration Building and (b) re-arrangement of carparking areas at the ABBVIE IRELAND Pharmaceutical Campus	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA, and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
Dwelling Application	18/05/2013	The retention of development consisting of a single storey, ground floor extension to the rear of dwelling comprising a bedroom en-suite with toilet facility area = 39m2 and garden shed 9m2	This site is outside of designated areas so there will be no direct land take. This project is very small in scale so the effects to ecological processes are negligible.	No	The effects identified for both the proposed works and Dwelling application are negligible. Given the project design and best practice approach detailed in the CEMP. Therefore, there are no significant in combination effects identified.
AbbVie Ireland NL B.V. (formerly Abbott Ireland)	12/04/2013	amendments and alterations to a previously permitted west extension to existing Production / Tableting Building (planning application reference No PL 12/51 refers)	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.

Abbott Iroland	22/05/2012	Alterations and extensions to 2 no	This site is outside of designated	No	The effects identified above for the
Abbott Ireland	23/05/2012	Alterations and extensions to 3 no buildings on the existing Abbott Ireland Pharmaceutical Campus	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
	22/05/2012		significant effects on European Sites.		
Abbott Ireland	22/05/2012	Alterations and extensions to 3 no buildings on the existing Abbott Ireland Pharmaceutical Campus	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
Abbott Ireland	13/03/2012	Construction of a single storey link approximately 301m2 in area (height 9.8 metres) with associated roof equipment located between the tableting building and the manufacturing building and minor elevational changes to the tableting building including an external lobby to the west approximately 7.4m2 in area (height 3.75 metres).	This site is suitside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own ELA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
Abbott Ireland	26/08/2010	Abbott Ireland whose principal place of business is at Ballytivnan, Sligo is applying to Sligo Borough Council for planning permission to demolish 5 No. dilapidated farm buildings on agricultural lands at Ballytivnan, Sligo to the east of the Abbott Ireland manufacturing plant at Ballytivnan, Sligo. The purpose of this planning application is to demolish the farm buildings without any other change to the site in order to prevent the buildings falling into further	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.

		dereliction.			
Abbott Ireland Pharmaceutical Operation	09/07/2010	Extension of the existing Administration and Laboratory Building, Building 10 to both the west and east.	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc. This project was subject to its own EIA and AA assessments which deemed the site will not have significant effects on European Sites.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
Abbott Ireland Pharmaceutical Operations	02/07/2010	Abbott Ireland whose principal place of business is at Ballytivnan, Sligo, Co. Sligo is applying for planning permission to extend the existing Building 10 on its Pharmaceutical Operations site, Manorhamilton Road, located within the Ballytivnan & Rathbraughan townlands, Co. Sligo. The development will consist of an extension of the existing Administration and Laboratory Building, Building 10 to both the west and east.	This site is outside of designated areas so there will be no direct land take. There could be effects arising from construction effects such as noise, dust, water quality effects etc.	No	The effects identified above for the proposed works are negligible. Given the project design and best practice approach detailed in the CEMP. This combined with the existing assessments for the plan, there are no significant in combination effects identified.
		Consent	Lot cold		

6 CONCLUSION

This stage 1 screening for AA of the Proposed Abbvie Expansion shows that implementation of the project is not foreseen to have any likely significant effects on any European site.

The project is not located within 0.71km of any European site. The AA screening process has considered potential effects which may arise during the construction and operational phases as a result of the implementation of the project. A detailed hydrological assessment was undertaken (see section 8 of the associated EIA) which determined the existing water quality conditions will be maintained. Therefore, given the scale of the development and distance the effects arising from these works will be negligible. Through an assessment of the pathways for effects and an evaluation of the project characteristics, taking account of the processes involved and the distance of separation from European sites, it has been evaluated that there are no likely significant adverse effects on the qualifying interests, special conservation interest or the conservation objectives of any designated European site. The ecological integrity of the European sites is not foreseen to be significantly affected by the project.

Given the nature of the development, it's scale, the existing localised and temporary nature of the construction effects identified as potential sources as well as the environmental controls and best practice measures outlined in the CEMP, the proposed development will not lead to a significant in-combination effect with any other plans or projects.

It is concluded that the project is not foreseen to give rise to any significant adverse effects on any designated European sites²³, alone or in combination with other plans or projects. This evaluation is made in view of the conservation objectives of the habitats or species for which these sites have been designated. Consequently, a Stage Two – NIS is not required for the project.

²³ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

a) no alternative solution available,

b) imperative reasons of overriding public interest for the plan to proceed; and

c) Adequate compensatory measures in place.