TOBIN

Tincurry 110kV Substation Amendment

Screening for Appropriate Assessment and Natura Impact Statement

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1. INTRODUCTION

1.1 PROJECT SUMMARY

TOBIN has been appointed by Lodgewood Solar Farm Ltd., to prepare this Appropriate Assessment Screening (AAS) and Natura Impact Statement (NIS) to assess the environmental considerations of all proposed amendments to the Tincurry 110kV Substation and associated Grid Connection (hereafter referred to as the 'Proposed Project'), located in the townlands of Tincurry, Crory, Ballylough and Lodgewood, which lies approximately 2.4km southwest of Ferns, County Wexford. The existing ESB Lodgewood 220kV Substation and Crory 110kV Substation are located to the immediate west of the Proposed Project.

The original AAS and NIS was prepared by Ecology Ireland Wildlife Consultants Ltd., who were commissioned by Lodgewood Solar Farm Limited to undertake an appraisal of the potential impacts of the original proposed Tincurry 110kV Substation and associated Grid Connection in the townlands of Tincurry, Crory, and Ballylough in County Wexford on European designated conservation sites in the wider area.

The Proposed Project comprises a modification to the consented Tincurry 110kV Substation and Grid Connection which will facilitate the transfer of electrical power generated by the Tincurry and Ballylough Solar Farms (collectively referred to as Lodgewood Solar Farm) to the existing ESB Lodgewood 220kV Substation. The Grid Connection will also serve a Battery Energy Storage System (BESS), located adjacent to the Tincurry 110kV Substation, which was subject to a separate planning application (Wexford County Council Planning Ref: 20241593), and which was permitted in May 2025. More details on the proposed works involved with the proposed project is described further in section 2 below.

The site comprises 1No. land parcel and associated Grid Connection Route (GCR) and grid enabling works in ESB Lodgewood 220kV Substation, with an approximate total area of 4.86 hectares (ha).

The purpose of this report is to assess the potential for effects of this amendment on designated Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and, to provide the competent authority with the information necessary to determine whether the Proposed Project could have likely significant effects on European sites, supporting a robust and legally compliant Appropriate Assessment (AA). SACs are designated under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive), while SPAs are designated under Directive 2009/147/EC on the conservation of wild birds (the Birds Directive). Collectively, SACs and SPAs form the Natura 2000 network of protected sites and are referred to as European sites under national legislation. The terms "Natura 2000 sites" and "European sites" are frequently used interchangeably in national guidance on AA.

1.1.1 Stage 1 Screening for Appropriate Assessment

Screening is a fundamental process used to determine whether an AA is required for a particular plan or project.

According to Part XAB of the Planning and Development Act 2000, as amended, the screening process must be carried out by the Competent Authority. In line with Section 177U of the Act, it states:

- *'A screening for appropriate assessment shall be carried out by the competent authority to assess, based on the best available scientific knowledge, whether the land use plan or Proposed Project, either alone or in combination with other plans or projects, is likely to have a significant effect on a European site'.*

The screening process is critical in ensuring that any potential **significant effects** on European sites are adequately considered before progressing with any development activities.

The Competent Authority's decision to determine if an AA is necessary must be based on objective, reliable, and verifiable information, and it should be properly recorded for transparency. If needed, the Competent Authority has the right to request further information from the project proponent or consultant to facilitate the screening process and ensure that a thorough assessment is undertaken.

The European Commission's (EC) '*Assessment of Plans and Projects in Relation to Natura 2000 Sites - Methodological Guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC'* (EC, 2021) provides a clear and structured approach to Stage 1 Screening, which consists of the following four main Steps:

1. **Ascertain if the plan or project is directly connected to, or necessary for, the management of a European site**.
   This step seeks to determine whether the proposed plan or project is specifically linked to the management or conservation efforts of the European site, and whether it is an essential part of maintaining the site's conservation objectives.
2. **Provide a detailed description of the plan or project and its potential impact factors.**
   This step involves provision of a clear and comprehensive description of the proposed plan or project, including its scope, activities, and potential impacts. This will help in identifying possible interactions between the development and European sites, and how these could influence the conservation values of the sites.
3. **Identify which European site may be impacted by the plan or project.**
   This step involves identifying all the European sites that could potentially be affected by the proposed plan or project. This includes evaluating the geographical proximity and the nature of any potential impacts on the European sites.
4. **Assess whether likely significant effects can be ruled out in light of the conservation objectives set for the European sites.**
   The final step evaluates whether the proposed plan or project, in the absence of mitigation, is likely to have significant effects on European sites, considering their specific conservation objectives. If no significant effects to the European sites are identified, the Competent Authority may determine that an AA is not required.

In relation to Step 1 above, the Proposed Project is not directly connected with, nor necessary for, the management of any European site. Accordingly, it has been subject to Stage 1 Screening for AA. Steps 2, 3, and 4 of the AA process are addressed in Section 5 below. Where likely significant effects on European sites could not be excluded at screening, the relevant sites, project elements, activities, and impact pathways are brought forward for detailed assessment in Stage 2 AA (Natura Impact Statement).

1.1.2 Stage 2 Appropriate Assessment (Natura Impact Statement)

Where it cannot be excluded beyond reasonable scientific doubt at the Stage 1 Screening stage, that a plan or project, individually or in combination with other plans and projects, would have a significant effect on the conservation objectives of a European site, an AA is required.

Where an AA is required, the Competent Authority may require the applicant to prepare a NIS. The term NIS is defined in legislation[1]. An NIS, where required, should present the data, information and analysis necessary to reach a definitive determination as to:

1. the implications of the plan or project, **alone or in combination** with other plans and projects, for a European site in view of its conservation objectives, and
2. whether there will be **adverse effects on the integrity of a European site**.

For the Proposed Project, potential significant effects on European sites that could not be excluded at Stage 1 Screening and were brought forward to Stage 2 have been examined in detail and are assessed further in Section 6 below.

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

2. DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project comprises an amendment of the permitted Tincurry 110kV Substation and associated Grid Connection to the existing ESB Lodgewood 220kV Substation. This section of the report provides both a summary of the original permitted Tincurry 110kV Substation development and a detailed account of the proposed amendments to the Tincurry 110kV Substation. Table 2-1 presents a comparison of the key infrastructure which comprises the Proposed Project.

2.1 ORIGINAL PROJECT DESCRIPTION

The permitted Tincurry Substation comprises the following;

"A 110kV AIS Single Bay Tail-Fed electricity substation (with 33kV customer compound) (including two control buildings, 33kV/110kV transformer and associated structures and apparatus, lightning protection, perimeter security fencing, security lighting, telecoms pole, water and drainage infrastructure, temporary construction compound) to connect to and serve solar farm developments; associated grid connection between the proposed substation and the existing Lodgewood 220/110kV substation comprising 110kV underground electricity cables of c.10 metres in length to be provided in an excavated trench including associated fibre cable and ducting, and all associated site development and reinstatement works; Temporary construction and operational access from the R772, vehicular entrance and access track (including 1 no. drain deck crossing) from this public road; all ancillary site development, landscaping and earth works".

An underground 110kV Grid Connection cable was proposed to connect the 110kV Substation into the existing ESB Lodgewood 220kV Substation (see Figure 2-1). The cable route was calculated at approximately 273m in total length.

The first phase of this Grid Connection Route (GCR) measured 10m and was located within the property fence of the EirGrid side of the Substation. The second phase measured 263m and was located between the property fence of the Substation and a proposed cable bay within the existing ESB Lodgewood 220kV Substation. Consent for only Phase 1 of the GCR was sought as part of the original application as the second phase of the GCR could not be finalised at the time due to the grid offer not yet having been received.

The permitted development also comprised High Voltage (HV) electrical equipment including a 110/33kV Transformer (TRAFO) with associated equipment, along with the following components:

- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DL/DE, DT/DEM);
- Current Transformer (CT);
- Voltage Transformer (VT);
- House Transformer (HoT);
- Circuit Breaker (CB);
- Lightning Masts (LM);

- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Capacitor Bank if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole;
- 110kV underground cable;
- Palisade fencing;
- Concrete post and rail fencing;
- Temporary construction and operational access from the R772;
- Vehicular entrance and access track (including 1 no. drain deck crossing); and
- All associated site development and reinstatement work.

The permitted substation compound had a total area of 8,325m^2.

Figure 2-1: Consented Tincurry Substation Site Layout Plan

2.2 Proposed Project

While much of the electrical infrastructure outlined above remains part of the Proposed Project, the amended proposal differs from the previously permitted Tincurry 110kV Substation in its updated substation configuration (Under-the-Fence as opposed to Extendable Tail-Fed), electrical infrastructure layout and configuration, as well as the connection route to the ESB Lodgewood 220kV Substation. Access roads, drainage details and other associated civil aspects

have also been altered. This has required an amendment to the original red line boundary, as can be seen in Figure 2-3.

The extension of the GCR from the Tincurry 110kV substation compound to the new bay within the ESB Lodgewood 220kV substation was referenced in the original SID application but was not fully assessed as part of the application. The proposed grid connection cable will cross the Lodgewood stream (EPA Code: 12L55), within the Bann_070 Water Framework Directive (WFD) River Water Body (RWB) (IE_SE_12B011000), into the ESB Networks owned lands and will be ducted through the proposed clear span bridge crossing the stream. One abutment of this bridge will be constructed in a parallel dry channel, though this will not affect the capacity of the stream here, even considering the 1-in-1000 year flow rate. The GCR continues west passing through a combination of forest and greenfield lands before entering the existing ESB Lodgewood 220kV substation. A corridor free of trees and roots, will be created for the installation of the cable. A total of 39 individual trees will need to be removed including two mature Oak and one mature beech. The remaining trees comprise early-mature mixed woodland species some of which are windthrown and collapsed. No portion of the underground grid connection cable is located within the public road network.

An amendment to the permitted substation compound site entrance is required as a result of the reconfiguration of the substation layout and reduction in footprint size. The compound entrance will be moved to the eastern side of the proposed amended substation compound to ensure there is a greater than 10m buffer from the Lodgewood stream. Amendments to the access tracks within the site compound are also proposed in addition to the inclusion of 6 No. parking bays and 2 No. dedicated disabled parking bays. The proposed site access route has been subject to detailed line of sight and auto track analysis and has been designed to accommodate abnormal load (transformer) delivery. Minor adjustments are proposed to the consented site access track to facilitate vehicle overrun during deliveries. Road sightlines remain unchanged from the permitted project at the public road site entrance so do not require amendments. A total of 9.2 m of hedgerow will be removed to the south of the substation where the proposed access track crosses a field boundary at a new location. An additional approximate 4 m of hedgerow/ ditch will be lost due to the altered access track alignment elsewhere. There will be a reduction of approximately 6.8 m of hedgerow loss to the south of the proposed substation, due to the alteration of the access track alignment. This will result in a 6.4 m net loss of hedgerow as a result of this planning amendment application.

The temporary construction compound location has changed from the original permitted development as a result of the amendments to the substation, however key components remain the same.

Surface and Foul Water details remain however the locations within the compound differ from that of the permitted development. So too does the potable water detail which will still be provided by means of an on-site bored well.

In summary the amended proposed project now comprises:

- A 110kV substation compound consisting of an Independent Power Producer (IPP) Control Room and operations building (of concrete block structure with slate roof),
- High Voltage (HV) electrical equipment,

- A 110kV grid connection to the ESB Lodgewood 220kV substation, ESB interface kiosk, Busbar extension and new bay in the ESB Lodgewood 220kV Substation and all associated and ancillary infrastructure including access tracks,
- 1No. temporary construction compound, with provision for 2No. storage containers,
- 2No. clear span bridge crossings (one where the access track crosses the Lodgewood Stream, the second to facilitate the GCR crossing of the Lodgewood Stream),
- 1No. Dry Drain Culvert Crossing at the substation compound entrance,
- Widening of the access tracks in parts to accommodate the delivery of the transformer (abnormal load), and
- Surface water drainage system, foul and potable water systems, and palisade fences.

The proposed project also includes the installation of HV electrical equipment including a 110/33kV Transformer (TRAFO) with associated and ancillary equipment along with:

- Cable Sealing End (CSE);
- Surge Arrestor (SA);
- Earth Disconnect (DA, DB, DL, DT/DEM);
- Voltage Transformer (VT);
- Current Transformer (CT);
- House Transformer (HoT);
- Circuit Breaker (CB);
- Lightning Masts (LM);
- Diesel Generator;
- Harmonic filters if required by EirGrid;
- Capacitor Bank if required by EirGrid;
- Fire/Blast Wall;
- Telecoms Pole; and
- 110kV underground cable.

The proposed project also comprises permanent works at the ESB Lodgewood 220kV Substation including:

- New single bay connection point,
- Busbar extension,
- HV Switchgear,
- Circuit Breaker (CB),
- Isolators,
- Cable Sealing End (CSE),
- Surge Arrestor (SA),
- Earth Disconnect (DT/DEM),

- Current /Voltage Transformer (CT/VT),
- LCC and Control & Protection cabinet, and
- All associated and ancillary civil and electrical infrastructure.

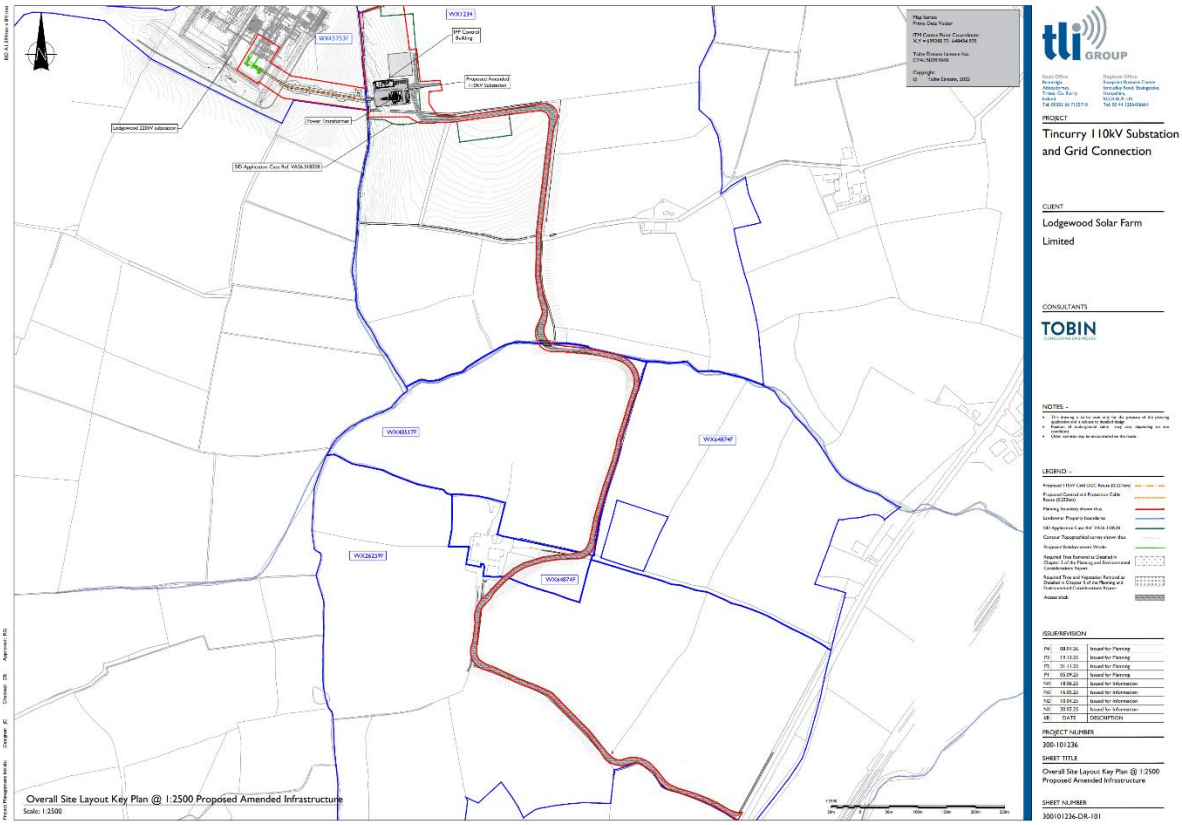

Figure 2-2: Site Location Plan

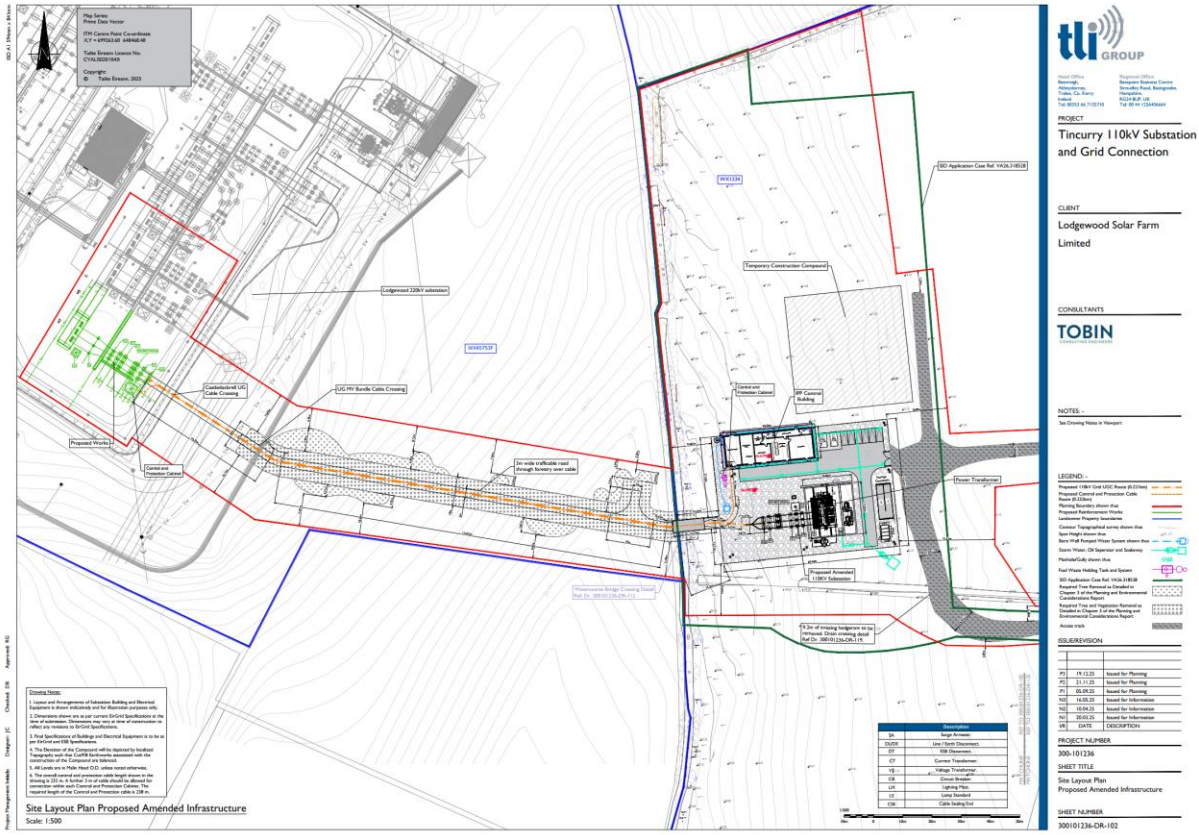

Figure 2-3: Site Layout Plan

2.3 Development Comparison

Table 2-1 compares the proposed amendments to the key civil and electrical infrastructure associated with the permitted Tincurry 110kV Substation and Grid Connection.

Table 2-1: Comparison of Key Infrastructure of Tincurry 110kV Substation

Original	Amended	Description of Amendment
Electrical & Civil Infrastructure		
EirGrid Building	Not required for an UTF connection	Removed from the amended design due to reconfiguration.
IPP Control Building	IPP Control Building and Operations Building for the Solar Farm	Retained, redesigned and repositioned.
110/33kV Transformer		Retained and repositioned.
Fire/Blast Wall		Retained and repositioned.
Cable Sealing End (CSE)		Retained and repositioned.
Surge Arrestor (SA)		Retained and repositioned.
Earth Disconnect (DT/DEM)		Retained and repositioned.

Original	Amended	Description of Amendment
Current /Voltage Transformer (CT/VT)		Retained and repositioned.
House Transformer (HoT)		Retained and repositioned.
Circuit Breaker (CB)		Retained and repositioned.
Lightning Masts (LM)		Retained and repositioned.
Diesel Generator		Retained and repositioned.
Harmonic filters if required by EirGrid		Retained and repositioned.
Capacitor Bank if required by EirGrid		Retained and repositioned.
Telecoms Pole		Retained and repositioned.
110kV underground cable		Retained, extended and repositioned.
EirGrid Substation Works		
No new infrastructure within the EirGrid Substation was proposed as part of the original application.	New single bay connection point	Newly proposed component
	Busbar extension	Newly proposed component
	HV Switch Gear	Newly proposed component
	Circuit Breaker (CB)	Newly proposed component
	Isolators	Newly proposed component
	Cable Sealing End (CSE)	Newly proposed component
	Surge Arrestor (SA)	Newly proposed component
	Earth Disconnect (DT/DEM)	Newly proposed component
	Current /Voltage Transformer (CT/VT)	Newly proposed component
	All associated and ancillary electrical infrastructure	Newly proposed component
Associated and Ancillary Works		
Perimeter security fencing		Retained and repositioned.
Security lighting		Retained and repositioned.
Water and drainage infrastructure		Retained and repositioned.

Original	Amended	Description of Amendment
Temporary construction compound		Retained and repositioned.
Site access tracks entrance and parking bays		Retained and repositioned. Access track widened in parts to accommodate deliveries with the addition of a stream crossing. Compound entrance repositioned with dry drain crossing retained and repositioned.

3. METHODOLOGY

3.1 STATEMENT OF AUTHORITY

This AA Report was authored by TOBIN Senior Ecologist John Sherry B.Sc. (Hons), and reviewed by TOBIN Senior Ecologist Sinead O'Reilly (B.Sc., M.Res.)

John Sherry B.Sc. (Hons)

John Sherry is a Senior Ecologist with TOBIN Environment and Planning (E&P). He holds a B.Sc. (Hons) in Wildlife Biology from Munster Technological University (formerly the Institute of Technology Tralee) and has over six years of post-graduate experience in ecology and environmental consultancy. John's experience includes the surveying and reporting of large-scale renewable energy and infrastructure projects, with expertise in the preparation of AA Screening Reports, NIS, Environmental Impact Assessment Reports (EIARs), and Ecological Management Plans. He has extensive field experience in the planning and implementation of ecological surveys, including habitat assessments, non-volant mammal surveys, bat surveys, and ornithological surveys. His primary focus has been on the surveying and reporting of wintering and breeding bird associated with wind energy and other large scale infrastructure developments.

Sinead O'Reilly (B.Sc., M.Res.)

Sinead O'Reilly is a Senior Ecologist with the TOBIN E&P division. Sinead has 15 years' post graduate experience in ecology and environmental consultancy. Sinead's experience has involved the renewable energy industry, waste industry, residential and mixed-use developments. Sinead has extensive experience in aquatic surveys (including crayfish trapping, electrofishing, fisheries assessments, biological water quality assessment etc.) as well as experience in terrestrial surveys for protected habitats and species and invasive species. Sinead has written and delivered numerous reports including AA Screenings, NIS reports, Biodiversity Management Plans, Preliminary Ecological Appraisals (PEAs), aquatic reports, invasive species reports, mammal survey reports and other documents for various projects in the renewable energy industry and waste industry as well as residential and commercial industries.

TOBIN ecologists responsible for undertaking the surveys used to inform the Screening for the AA were:

- Úna Butler B.A. (Hons) M.Sc.
- Joao Martins B.E. (Hons) M.Sc.
- Ciara Byrne B.Sc. (Hons)

3.2 Legislation and Policy

This report has been carried out in accordance with the following legislation and guidance:

Legislation

- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011), and
- Planning and Development Acts 2000 to 2024, as amended, including Part XAB.

Guidance

- Communication from the Commission on the Precautionary Principle (European Commission, 2000);
- Nature and Biodiversity Cases: Ruling of the European Court of Justice (European Commission, 2006);
- Managing Natura 2000 sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC (European Commission, 2019);
- Interpretation Manual of European Union Habitats (European Commission, 2013);
- Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities (DoEHLG, 2010);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (European Commission, 2007);
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (European Commission, 2021); and
- Appropriate Assessment Screening for Development Management (OPR, 2021).

As previously noted, this report has similarly been prepared with regard to relevant rulings by the CJEU, the High Court, and the Supreme Court.

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with European Commission (European Commission, 2021):

- Favourable conservation status (FCS) can only be defined and achieved at the level of the natural range of a species or a habitat type. A broad conservation objective aiming at achieving FCS can therefore only be considered at an appropriate level, such as for example the national, biogeographical or European level. The conservation measures have to correspond to the ecological requirements of the natural habitat types in Annex I and of the species in Annex II present on the site. The ecological requirements of those natural habitat types and species involve all the ecological needs which are deemed necessary to ensure the conservation of the habitat types and species. They can only be defined on a case-by-case basis and using scientific knowledge;

- The integrity of a European site is defined as the coherent sum of the site's ecological structure, function, and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated; and

- Significant effect should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's Conservation Objectives and ecological characteristics.

3.3 RELEVANT EUROPEAN SITES

The identification of relevant European sites to be included in this report was based on the identification of the Zone of Influence (ZoI) of the Proposed Project, applying a source-pathway-receptor model of effects, and assessing the likely significance of any identified effects.

3.3.1 Zone of Influence

Guidance in AA of plans and projects in Ireland notes that a distance of 15km is recommended for the identification of relevant European sites (DoEHLG, 2010). However, the guidance also states that, for some projects, the distance could be much less than 15km, while for other projects the distance could be less than 100m. The evaluation of the extent of the ZoI then requires a case-by-case basis, with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (OPR, 2021).

For the appraisal of connectivity between the Proposed Project and specific Qualifying Interests (QIs) or Special Conservation Interests (SCIs), the potential impact pathways to the ecological features of interest are considered. The ZoI of the Proposed Project on mobile species (e.g. birds, mammals, and fish), and static species and habitats (e.g. saltmarshes, woodlands, and flora) is considered differently. Mobile species have a 'range' outside of the European site in which they are a QI or a SCI. The range of mobile QI/SCI species varies considerably, from several metres (e.g. in the case of Whorl Snail, *Vertigo* spp.), to hundreds of kilometres (in the case of migratory wetland birds). Nevertheless, whilst static species and habitats are generally considered to have ZoIs within close proximity of the Proposed Project, they can be significantly affected at considerable distances from an effect source. For example, where an aquatic QI habitat or plant is located many kilometres downstream from a pollution source. Hydrological linkages between the Proposed Project and European sites (and their QIs/SCIs) can occur over significant distances. However, any effect will be site specific depending on the receiving water environment and nature of the potential impact, which, taking into account the likely sources for significant hydrological effects from the Proposed Project (e.g. likely volumes of contaminants to be stored, or accidentally spilled), is considered to extend until the first surface water body of depositional nature (e.g. lake or transitional water body) – Section 4.1.2.3.

3.3.2 Source-Pathway-Receptor Model

The likely effects of the Proposed Project on European sites have been appraised using a source-pathway-receptor model, a standard tool used in environmental assessment (Holdgate, 1979), specific for the Proposed Project (Figure 3-1).

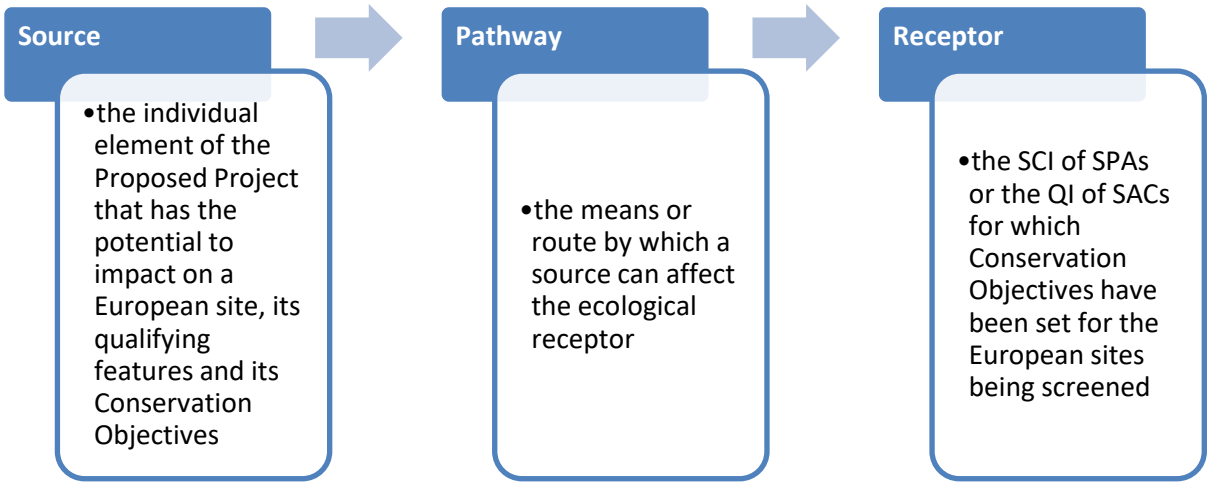

Figure 3-1: Illustration of the Source-Pathway-Receptor Model for the Proposed Project

The existence of a pathway is a crucial element in the screening process. If no pathway can be identified between the 'source' and the 'receptor', then no effect can be anticipated on the receptor (OPR, 2021).

In this report, 'relevant' European sites are those within the potential ZoI of activities where pathways to European sites were identified through the source-pathway-receptor model.

3.3.3 Likely Significant Effect

It is relevant to distinguish between 'impact' and 'effect', in the context of AA. The former, 'impact', is considered the outcome of an element of a development on the environment, whereas 'effect' is how that outcome relates to the Conservation Objectives (OPR, 2021).

The threshold for a Likely Significant Effect is treated in the screening exercise as being above a de minimis level. The opinion of the Advocate General in CJEU case C-258/11 outlines:

> "*The requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill*".

3.4 Data Collection Methods

This amendment report derives from the granted application for the Tincurry 110kV Substation (An Coimisiún Pleanála case reference 318528), and, in the specific case of the present NIS of the Proposed Tincurry Substation & Grid Connection, County Wexford which informed the granted planning application. However, as the amendment to the Proposed Project includes additional areas than those surveyed and assessed for the mentioned original NIS, the description of the receiving environment (Section 4) details all of its elements surveyed for the original Ecological Impact Assessment (EcIA), as well as the additional areas associated with the amendment.

This AAS is informed by a desk-based study, as well as by field surveys conducted at the Proposed Project site.

3.4.1 Desk Study

A desk study was completed to gather information on nearby protected areas, habitats and species, the likely location and distribution of designated habitats and species in the general area, as well as the identification of likely issues and concerns relating to the Proposed Project works and activities.

The desk study comprised a review of the following key datasets and information sources:

- The granted application for the Tincurry Substation (An Coimisiún Pleanála case reference 318528)[2] containing the previous NIS and EcIA for the consented substation.
- Identification of European sites within the ZoI of the Proposed Project through the identification of potential pathways connecting the Proposed Project and European sites;
- Review of the National Parks and Wildlife Service (NPWS) site synopsis, Natura 2000 data forms and Conservation Objectives for European sites within the Proposed Project ZoI[3];
- NPWS datasets on Annex I habitats and Annex II species[4], particularly the Article 17 of the Habitats Directive report spatial data[5];
- National Biodiversity Data Centre (NBDC) records[6];
- Ireland Geospatial Data Hub[7];
- Inland Fisheries Ireland (IFI) research data[8];
- Water Framework Directive (WFD) monitoring information[9];
- Geological Survey Ireland Spatial Resources[10];
- Flood Maps for the Republic of Ireland[11]; and
- Environmental Protection Agency (EPA) Mapping database[12].

Also, historical surveys conducted at the Proposed Project local area were also consulted to inform the desk study. As examples, the planning applications 20221309[13], and 20231025[14], beyond being reviewed in the context of the assessment of in-combination effects with the Proposed Project (Section 5.2), included ecological surveys, and their results are used herein to describe the potential presence of sensitive ecological receptors in the receiving environment (e.g. Freshwater Pearl Mussel, *Margaritifera margaritifera*).

[2] Available at https://www.pleanala.ie/en-ie/case/318528 . Accessed February 2026
[3] Available at https://www.npws.ie/protected-sites. Accessed in February 2026
[4] Available at https://www.npws.ie/maps-and-data. Accessed in February 2026
[5] Available at https://storymaps.arcgis.com/collections/1a721520030d404f899d658d5b6e159a. Accessed in February 2026
[6] Available at https://maps.biodiversityireland.ie/. Accessed in February 2026
[7] Available at https://www.geohive.ie/. Accessed in February 2026
[8] Available at https://www.fisheriesireland.ie/. Accessed in February 2026
[9] Available at https://www.catchments.ie/. Accessed in February 2026
[10] Available at https://www.gsi.ie/en-ie/Pages/default.aspx. Accessed in February 2026
[11] Available at https://www.floodinfo.ie/map/floodmaps/. Accessed in February 2026
[12] Available at https://gis.epa.ie/EPAMaps/. Accessed in February 2026
[13] Available at https://planning.agileapplications.ie/wexford/application-details/124276#documents. Accessed in February 2026
[14] Available at https://planning.agileapplications.ie/wexford/application-details/125899#documents. Accessed in February 2026

3.4.2 Field Study

Comprehensive field surveys were undertaken by Ecology Ireland in 2022 and 2023 to inform the original consented substation development. These previously surveyed areas were re-surveyed by TOBIN in 2025, together with additional lands not included in the earlier surveys. The following sections describe the methodologies applied during the 2025 field surveys, informed by the findings of the desk study described above.

3.4.2.1.1 Habitats and Flora

A multidisciplinary walkover survey was undertaken at the Proposed Project site and immediate vicinity on the 5th and 6th of June, and 23rd of September 2025. Representative habitats within the Proposed Project site and its surroundings were surveyed and mapped, in good weather conditions and unconstrained. Habitats surveyed within the site were classified upon the qualitative consideration of the plant species abundance, diversity, structure, and protection status; the predominant plant species were identified and named according to Parnell and Curtis (2012) and Stace (1991) for higher plans; and Fitter and Fitter (1989) for grasses, sedges and rushes.

Habitats were classified according to Fossitt (2000), while satellite imagery assisted with habitat delineation and interpretation, following Smith *et al.* (2011). Particular attention was dedicated in the identification of plant species protected under the Flora Protection Order (FPO)(S.I. No. 235/2022), listed in Irish Red List Series (Lockhart *et al.*, 2012; Wyse Jackson *et al.*, 2016), and habitat/species that could afford its classification as those designated under the Annex I of the Habitats Directive (Council Directive 92/43/EEC).

Also, a search for Invasive Alien Plant Species (IAPS) listed on the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) was also conducted throughout the surveyed area.

3.4.2.1.2 Mammals

During the site visits for the multidisciplinary walkover survey, particular attention was dedicated to the detection of evidence (primary – e.g. direct sightings; or secondary – e.g. breeding/resting habitat) indicating the presence, or likely presence of protected mammal species likely to occur within the Proposed Project site. The search focused on habitats within, and immediately adjacent, to the development site (as defined by each of the ZoI – Section 3.3.1), where habitats were searched for field signs and/or usage by fauna, such as well-used tracks, droppings, places of shelter and features/areas likely to be of particular value as foraging resources, in accordance with NRA (2009).

Otter (*Lutra lutra*) is afforded protection under Annex II, and IV of the Habitats Directive, and Wildlife Act (as amended), and evidence for its presence was searched along suitable habitat within the Proposed Project site (e.g. drainage ditches or rivers). The survey area encompassed a 150m buffer surrounding the Proposed Project site to account for noise disturbance effects (Chanin, 2003; NRA, 2006).

The multidisciplinary walkover survey also included a daytime preliminary roost assessment survey, which was undertaken on all trees present within the Proposed Project site, and its vicinity. Information was gathered on potential roost features on trees (e.g. cavities; cracks; Ivy, *Hedera Hibernica*, cover), following methods outlined by Collins (2023).

3.4.2.1.3 Aquatic Survey

First and second Strahler order streams (Strahler, 1957) are not specifically monitored for the WFD (rivers with catchments of less than 10km^2 are not included in Annex II of the WFD), but may be very important resources in terms of spawning for salmonid fish, and in terms of providing clean dilution water for main-stem rivers (Kavanagh *et al.*, 2006). As the Lodgewood stream is intercepted by the Proposed Project is of such typology (Figure 3-2), the use of a specific methodology developed for the assessment of this type of streams is appropriate - the Small Streams Risk Score (SSRS), a methodology solely based on macroinvertebrates and their well known response to pollution (Ryan *et al.*, 2015). The level of taxonomy required for SSRS is less rigorous than that required for full ecological status assessment using the EPA's Q-Value system (Toner *et al.*, 2005), but it is not sensitive enough to provide a full ecological status assessment for macroinvertebrates. However, it provides an extremely useful method for the identification of diffuse pollution sources (McGarrigle, 2014), in catchments of the size and land use as in the Proposed Project local area. The aquatic survey was undertaken at two locations within the Lodgewood stream in June and September 2025. The sites (given their EPA codes) are shown in Figure 3-2.

The SSRS methodology consists of:

- Site selection: Two sampling sites (C and D)
  - Site C: Lodgewood stream (EPA Code: 12L55)
  - Site D: Lodgewood stream (EPA Code: 12L55);
- Two minute kick sample;
- One minute stone wash;
- Weed sweep (depending on the nature of the river);
- Macroinvertebrate taxa identification of collected sample; and
- Filling of SSRS field sheet, and calculation of SSRS scores, which are categorised as:
  - >7.25 – stream 'probably not at risk';
  - >6.5 to 7.25 – stream 'probably at risk'; and
  - <6.5 – stream 'at risk'.

Furthermore, relevant aquatic/riparian habitat and hydromorphological features were recorded at the surveyed river reach during the site visit in June 2025, such as:

- Bank characteristics: bank height; bank width; habitat classification (Fossitt, 2000); riparian vegetation; land use;
- Aquatic habitat: wetted width; depth; water level (qualitative); flow velocity (qualitative); flow typology; substrate composition; instream vegetation (macrophyte; filamentous algae); and
- Local pressures.

These features were used to assess the physical suitability of each channel for supporting salmonids, lampreys, and White clawed Crayfish (*Austropotamobius pallipes*), and complement the SSRS assessment.

It is important to reiterate that the SSRS is not a method for assigning an 'ecological status' to rivers, being solely developed for the identification of streams at risk of being affected by point source and/or diffuse pollution (Kavanagh *et al.*, 2006).

Legend

- Site Boundary
- Rivers Sites
- Aquatic Sampling Locations

0 50 100
Meters

Spatial Reference
Datum: IRENET95
EPSG: 2157

Copyrights:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,

Rev	Date	Description	By	Chkd
A	04/02/2026	First issue	K.K	D.B

Client: Ørsted

Project:

Lodgewood Solar

Title:

Figure 3-2:
Selected Location for
SSRS Assessment

Scale @ A3: 1:3,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	February 2026

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Map Ref: 12123-020-Aq.Loc-S.BO...NIS-TOB-A

Draft: A

4. RECEIVING ENVIRONMENT

4.1 DESK STUDY

A description of the existing environment is provided hereunder, informed by a comprehensive desktop assessment of available data (NPWS, NBDC, BSBI and other data listed in Section 3.4.1) within the 2km grid square containing and adjoining the project (S94Y and S94Z). This includes records of rare and/ or protected habitats, flora and fauna species and INNS within the vicinity of the proposed project. A full description of the multidisciplinary ecological field surveys results is also provided in Section 4.2.

4.1.1 Habitats and Flora

4.1.1.1 Habitats

NPWS Article 17 data and reports (NPWS, 2019a), shows there are no records of Annex I habitats within the 2km grid square (S94Y and S94Z) surrounding the Proposed Project. The absence of Annex I habitats within the Proposed Project site was confirmed during the field surveys (see Section 4.2.1).

4.1.1.2 Invasive Flora and Fauna Species

A review of the NBDC website[6] shows a single record of the invasive plant species Himalayan Balsam (*Impatiens glandulifera*), recorded in 2020 within the 2km grid square (S94Y).

4.1.2 Fauna

NPWS Article 17 spatial data (2019)[5] and reports, shows there are no records of Annex species recorded within the 2km grid squares of the Proposed Project however one Annex II species (otter) was recorded in several of the 2km grids surrounding the Proposed Project (see Table 4-1 below).

Additionally, no birds listed on Annex I of the birds directive or associated with nearby Special Protection Areas (SPAs) were recorded within or near the Proposed Project.

Table 4-1: Relevant Biodiversity Records at S77V Irish Grid Square

Grid Reference	Common Name	Scientific Name	Most Recent Record	Designation
Mammals				
S966477	Eurasian Otter	*Lutra lutra*	03/12/2008	• Annex II and IV of the HD, WA
S967488				
S983450				
S987448				
S983451			01/12/2015	
T021485			02/12/2015	

4.1.2.1 Otter

As described in Section 3.4.1, ecological surveys carried out relatively recently (2022 and 2023) within an area encompassing the Proposed Project general area[13, 14]. One of those surveys involved the deployment of trail cameras, one of which was deployed on the Lodgewood stream, approximately 300m southeast of the consented Tincurry 110kV Substation, overlapping the Proposed Project. Between July 6th and August 31st, 2022, this camera captured footage of Otter as well a variety of bird species and mammal species. Otter was recorded three times over the course of the camera deployment.

4.1.2.2 Bats

All bat species occurring in Ireland are legally protected under the Wildlife Acts (as amended), and under the provisions for species listed in Annex IV of the Habitats Directive. Despite the low local suitability for bats (due to the presence of large open agricultural fields), the ecological surveys in 2022 (conducted as part of the original planning application 20221309[13]) also included the deployment of a passive bat detector within the Proposed Project (near the Tomgarrow 12 stream - Figure 3-2), along hedgerow habitat, from the 6th of July until the 1st of August 2022[13]. The deployed passive bat detector retrieved a dominant activity of Soprano Pipistrelle (*Pipistrellus pygmaeus*) (~82% of the records), followed by Common Pipistrelle (*Pipistrellus pipistrellus*) (~11%) and Leisler's Bat (*Nyctalus leisleri*) (~6%). The remainder bat species recorded on site represent <1% of the recorded bat activity (Table 4-2). The bat activity recorded is reflective of common bat species, likely commuting or foraging along the linear habitat and watercourses.

Table 4-2: Passive Bat Activity Records within the Proposed Project in 2022 (derived from documentation in support of planning application 20221309[13])

Species	Number of records Site Coordinates: 52.57438N, 6.55735W
Daubenton's Bat (*Myotis daubentonii)*	16
Leisler's Bat (*Nyctalus leisleri)*	1,154
40/50kHz Pipistrelle (*Pipistrellus* sp.*)*	45
Common Pipistrelle *(Pipistrellus pipistrellus)*	1,925
Soprano Pipistrelle *(Pipistrellus pygmaeus)*	14,651
Brown Long-eared Bat (*Plecotus auritus)*	51
Whiskered Bat (*Myotis mystacinus)*	8
Myotis sp. (*Myotis* sp.*)*	10
Natterer's Bat (*Myotis nattereri)*	4

4.1.2.3 Fisheries

Records from IFI database[8] show IFI have undertaken fish stock assessments on the River Bann (EPA code: 12B01) located in the Bann_070RWB, in 2016 and 2023 as part of a catchment-wide survey of the Slaney River catchment. One Habitats Directive Annex II species, Atlantic Salmon was recorded present. This distribution data suggests Salmon migrating up the River Bann. A

fish ecological status of "Moderate" was assigned to the River Bann, in 2023 based on the stock assessment results.

4.1.2.4 Freshwater Pearl Mussel

As part of the ecological reporting for the permitted Tincurry Solar Farm[13,14] and the permitted Tincurry 110kV substation and grid connection[2], a number of surveys were completed including comprehensive aquatic ecology surveys comprising surveys of biological water quality and fisheries habitats, including presence and absence surveys for Freshwater Pearl Mussel (FPM) on sections of the Bann and River Slaney.

The results of these surveys noted the presence of FPM at two locations in the River Bann main channel located approximately 2.3km and 4.6km downstream of the Proposed Project and two locations in the River Slaney main channel, one located upstream of the Bann and Slaney confluence (therefore no hydrological connectivity exists), while the other is approximately 6.2km downstream of the Proposed Project.

4.1.3 Hydrology – Surface Water

The Proposed Project is located within the Bann[Wexford]_SC_010 (12_13) sub catchments.

The Proposed Project intersects the Surface Water Body (SWB) Bann_070 River Water Body (RWB), (Water Framework Directive [WFD] waterbody code: IE_SE_12B011000), which is located within the redline boundary of the Proposed Project. The Bann_070 River flows into the Slaney_170 RWB (waterbody code: IE_SE_12S022300), located 6km downstream. This establishes the freshwater component of the hydrological pathway from the Proposed Project. This pathway is completed immediately downstream, by the Upper Slaney Estuary WFD transitional water body (TWB) (waterbody code: IE_SE_040_0300). The location of these SWB's is shown in Figure 4-1.

The Bann_070 RWB is located within the Slaney River Valley SAC (000781), located 1.5km east of the Proposed Project, and a hydrological distance of 2.1km downstream. The Proposed Project is hydrologically connected to the Slaney River Valley SAC via the Bann_070 RWB.

A search of the EPA Unified GIS Application[12] and the EPA Catchments database[9] was conducted for the water quality status of watercourses located within the ZoI. Table 4-3 lists the most recent Q-value assessment available of relevant EPA monitoring stations located upstream, and downstream of the proposed project providing data on overall water quality in the area.

The EPAs' published WFD status classification of the Bann_070 RWB for the period 2019-2024, reported this surface waterbody was of 'Good' status. It is considered 'Not at Risk' of not achieving a 'Good' status in 2027[9].

The EPAs' published WFD status classification of the Slaney_170 RWB for the period 2019-2024, reported this surface waterbody was of 'Good' status. It is considered 'Not at Risk' of not achieving a 'Good' status in 2027[9].

It is possible to verify that, despite the freshwater component (rivers) having all been classified with "Good" WFD water quality status, they all failed the WFD objectives regarding 'Nitrates', being classified at "Moderate" for this parameter[9], commonly associated with agricultural pressures (i.e. point or diffuse Nitrate pollution from agricultural fields). This conclusion is

confirmed by the latest EPA report on the Slaney & Wexford Harbour Catchment, which identifies 'agriculture' as the most common significant pressure affecting surface water bodies in the catchment in 2021 (EPA, 2024). Perhaps as a partial consequence of this pressure to the river water bodies, one of the limiting factors for the Upper Slaney Estuary WFD transitional water body not achieving its WFD objectives (it is classified as "Moderate" WFD water quality status) is the 'Nutrient Conditions' (Table 4-3).

4.1.4 Hydrogeology - Groundwater

The Proposed Project is located within Ballyglass WFD groundwater body (GWB) (groundwater body code: IE_SE_G_011). The Ballyglass GWB is a large groundwater body, stretching under an area of approximately 1,390km^2, from County Wicklow to County Carlow and County Wexford. Although the available description of the Ballyglass WFD groundwater body is quite broad considering the groundwater body extent[10], it refers to a thick subsoil (>5m) around the Proposed Project general area (i.e., near the Slaney River), overlaying a siliceous bedrock, while the groundwater flow paths are generally short, and directed to the nearest surface water body. The EPA's published and latest available WFD status classification for the period 2019-2024 indicates that Ballyglass GWB is at 'Good' qualitative (chemical) status and 'Good' quantitative status (i.e., not overexploited), thus at 'Good' status overall and meeting WFD 'Good status' objectives, however it is 'At Risk' of failing to achieve WFD 'Good' status objectives in 2027 (EPA, 2026).

The Ballyglass GWB has been classified with Good water quality status for the latest assessment period (2019-2024).

Table 4-3: Relevant WFD Water Bodies and Latest WFD Water Quality Status[9]

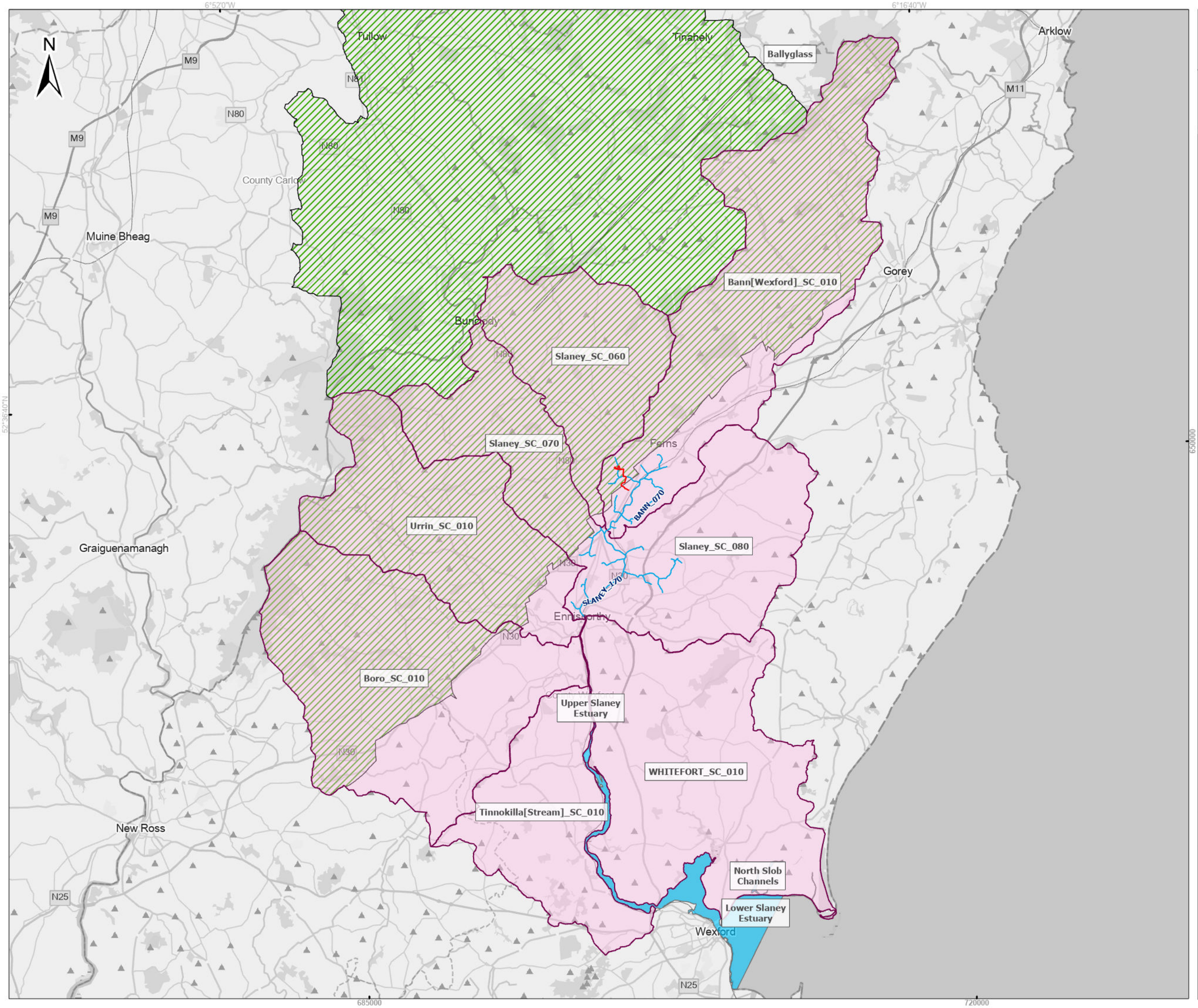
Unassigned | Bad | Poor | Moderate | Good | High

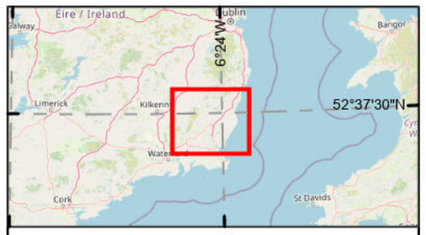
Water Body Name	WFD Reference Code	Station Name	Station Code	Year	Q-Value	WFD Water Quality Status	Limiting Factor
Bann_070	IE_SE_12 B011000	Bann Br	RS12B0 11000	2022	4	Good	Nitrogen conditions Nitrate
Slaney_160	IE_SE_12S 022200	Scarawalsh Br	RS12S0 22200	2022	4	Good	Nitrogen conditions Nitrate
Slaney_170	IE_SE_12S 022300	Slaney - Just W of Salsborough Br	RS12S0 22220	2022	4	Good	Ecological Status or Potential Supporting Chemistry Nitrogen conditions Nitrate Specific Pollutant Conditions
Slaney_170	IE_SE_12 C040900	Br u/s Slaney R confl	RS12C0 40900	2022	4	Good	

Water Body Name	WFD Reference Code	Station Name	Station Code	Year	Q-Value	WFD Water Quality Status	Limiting Factor
Upper Slaney Estuary	IE_SE_040_0300					Moderate	Biological Status or Potential Phytoplankton Status or Potential Nutrient Conditions Other determinant for nutrient conditions
Ground Waterbody							
Ballyglass	IE_SE_G_011					Good	-

4.1.4.1 Flood Risk

Although only used as an indicative tool, the '*Flood Maps for the Republic of Ireland*'[11] have been reviewed to investigate the flood risk potential of the area adjacent to the Proposed Project. However, neither the 'Catchment-based Flood Risk Assessment and Management', or the 'National Indicative Fluvial Mapping' include the Lodgewood stream (i.e. the watercourses in close proximity to the Proposed Project).





Legend

- Site Boundary
- WFD - River water bodies
- WFD - Subcatchments
- WFD - Transitional water bodies
- Hydrogeological Pathway

0 5 10
Kilometers

Spatial Reference
Datum: IRENET95
EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	30/01/2026	First issue	K.K	D.B

Client: Ørsted

Project: Lodgewood Solar

Title: Figure 4-1: Hydrological and Hydrogeological Pathway from the Proposed Development

Scale @ A3: 1:200,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	January 2026

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Map Ref: 12123-021-HYDRO..StA-S.BO..NIS-TOB-A

Draft: A

4.2 FIELD SURVEY RESULTS

The findings of the field surveys of the receiving environment are summarised hereunder.

4.2.1 Habitats and Flora

4.2.1.1 Habitats

An overview of the habitats recorded within the proposed project site is summarised below and shown in Figure 4-2. No Annex I habitat was recorded within the Proposed Project site.

A total of seven habitat types were identified within the Proposed Project site including:

- Arable crops (BC1) – labelled P2 in Figure 4-2.
- (Mixed) Broadleaved woodland (WD1) - labelled P4 in Figure 4-2.
- Dry meadows and grassy verges (GS2) - labelled P5 in Figure 4-2.
- Buildings and artificial surfaces (BL3) - labelled P6 in Figure 4-2.
- Treelines (WL2) - labelled L7 in Figure 4-2.
- Depositing/lowland river (FW2) - labelled L5 in Figure 4-2.
- Drainage ditches (FW4) - labelled L1 to L4 and L6 in Figure 4-2.

The two most representative habitats within the studied area, occupying similar extents are – Arable crops (BC1) and (Mixed) Broadleaved woodland (WD1). The Arable crop BC1 was planted with a Wheat monoculture (*Triticum* spp.), with low diversity and limited ecological value. The (Mixed) Broadleaved woodland (WD1) is a mature woodland, highly diverse in species, and in good condition, representing a rare habitat in the local area. It provides suitable foraging habitat for local terrestrial mammals. This habitat shows signs of historical management, such as the presence of excavated drainage ditches (L1, L2, L3), which may have been introduced to regulate the local land drainage. Within the (Mixed) Broadleaved woodland, a notable Treeline (WL2) feature was recorded, the habitat was made up of several mature Scots pine (*Pinus sylvestris*) and noted to contain potential bat roosting features in the form of loss bark, fissures and broken limbs.

The space mediating the habitat P2 (BC1 – Arable crops) and P4 (WD1 – (Mixed) Broadleaved woodland) was occupied by a narrow area of Dry meadows and grassy verges (GS2), a rare habitat in the local area (i.e., not recently managed grasslands, important for pollinators). It is likely to reflect management cessation in the area, as, although with relevant diversity. This habitat is mostly occupied by ruderal graminoid species, typical of early stages of vegetation recolonisation.

Another relevant feature in the landscape at this location is the area occupied by the 220kV Lodgewood Substation. The habitat is described as Buildings and artificial surfaces (BL3), its surface is largely artificial (more than 50%), with managed rank vegetation around its boundary.

In terms of linear habitats, the most notable feature within the surveyed area was the FW2 – Depositing/lowland river habitat – the Lodgewood stream (EPA code 12L55), which is part of the Bann_070 RWB. It is a small stream, but its importance is heightened due to the pathway it assumes in connecting the Proposed Project site and the Slaney River Valley SAC (Section 4.1.3), and in particular to the existing Freshwater Pearl Mussel populations located downstream (section 4.1.2.4). Furthermore, FW1 habitats are listed in the most up-to-date County Wexford Biodiversity Action Plan (Wexford County Council, 2013) as a threatened habitat.

The surveyed area also included several drainage ditches (FW4), both within the P4 habitat and dividing the two P2 agricultural fields (Figure 4-2). These drainage ditches were either dry (L6) or occasionally held standing water during the field survey (L1-L4). These drainage ditches located within the Proposed Project have some connection to the Lodgewood stream, however these artificial channels did not include any distinctive vegetation from their surroundings but could be of some local importance for wildlife. They contained no suitable spawning habitat for aquatic species.

Legend

- Site Boundary
- Bat Potential

Habitats

- FW4 - Drainage ditches
- WL2 - Treelines
- FW1 - Eroding/Upland River
- GS2 - Dry meadows and grassy verges
- BC1 - Arable crops
- WD1 - (Mixed) broadleaved woodland
- BL3 - Buildings and artificial surfaces

0 20 40
Meters

Spatial Reference
Datum: IRENET95
EPSG: 2157

Copyrights:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,

Rev	Date	Description	By	Chkd.
A	26/02/2026	First issue	K.K	D.B

Client: Ørsted

Project:

Lodgewood Solar

Title:

Figure 4-2:
Relevant Field Study Observations at the Proposed Project

Scale @ A3: 1:1,500

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	February 2026

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Map Ref: 12123-022-HAB-S.BO..NIS-TOB-A

Draft: A

4.2.2 Protected Flora Species

No QI plant species listed under the Flora Protection Order 2022 (FPO) were recorded within the Proposed Project site.

4.2.3 Invasive Non-Native Species

No INNS were recorded within the Proposed Project site.

4.2.4 Fauna

There was no record of Annex species or QI/SCI species listed for nearby European sites recorded within or around the Proposed Project during the 2025 updated surveys.

4.2.4.1 Bats

During the multidisciplinary walkover survey, several trees along the Proposed Project have been identified as holding relevant bat roost potential (although only two examples of trees with PRF are presented Figure 4-2, they are abundant throughout the P4 woodland habitat), which are indicative for the potential local presence of bat roosts. The trees identified to have Potential Roost Features (PRFs) should be interpreted as indicative, and not an exhaustive representation of PRFs within the Proposed Project. All PRFs identified were classified as 'PRF-M' (which marks a sizeable feature suitable to host a maternity roost) (Table 4-4) as a precautionary approach, considering their identification was not the result of a dedicated 'PRF aerial inspection survey' (Collins, 2023).

The presence of the identified PRFs indicates the potential regular occurrence of bats, whose species are designated for protection under Annex IV of the Habitats Directive (Table 4-4).

Table 4-4: Mammal Activity Recorded at the Proposed Project Site

Mammal Species	Map Ref.	Recorded Sign	Notes
Bats	BAT19	PRF-M	Mature Beech tree with notches and Ivy
	BAT20	PRF-M	Scots Pine tree within significant broken limbs and some peeling bark. Although only two examples of trees with PRF are presented, they are abundant throughout the P4 woodland habitat – potentially indicating the presence of a roost (Collins, 2023).

4.2.5 Aquatic Survey

4.2.5.1 Water Quality and Fisheries Habitat

The moderate flowing nature of the Lodgewood stream (EPA code12L55) in the Bann_070 RWB in the survey area provided suitable spawning and nursery habitat for Salmonids and River and Brook Lamprey however it did not contain suitable conditions for Lamprey ammocetes, which require soft substrates into which they can burrow. There is high potential for salmonids and Lamprey spawning and nursery habitat with the presence of gravels.

The channel contained moderate value for salmonids due to the evidence of clean water, limited siltation, moderate flow, abundance of spawning gravels and cobbles, and riffle and glide flowing over the substrate. There was an absence of deep holding pools for adult salmonids within the channel.

The drainage ditches located within the site were dry or held stagnant water during the surveys. These drains did not contain suitable habitat for salmonids or Lamprey species.

A habitat assessment and manual search was carried out at all accessible sites of the Lodgewood stream for the presence of white-clawed crayfish. No white-clawed crayfish were recorded present at the site, nor were any captured during kick sampling survey. No evidence of white-clawed crayfish carapace or claw remains were recorded on the riverbanks or bridge ledges in the form of Otter scat or remains from predation.

Potential suitable habitat to support crayfish was recorded however, where refuge and detritus was present with moderate water quality. All drainage ditches located within the Proposed Project site do not provide suitable habitat for this species.

Results from the aquatic survey conducted at the Lodgewood stream (EPA code 12L55), within the Bann_070 RWB, reflect the local pressures identified in Section 4.1.3.

Although shading of the channel is significant the river channel shows signs of historical regulation (e.g., straightening, excavation), with relatively high and steep banks, with reduced lateral connectivity within the channel. As previously addressed, this setting reduces the riparian nature of bank vegetation, and any filtering effects such vegetation provide to water quality from land use pressures. Nevertheless, it is relevant to note the river substrate was of relatively good quality, without the presence of excessive accumulation of lower granulometry fractions. As a result, although the SSRS result is near the upper limit for a stream 'probably at risk', the relatively high diversity of the reach benthic invertebrate assemblage is of note (Table 4-5).

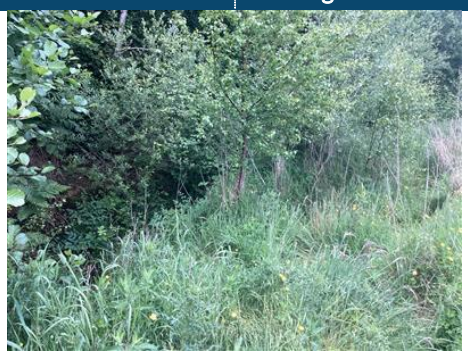
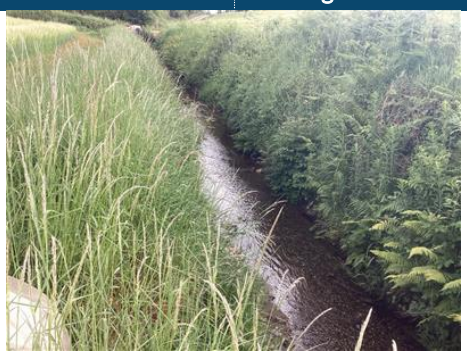
Fish Species

No Annex II fish species were recorded within Lodgewood Stream during the aquatic habitat assessment. The stream is subject to barriers to upstream migration for salmonids and lamprey, located along its lengths (e.g. large culverts) These barriers are likely to restrict access to upstream habitats, limiting the potential use of Lodgewood Stream by migratory Annex II species. The channel lacks deeper holding pools required by larger adult fish, which may further constrain the suitability of the stream for migratory species despite generally adequate habitat conditions.

Table 4-5: Water Quality and Habitat Assesment Bann_070 RWB

WFD River Water Body	Bann_070			
EPA River	Lodgewood			
Sampling Point	C		D	
	Left Bank	Right Bank	Left Bank	Right Bank
Sampled Reach (m)	20		20	
Bank Features	Absent riparian/bank vegetation	-	Riparian vegetation absent	Riparian vegetation absent
Shading (%)	>75%		0%	
Bank Height (m)	1.5	2	4.5	3.5
Bank width (m)	3.5		6.5	
Wetted Width (m)	2.5		3.5	
Average Depth (cm)	10.0		7.0	

WFD River Water Body	Bann_070			
EPA River	Lodgewood			
Sampling Point	C		D	
	Left Bank	Right Bank	Left Bank	Right Bank
Substrate (%) – Boulder (26-200cm)	5		5	
Substrate (%) – Cobble (6-26cm)	10		15	
Substrate (%) – Gravel (0.4-6 cm)	80		65	
Substrate (%) – Sand (0.06-0.4 cm)	5		10	
Substrate (%) – Mud/Silt (<0.06cm)	-		5	
Ephemeroptera	▪ Baetidae		▪ Baetidae	
Plecoptera	▪ Leuctridae		-	
Trichoptera	▪ Hydropsychidae ▪ Rhyacophilidae ▪ Limnephilidae ▪ Sericostomatidae		▪ Hydropsichidae ▪ Rhyacophila ▪ Limnephilidae	
G.O.L.D.	▪ Lumbriculidae ▪ Other		▪ Planorbis ▪ Lumbriculidae ▪ Chironomidae ▪ Simuliidae ▪ Tipulidae	
Aselus	Few		Few	
Small Stream Risk Score	7.2 - stream 'probably at risk'		6.4 – Stream at risk	
Comments	▪ Clear water ▪ Medium slope ▪ Mud over stones ▪ Loose substrate ▪ Slight siltation ▪ Depth of mud: 0cm ▪ No litter ▪ No filamentous algae ▪ Brown Trout parr caught in the kick-sample		▪ Reach in between two culverts; ▪ Straightened and deepened channel, with high banks; ▪ Deep mud (silt) under cobble/gravel	
Photos	 Plate 4.1: Location AQ-C		 Plate 4.2: Location AQ-D	

WFD River Water Body	Bann_070			
EPA River	Lodgewood			
Sampling Point	C		D	
	Left Bank	Right Bank	Left Bank	Right Bank
	 Plate 4.3: Location AQ-C		 Plate 4.4: Location AQ-D	

4.3 European Sites

The Proposed Project does not overlap the boundaries of any European sites (Figure 4-3). However, the hydrological pathway from the Proposed Project, as established in Section 3.3.1, includes all river water bodies from the Proposed Project until the first transitional water body is met (Section 4.1.2.3), which establishes connectivity with any European sites associated with these SWB's. Therefore, the Proposed Project is assessed as being hydrologically connected with the Slaney River Valley SAC (site code: 000781) and Wexford Harbour and Slobs SPA (site code:004076) (Table 4-6). Following an examination of potential ground water impacts, it was found that there are no European sites within proximity of the Proposed Project which have QIs categorised as a Groundwater Dependent Terrestrial Ecosystems (GWDTE) or species dependent on such. Therefore there is no potential for likely significant effects on a European site as a result of potential groundwater impacts.

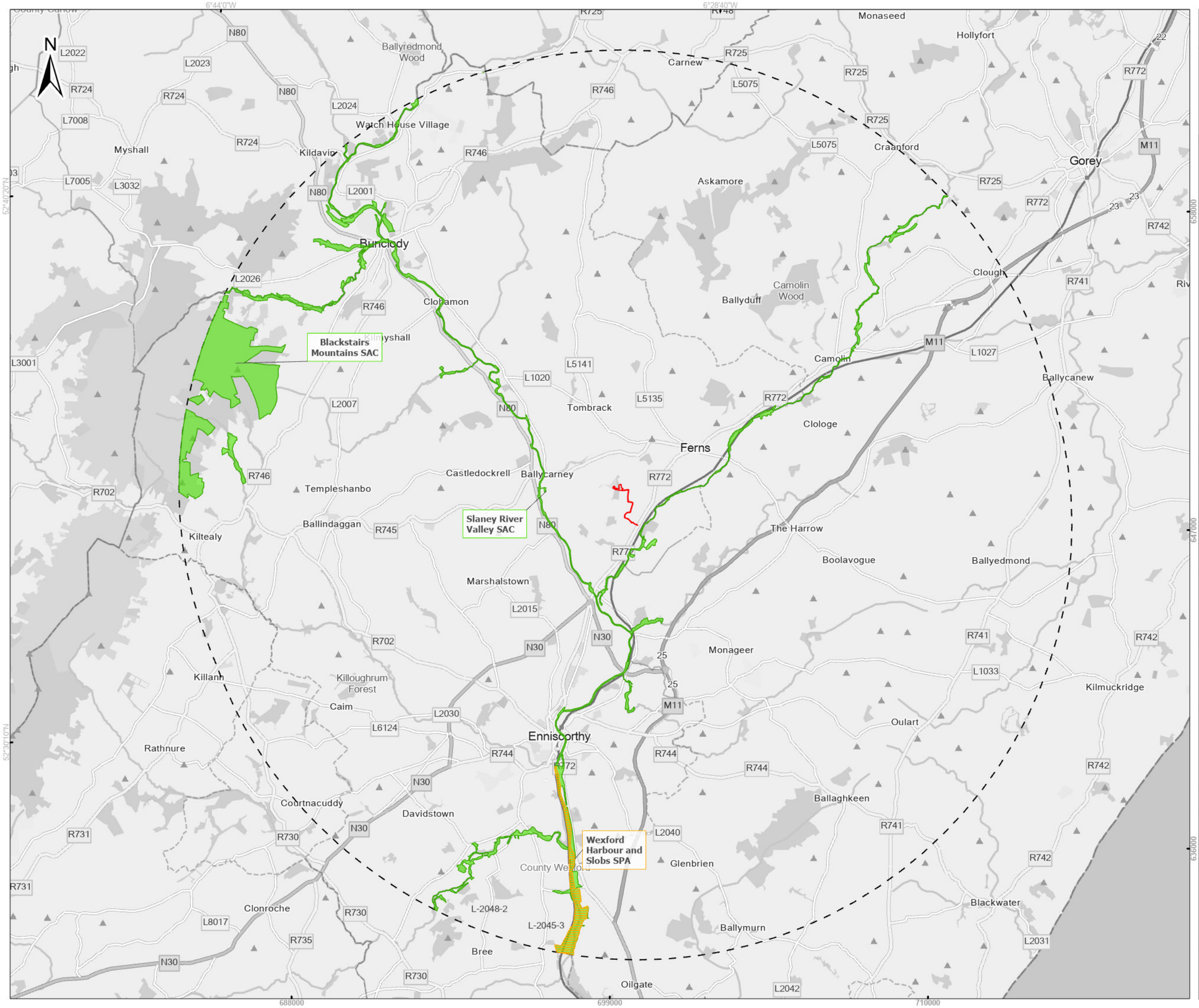
Table 4-6: Appraisal of Connectivity Between the Proposed Project and European Sites

Site Name [Code]	Conservation Objectives; Statutory Instrument	Approximate Distance from Proposed Project	Qualifying Interests/Special Conservation Interests	Connectivity with Proposed Project
Slaney River Valley SAC [000781]	Version 1.0 (NPWS, 2011a); S.I. No. 637 of 2023	1.4km southeast and a hydrological distance of 2km southeast	Freshwater Pearl Mussel *Margaritifera margaritifera* [1029] Sea Lamprey *Petromyzon marinus* [1095] Brook Lamprey *Lampetra planeri* [1096] River Lamprey *Lampetra fluviatilis* [1099] Twaite Shad *Alosa fallax* [1103] Atlantic Salmon *Salmo salar* (only in fresh water) [1106] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Otter *Lutra lutra* [1355] Harbour Seal *Phoca vitulina* [1365] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] 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]	**Yes** The Proposed Project intersects the Lodgewood Stream, part of the Bann_070 WFD river water body (Section 4.1.3), which flows into the Slaney River Valley SAC (Figure 4-3).
Wexford Harbour and Slobs SPA [004076]	Version 1.0 (NPWS, 2012); S.I. No. 194/2012	9.8km south, and a hydrological distance of 14.6km south	Little Grebe *Tachybaptus ruficollis* (wintering) [A004] Great Crested Grebe *Podiceps cristatus* (wintering) [A005] Cormorant *Phalacrocorax carbo* (wintering) [A017] Grey Heron *Ardea cinerea* (wintering) [A028]	**Yes** - Despite all the SCIs associated with the Wexford Harbour and Slobs SPA being designated for specific periods (mostly, during the wintering season [i.e. September to February, inclusive], but also Little Tern, during the breeding [i.e. March to August]), the Proposed Project is hydrologically

Site Name [Code]	Conservation Objectives; Statutory Instrument	Approximate Distance from Proposed Project	Qualifying Interests/Special Conservation Interests	Connectivity with Proposed Project
			Bewick's Swan *Cygnus columbianus* (wintering) [A037]	connected with the Upper Slaney Estuary WFD transitional water body via the Bann _070 RWB (Section 4.1.3), which forms part of this SPA.
			Whooper Swan *Cygnus cygnus* (wintering) [A038]	
			Light-bellied Brent Goose *Branta bernicla hrota* (wintering) [A046]	
			Shelduck *Tadorna tadorna* (wintering) [A048]	
			Wigeon *Anas penelope* (wintering) [A050]	
			Teal *Anas crecca* (wintering) [A052]	
			Mallard *Anas platyrhynchos* (wintering) [A053]	
			Pintail *Anas acuta* (wintering) [A054]	
			Scaup *Aythya marila* (wintering) [A062]	
			Goldeneye *Bucephala clangula* (wintering) [A067]	
			Red-breasted Merganser *Mergus serrator* (wintering) [A069]	
			Hen Harrier *Circus cyaneus* (post-breeding/roost) [A082]	
			Coot *Fulica atra* (wintering) [A125]	
			Oystercatcher *Haematopus ostralegus* (wintering) [A130]	
			Golden Plover *Pluvialis apricaria* (wintering) [A140]	
			Grey Plover *Pluvialis squatarola* (wintering) [A141]	
			Lapwing *Vanellus vanellus* (wintering) [A142]	

Site Name [Code]	Conservation Objectives; Statutory Instrument	Approximate Distance from Proposed Project	Qualifying Interests/Special Conservation Interests	Connectivity with Proposed Project
			Knot *Calidris canutus* (wintering) [A143]	
			Sanderling *Calidris alba* (wintering) [A144]	
			Dunlin *Calidris alpina* (wintering) [A149]	
			Black-tailed Godwit *Limosa limosa* (wintering) [A156]	
			Bar-tailed Godwit *Limosa lapponica* (wintering) [A157]	
			Curlew *Numenius arquata* (wintering) [A160]	
			Redshank *Tringa tetanus* (wintering) [A162]	
			Black-headed Gull *Chroicocephalus ridibundus* (wintering) [A179]	
			Lesser Black-backed Gull *Larus fuscus* (wintering) [A183]	
			Little Tern *Sterna albifrons* (breeding) [A195]	
			Greenland White-fronted Goose *Anser albifrons flavirostris* (wintering) [A395]	
			Wetlands [A999]	

*indicates a priority habitat under the Habitats Directive



Legend

- Site Boundary
- Initial 15Km Buffer

Designated Sites

- Special Areas of Conservations (SACs)
- Special Protected Areas (SPAs)

0 2 4
Kilometers

Spatial Reference
Datum: IRENET95
EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	30/01/2026	First issue	K.K	D.B

Client: Ørsted

Project: Lodgewood Solar

Title: Figure 4-3: European Sites Considered for Connectivity Appraisal with the Proposed Development

Scale @ A3: 1:120,000

Prepared by:	Checked by:	Date:
K.Kale	D.Hobbs	January 2026

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5. STAGE 1: SCREENING FOR APPROPRIATE ASSESSMENT

5.1 ASSESSMENT OF SOURCE-PATHWAY-RECEPTOR MODEL

This appraisal adopts a comprehensive and precautionary approach in the assessment of all potential likely significant effects from the Proposed Project, using a specific conceptual source-pathway-receptor model designed for the Proposed Project (Section 3.3.2). In this context, Table 5-1 describes the relevant components of the model, from which the assessment of potential likely significant effects is derived.

5.1.1 Scoping of Likely Significant Effects to European Sites

Upon the conceptualisation of the source-pathway-receptor model of the Proposed Project, the processes potentially driving likely significant effects at each stage are described herein.

5.1.1.1 Construction Phase

As the large majority of the activities associated with the Proposed Project are to be undertaken during its Construction Phase, despite its relatively short duration (i.e. 24 months), this is the component of the Proposed Project with the highest probability of giving rise to likely significant effects on European sites.

Table 5-1: Source-Pathway-Receptor Model for the Proposed Project

Proposed Project Phase	Activity (Section 2)	Source of Potential Effect	Potential Pathway	Potential Receptor
Construction	▪ Trenching/earthworks; ▪ Reinstatement works; ▪ Watercourse crossings; ▪ Movement of personnel, vehicles and machinery.	▪ Generation of silt-laden runoff; ▪ Generated - dust deposition into river water bodies; ▪ Accidental release of fine sediment or cement to river channels.	▪ Hydrological	▪ Slaney River Valley SAC (000781) – all QIs ▪ Wexford Harbour and Slobs SPA (004076) – all SCIs
	▪ Vehicle/machinery operation; ▪ Usage of cement-based materials; ▪ Storage of contaminants.	▪ Accidental spillage of contaminants to river channels	▪ Hydrological	
	▪ Trenching/earthworks; ▪ Reinstatement works; ▪ Watercourse crossings.	▪ Habitat removal	▪ Ex-situ habitat loss	
	▪ Trenching/earthworks; ▪ Reinstatement works; ▪ Watercourse crossings; ▪ Movement of personnel, vehicles and machinery.	▪ Noise; ▪ Vibration; ▪ Visual causes of disturbance/displacement	▪ Ex-situ disturbance	

5.1.1.1.1 Siltation

As mentioned in Section 2.2, the Construction Phase of the Proposed Project will involve the excavation of trenches, deployment of precast watercourse crossings (i.e. two clear-span bridges), removal of vegetation, storage of spoil and general manual and machinery movement and operation in close proximity to aquatic features. This context carries the risk of a significant sediment load to be discharged into rivers (directly, or indirectly, though surface runoff), which is likely to smother the already infrequent coarser reaches of river bed, reduce dissolved oxygen, and lower water pH, which could lead to a reduction in fish species recruitment and increased mortality (Figure 5.1 - Kemp *et al.*, 2011). Also, although aquatic macroinvertebrates have some capacity to tolerate occasional inputs of sediment, if these inputs are significant, they can incite a reduction in intolerant species abundance and diversity and alter community structure and ecological quality. In turn, as aquatic macroinvertebrates are a significant food source for fish, any changes in invertebrate species abundance, diversity or quality will directly affect fish populations (Lawler *et al.*, 2017).

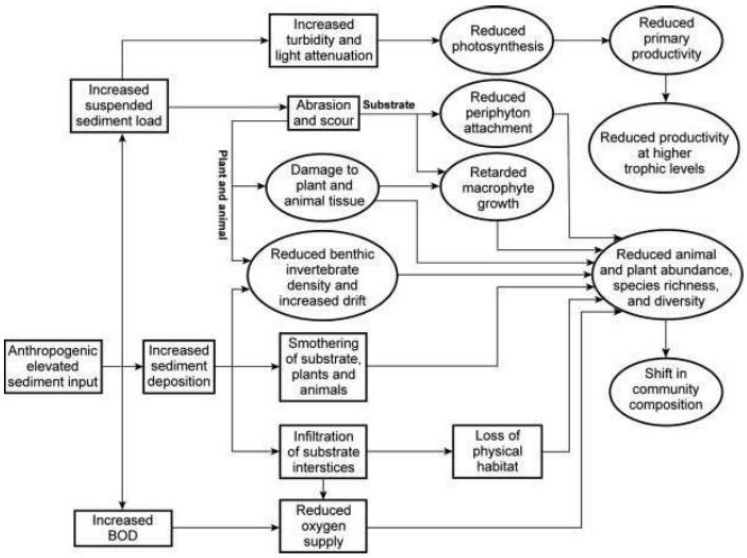

Figure 5-1: Negative impacts of anthropogenically enhanced sediment input to lotic aquatic systems on lower trophic levels (Kemp *et al.*, 2011)

In the case of the QI species of the Slaney River Valley SAC (Table 4-6):

- Freshwater Pearl Mussel populations hydrologically connected with the Proposed Project identified in previous surveys[13,14] (within the Rivers Slaney and Bann). This is a particularly sensitive species to deposited sediment accumulation and its physical consequences (Lawler *et al.*, 2017);
- Sea, River and Brook Lamprey redds have been identified within the Slaney and Bann downstream of the Proposed Project (King and Linnane, 2004);
- No Twaite Shad was captured on the Slaney river (i.e. the most upstream location for netting operations in 2003 was within the Upper Slaney Estuary WFD transition water body - King and Linnane, 2004);
- If accessible, Atlantic Salmon is to access all river channels down to second order (NPWS, 2011a - i.e. downstream the Proposed Project). Also relevant is the latest stock of Atlantic Salmon on the Slaney river (2025) having been assessed as below the

'Conservation Limit' (TEGOS, 2025), which, upon further pressures on water quality (by siltation), increases the risk on the integrity of the Atlantic Salmon population of the Slaney River Valley SAC;

- Otter utilises freshwater habitats, from estuaries to headwaters, while its diet is dominated by fish (NPWS, 2011a).

The QI of the Slaney River Valley SAC Harbour Seal *Phoca vitulina* [1365], is not likely to occur within the Upper Slaney Estuary WFD transition water body, and the abundance of prey fish is not listed within the European site's Conservation Objectives (NPWS, 2011a). Therefore, it is not considered likely the QI Harbour Seal would be significantly affected by any potential siltation effects from the Proposed Project.

With regards to the QI habitats of the Slaney River Valley SAC, and the SCI 'Wetlands' [A999] of the Wexford Harbour and Slobs SPA, these are unlikely to be affected by potential sediment inputs from the Proposed Project, in particular the estuarine QIs. These particular habitats occur within the Upper Slaney Estuary WFD transition water body, for which modern fluvial sediment contribution is negligible, and, in turn, leads to current 'sediment starvation' effects and consequent coastal erosion further downstream (e.g. O' Connor *et al.*, 2007). Therefore, any inland sediment inputs from the Proposed Project will have inconsequential effects on the integrity of these QI/SCI habitats.

In relation to the other SCIs of the Wexford Harbour and Slobs SPA, because any siltation effects from the Construction Phase of the Proposed Project are unlikely to affect their favoured habitats, only the SCIs whose common distribution includes the hydrological pathway from the Proposed Project, and whose diet could be affected (i.e. by indirect effects on water quality – aquatic invertebrates, fish) are scoped-in as potential receptors of likely significant effects, such as: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Teal, Mallard, Pintail, Scaup, Goldeneye, Red-breasted Merganser, Golden Plover, Grey Plover, Lapwing, Curlew, Black-headed Gull, and Lesser Black-backed Gull (NPWS, 2011b). The remainder SCIs of the Wexford Harbour and Slobs SPA are scoped-out from further assessment, either due to their diet not being likely affected by siltation effects (herbivorous species, such as Bewick's Swan, Whooper Swan, Wigeon, Hen Harrier), or because they are mostly marine species, occupying areas beyond the hydrological pathway from the Proposed Project (e.g. Oystercatcher, Knot, Sanderling, Dunlin, Little Tern).

Therefore, the siltation effects from the Construction Phase of the Proposed Project on receiving water bodies could potentially affect significantly the water quality and aquatic species within the hydrological pathway from the Proposed Project, and, consequently, the mentioned QIs of the Slaney River Valley SAC, and SCIs of the Wexford Harbour and Slobs SPA (Table 5-1).

5.1.1.1.2 Contamination

The Construction Phase of the Proposed Project also involves vehicle and machinery operation near aquatic features (e.g. rivers, drainage ditches), the pouring of cement as part of river crossings, as well as the storage of contaminants at newly located temporary construction compound and material storage areas (Section 2.2). This operation and storage and/or the pouring of concrete may potentially promote the accidental release (e.g. accidental spillages, machinery malfunctioning) of toxic contaminants to receiving river water bodies, which could,

most directly, significantly affect aquatic QIs of the Slaney River Valley SAC (such as Freshwater Pearl Mussel, previously identified downstream, on the rivers Bann and Slaney[13]). Most commonly, the contaminants associated with construction works are hydrocarbons, solvents, paints, and cementitious materials (Malik and Marathe, 2022), which can be, as the case of most hydrocarbons constituents, bioavailable and bioaccumulated (e.g. Chandra Sekhar *et al.*, 2003; Li *et al.*, 2009). Furthermore, these substances can also become adsorbed in sediment, prolonging their persistence in the environment and, consequently, further increasing exposure for the biota (e.g McGrath *et al.*, 2019; Wu *et al.*, 2019). Therefore, all QIs of the Slaney River Valley SAC, and SCIs of the Wexford Harbour and Slobs SPA could potentially be affected by such accidents during the Construction Phase of the Proposed Project (Table 5-1).

5.1.1.1.3 Ex-situ Disturbance

The Construction Phase of the Proposed Project will require the operation and movement of vehicles, machinery and personnel in close proximity to aquatic features, within which mobile QI species of the Slaney River Valley SAC, and SCIs of the Wexford Harbour and Slobs SPA could potentially occur.

The Wexford Harbour and Slobs SPA is designated for a bird of prey (i.e. Hen Harrier), and for some waterbirds that, during Winter (period for which they are designated - Table 4-6), could potentially occur inland for foraging, and/or roosting (e.g. Cormorant, Lesser Black-backed Gull), including the areas in proximity to the Proposed Project. With regards to the other waterbird SCIs of the Wexford Harbour and Slobs SPA, and the mobile QIs of the Slaney River Valley SAC (i.e. Sea Lamprey, Brook Lamprey, River Lamprey, Atlantic Salmon, and Otter), these species could potentially also occur in the vicinity of the Proposed Project.

In these instances, the Construction Phase of the Proposed Project could potentially disturb and lead to displacement of these species, potentially affecting their energetic expenditure, reduction of the species' foraging ranges, and increased exposure to predators, representing a likely significant effect on the integrity of these populations. However, as depicted in Table 4-5, the wetlands in close proximity of the Proposed Project do not hold sufficient size or feeding resources to accommodate for their likely presence. Also, considering the absence of local historical records for the SCIs of the Wexford Harbour and Slobs SPA that could potentially occur at the Proposed Project vicinity (Section 4) the short duration of the Construction Phase of the Proposed Project (i.e. maximum of 24 months – Section 2.2), and the tolerance to disturbance reported for Otter (Reid *et al.*, 2010), the Construction Phase of the Proposed Project is unlikely to give rise to significant disturbance effects to the QIs of the Slaney River Valley SAC or the SCIs of the Wexford Harbour and Slobs SPA.

5.1.1.2 Operational Phase

Considering the restricted nature of the activities planned for the Operational Phase of the Proposed Project (i.e. intermittent vegetation management, access road maintenance and inspection of newly constructed water crossings – Section 2.2), it is unlikely that any significant effects on European sites will occur.

5.2 In-Combination Effects

Article 6(3) of the Habitats Directive includes the provision for the AA to appraise significant effects from a plan or project "*either individually or in combination with other plans or projects* (…)".

5.2.1.1 Plans

5.2.1.1.1 National Development Plan

The National Development Plan 2021-2030 (Government of Ireland, 2021) designates "*significant expansion and strengthening of the electricity transmission and distribution grid onshore and offshore, including transmission cables and substations, to link renewable electricity generation to electricity consumers and to accommodate higher levels of renewables on the electricity system* (…)" as one of the National Strategic Investment Priorities. In fact, in the National Development Plan Review 2025, €3.5 billion is being provided to fund energy grid capacity in 2025 (Government of Ireland, 2025).

This Strategic Priority carries the potential for in-combination impacts with the Proposed Project on potential receptors, specifically designated sites/habitats and species. However, the National Development Plan 2021-2030 assures compliance with the National Biodiversity Action Plan 2023-2030 and its commitment on the protection of biodiversity, expressed in all of its five objectives: 1) Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity; 2) Meet Urgent Conservation and Restoration Needs; 3) Meet Urgent Conservation and Restoration Needs; 4) Enhance the Evidence Base for Action on Biodiversity; and 5) Enhance the Evidence Base for Action on Biodiversity.

This compliance will, inevitably, implicate that all potential in-combination effects with other developments are contemplated and mitigated. Therefore, the in-combination effects from the Proposed Project with the National Development Plan 2021-2030 are then deemed null.

5.2.1.1.2 Wexford County Development Plan

Similarly to the National Development Plan 2021-2030, the Wexford County Development Plan 2022-2028 also appoints improvements to the electric grid in its objectives, such as (Wexford County Council, 2022):

Objective PT01 *To facilitate the provision of and improvements to energy networks in principle, provided that it can be demonstrated that:*
- *The development is required in order to facilitate the provision or retention of significant economic or social infrastructure;*
- *The route proposed has been identified with due consideration for social, environmental and cultural impacts.*
- *The design is such that will achieve least environmental impact consistent with not incurring excessive cost.*
- *Where impacts are inevitable mitigation features have been included.*
- *Proposals for energy infrastructure should be assessed in accordance with the requirements of Article 6 of the Habitats Directive.*

With regards to potential in-combination effects with the Proposed Project, despite the Wexford County Development Plan 2022-2028 holds "*Environmental Strategic Objectives*",

which include, in Objective EM01, that environmental impact assessments required by law (e.g. Directive 2014/52/EU) "(…) *shall identify, describe and assess in an appropriate manner, the direct, indirect and cumulative significant effects of a project on* (…)", amongst other factors, biodiversity, it also contains the objective of provision of a segregated (where possible) cycle way between, amongst others, Camolin, Ferns and Enniscorthy (Objective TS29). This cycle way is likely to run on, or parallel, to the R772, in close proximity to the Bann_070 WFD river water body, which is hydrologically connected to the Proposed Project.

If the works associated with the construction of this cycle way are unmitigated, and coincide with the Construction Phase of the Proposed Project, they are likely to significantly affect, in-combination with the Proposed Project, the water quality of downstream receptors through siltation and/or contamination, which could give rise to likely significant effects to the Slaney River Valley SAC [000781], and Wexford Harbour and Slobs SPA [004076].

5.2.1.2 Projects

A search was conducted of planning applications (projects) within the vicinity of the Proposed Project, using the Wexford County Council planning portal map viewer[15] and the National Planning Application Database[16]. The search was limited to the five year period preceding the date of issue of this report and excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications. The relevant projects with potential for in-combination adverse effects on the integrity of European sites, are detailed in Table 5-2. Furthermore, a search of An Coimisiún Pleanála's database[17] was completed to identify any relevant applications, in close proximity to the Proposed Project.

Overall, the Proposed Project local area is sought for green energy developments. Upon their construction, one obvious consequence is that the current land-use will dramatically change, from intensely managed tillage/grassland to solar energy production. During the operation phases of these solar farm developments, this change in land-use is expected to reduce the locally identified pressures of siltation and eutrophication on the aquatic environment, responsible for the failure of some river water bodies within the hydrological pathway from the Proposed Project in accomplishing the WFD objectives and, particularly, for the low SSRS results obtained by the Lodgewood stream (Section 4.2.5). However, if the construction phases of the developments in Table 5-2 coincide with the Construction Phase of the Proposed Project, the significant effects related with water quality (i.e. siltation, and contamination – Section 5.1.1.1) could be aggravated. Therefore, in this scenario, it is likely the Proposed Project will give rise to likely significant effects during its Construction Phase in-combination with the construction phases of the considered projects in Table 5-2.

[15] Available at https://planning.agileapplications.ie/wexford/search-applications/. Accessed in December 2025
[16] Available at https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de. Accessed in December 2025
[17] Available at https://www.pleanala.ie/en-ie/case-search. Accessed in December 2025

Table 5-2: Summary of Projects Considered for Assessment of In-Combination Effects with the Proposed Project

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
20160595	Power Capital Renewable Energy Limited	Extension of duration for the construction of an up to 5MW solar pv farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 10.84 hectares and associated ancillary development including 4 no. transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high) and the formation of an access road to the site from the adjoining road.	450m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160595EE)	A Screening for Appropriate Assessment informed the planning decision, which concludes that the scale and character of a solar photovoltaic farm is too small to give rise to water quality effects to the Slaney_160 WFD river water body, which runs approximately 2km away. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20241558	Carney Stability Ltd	Permission for a battery energy storage system (BESS) facility.	200m	14/05/2025	An Environmental Report was issued in support of the planning application, which assessed potential effects during the development's construction phase related with: 1) habitat loss/alteration (removal of 60m of hedgerows); 2) Indirect water quality effects (siltation/contamination); 3) direct and indirect protected species disturbance/displacement. The Environmental Report prescribed: pre-construction surveys for Badger, Otter, amphibians, and birds; the elaboration of a Construction Environmental Management Plan (CEMP) by the appointed contractor, to include unspecified environmental controls (water quality/sediment and erosion control; noise, vibration, dust and air control; management of construction and demolition waste; fuels and oils management; management of concrete; emergency response plan); and the appointment of an Ecological Clerk of Works (ECoW).

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
					The Environmental Report concludes that, with the implementation of the unspecified avoidance and mitigation measures, one slight negative residual impact, and six moderate residual impacts (to terrestrial habitats and to drainage ditches) could be mitigated.
20241593	Orsted Onshore Ireland Midco Limited	A BESS with associated infrastructure including a new internal access road approximately 100 metres in length; A 100 metre 33kV double circuit underground cable grid connection to the permitted Lodgewood 110kV substation (Planning Ref ABP-318528-23), to be installed in an excavated trench including underground ducting; Modular office and welfare buildings; Three steel storage containers and all associated site development and reinstatement works	0m	27/06/2025	An Ecological Impact Assessment (EcIA) accompanied the planning application, which included the identification of potential likely significant effect associated with the construction (habitat loss/alteration; indirect water quality effects; direct and indirect species disturbance/ displacement), and operational (direct/indirect species disturbance/ displacement), and decommissioning phase (similar to construction phase). The EcIA assesses none of the potential effects as likely significant, but includes the prescription of mitigation measures during the construction phase, such as: 1) the elaboration of a CEMP by the appointed contractor, to include unspecified environmental controls (water quality/sediment and erosion control; noise, vibration, dust and air control; management of construction and demolition waste; fuels and oils management; management of concrete; emergency response plan); 2) the appointment of an 'Environmental Officer'; 3) restriction of vehicle parking; 4) specific conditions for the storage of contaminants (e.g. fuel, oils); 5) the instruction for the development of a 'Construction Phase Waste Management Plan', to be incorporated into the CEMP; 6) the use of a 'waste water holding tank' to be used onsite to store the effluent from toilet(s); 7) specified conditions for excavation works, and storage of materials; 8) restriction of vegetation cutting to take place outside the breeding bird season ("April to August, inclusive"); 9) specified construction-site biosecurity measures; management of IAPS onsite; 10) specified bat protection measures (recommendation of inclusion of native plants in

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
					the landscaping plan; pre-felling tree survey, and restriction of felling outside of September/October; lighting conditions); 11) Badger pre-construction survey, and unspecified measures for the protection of setts; 12) demarcation of construction areas. It also prescribes unspecified measures for lighting during the operation phase; and the recommendation of mitigation measures for the decommissioning phase similar to the construction phase. The EcIA concludes that "*with the implementation of the avoidance and mitigation measures* (...), *the overall ecological impact of the proposed project (relative to the 'do-nothing' scenario) is considered to be a permanent, slight, negative effect at a local level*".
20221309[13]	Lodgewood Solar Farm Limited	Permission for a 10 year planning permission for a solar farm with a total area of circa 108 hectares consisting of solar photovoltaic panels on ground mounted frames, 13 no. single storey electrical inverter/transformer stations, 13 no. single storey energy storage modules, 3 no. single storey spare parts containers, 4 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the R745 and L5130 public roads to connect solar farm field parcels, security fencing, CCTV, access tracks, 12 no. stream and drain deck crossings, temporary construction compounds, landscaping and all associated ancillary development and drainage works	0m	22/02/2023	This planning application was informed by an EcIA, which included a comprehensive field study encompassing surveys on habitats and flora, protected fauna, and aquatic ecology (which identified live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-4 of the published EcIA[13]). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 105m of hedgerow and two mature trees); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures (creation of settlement ponds to provide for primary treatment for the drainage ditches effluents) and a Biodiversity Management Plan, which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant*

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
					residual effects on designated sites, habitats, flora, fauna or aquatic species" from the development in the planning application.
20231025[14]	Lodgewood Solar Farm Limited	A 10 year planning permission for a solar farm with a total area of circa 55 hectares, consisting of solar panels on ground mounted frames, 9 no. single storey electrical inverter/transformer stations, 5 no. single storey energy storage modules, 2 no. single storey spare parts containers, 2 no. ring main units, 2 no. weather stations, underground electrical ducting and cabling within the development site, private lands and within the L5130 public road to connect solar farm field parcels, security fencing, CCTV, access tracks, 5 no. stream and drain deck crossings as well as 6 no. cabling open trench undercrossings and 2 no. horizontal directional drills, temporary construction compounds, landscaping, netting adjacent GAA playing fields and all associated ancillary development and drainage works	0m	22/11/2023	This planning application was informed by an EcIA partially based on the field study carried out for planning application 20221309 above, including the findings of live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-5 of the published EcIA[14]). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 43m of hedgerow – 8m of which has already been granted with planning application 20221309 - and one mature tree); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures (creation of settlement ponds to provide for primary treatment for the drainage ditches effluents) and a Biodiversity Management Plan, which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant residual effects on designated sites, habitats, flora, fauna or aquatic species*" from the development in the planning application.
20161097	Crory Energy Limited	Permission for the construction of up to 5mw solar PV farm development within a site area of up to 9.66 ha to include a single storey electrical substation building, electrical transformer/ inverter station modules, solar PV panels ground mounted on steel support structures,	0m	18/11/2016 Extension of duration application submitted on the	The planning application was accompanied by an Ecological Impact Statement (EIS), which included a walkover field survey in 2016. It identifies siltation and contamination as the potential likely significant effects on biodiversity from the development, but, with the changes in land-use (from tillage to sheep grazing) and enhancement measures (e.g.

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
		access roads, fencing and associated electrical cabling, ducting and ancillary infrastructure.		31/10/2025 (20161097EE)	seeding with native grasses), the EIS concludes that, upon other general mitigation measures, the development will not result in any significant adverse effect. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20160594	Power Capital Renewable Energy Limited	Construction of an up to 5 MW solar PV farm comprising approximately 20,000 no. photovoltaic panels on ground mounted frames within a site area of 12.94 hectares and associated ancillary development including 4 no. transformer stations, 4 no. auxiliary transformer stations, 4 no. inverters, 1 no. client side substation, 1 no. single storey storage building, 1 no. single storey communications building, 1 no. single storey DNO building, 3 no. CCTV security cameras mounted on 4 metre high poles, perimeter security fencing (2 metres high), site access road and the construction of a site access onto R745	0m	20/07/2016 Extension of duration application granted on the 15/08/2025 (20160594EE)	This planning application was informed by a Screening for Appropriate Assessment, which implicitly included a field survey. It concludes that, given the minor nature of the photovoltaic farm development and absence of identified pathways for likely significant effects on Natura 2000 sites, the development will not give rise to any likely effects. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
20161231	Solas Eireann Development Limited	Development of a solar PV panel array comprising photovoltaic panels on ground mounted frames within a site area of 7.96 hectares , 4 no. single storey mv substations, 1 no. single storey DSO substation, 1 no. single storey customer substation with 1 no. communications pole attached, 1 no single	250m	16/12/2016 Extension of duration application submitted on the 31/10/2025 (20161231EE)	The planning application was informed by a Screening for Appropriate Assessment report, which included a field survey of the site. Potential effects on aquatic ecology associated with siltation and contamination, and foraging and roosting habitat loss or change were assessed, but the report concludes that the development will not give rise to

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
		storey spares building, boundary security fencing, CCTV, associated, electrical cabling and ducting, alteration to existing entrance to include access gates, access track and all associated ancillary development and landscaping works			any likely significant effects on Natura 2000 sites, alone or in-combination with other developments. The solar development has since been constructed and is fully operational. As such, there will be no temporal overlap between construction activities associated with that development and those of the proposed project. Accordingly, there is no potential for cumulative construction-phase impacts to arise in combination with the solar development.
VA26.318528	Lodgewood Solar Farm Limited	10 year planning permission for the proposed 110kV AIS Single Bay Tail-Fed electricity substation (with 33kV customer compound) and associated grid connection and site works	0m	04/06/2024	This planning application was informed by an EcIA partially based on the field study carried out for planning application 20221309 above, including the findings of live Freshwater Pearl Mussel specimens within both the Bann_070 and Slaney_160 WFD river water bodies – Figure 3-4 of the published EcIA). Potential likely significant effects on biodiversity receptors were assessed as a consequence of works and activities during its construction phase: 1) habitat loss (e.g. removal of 6m of hedgerow); 2) disturbance to faunal species; and 3) water quality (siltation, eutrophication, contamination, hydromorphological change). The report includes specific and detailed mitigation measures which, adding to the change in land-use (i.e. from tillage to sheep grazing), is concluded to significantly reduce the sediment and nutrient inputs to local streams, decreasing the intensity of this historical local pressure on the aquatic environment. The EcIA concludes that "*no significant residual effects on designated sites, habitats, flora, fauna or aquatic species*" from the development in the planning application. The Proposed Project is amending this consent.

Planning Application Reference Number	Project/ Applicant Name	Brief Development Description	Approximate Distance from Proposed Project	Date Planning Application Granted	Relevant Information
SU26.306909	ESB International	Application for substitute consent for Wind Farm	180m	12/04/2024	This application for substitute consent relates with works and activities carried out historically for a 20kV underground and overhead cable. As the construction works and activities were finalised in 2013, no cumulative effects with the Proposed Project are anticipated.

5.3 Stage 1 Conclusion

The Stage 1: Screening for AA has been prepared to appraise whether the Proposed Project, either individually or in combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance, and case law. Through an assessment of the source-pathway-receptor model, which considered the potential connectivity between the Proposed Project and any European sites, the following findings were reported:

- The Proposed Project is not directly connected with, or necessary to, the management of any European site;
- The Proposed Project will give rise to likely significant effects on the QIs of the Slaney River Valley SAC, in view of best scientific knowledge and in view of its Conservation Objectives; and
- The Proposed Project will give rise to likely significant effects on the SCI of the Wexford Harbour and Slobs SPA, in view of best scientific knowledge and in view of its Conservation Objectives.

On the basis of objective scientific information, this Screening for AA, concludes that the Proposed Project, both individually, an in combination with other projects and plans, is likely to have significant effects on European sites.

6. STAGE 2: APPROPRIATE ASSESSMENT

This Stage 2 AA (NIS) examines the potential for significant adverse effects on the integrity of European sites as a result of the Proposed Project works and activities, based on the Source-Pathway-Receptor model (Table 5-1), further scoped in Section 5.1.1.

6.1 SOURCES FOR ADVERSE SIGNIFICANT EFFECTS

The appraisal of the Source-Pathway-Receptor model conceptualised for the Proposed Project (Table 5-1) identified the potential for likely significant effects that could affect the Slaney River Valley SAC [00781] and the Wexford Harbour and Slobs SPA [004076] from:

- Discharging silt-laden groundwater; and
- Contaminant spillage (e.g. hydrocarbons, cement).

These sources may deteriorate the water quality of the receiving surface water bodies (e.g. the Lodgewood stream, river Bann and river Slaney) and adversely affect the QIs and SCI listed in Table 6-1 as they are hydrologically connected with the Proposed Project.

6.2 CONSERVATION OBJECTIVES LIKELY AFFECTED BY THE PROPOSED PROJECT

As was the case for the Stage 1 AA Screening, the appraisal of the likelihood of significant adverse effects on the conservation objectives (COs) of the Slaney River Valley SAC [000781] and the Wexford Harbour and Slobs SPA [004076] has been undertaken with reference to the sources, pathways and receptors identified in Table 5-1, without the incorporation of mitigation measures.

The assessment of connectivity between the Proposed Project and the relevant European sites, together with the project Source–Pathway–Receptor model, has been used to identify those QI and SCI that could potentially be adversely affected. This analysis identified that the potential for likely significant effects is primarily associated with deterioration in water quality, arising from silt-laden runoff or accidental contaminant release (Table 5-1).

Accordingly, the appraisal focuses primarily on potential effects on the 'Water Quality' attribute of the relevant COs. However, potential direct effects on water quality may also give rise to indirect effects on other CO attributes. These potential effects are appraised in Table 6-1.

Table 6-1: Relevant European Sites and Respective CO Attributes for which the Potential for Adverse Effects on European Sites from the Proposed Project Have Been Identified (Attributes with Grey Background are Appraised as Adversely Affected)

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
Slaney River Valley SAC [0781] (NPWS, 2011a)	• Freshwater Pearl Mussel *Margaritifera margaritifera* [1029]	*The status of the Freshwater Pearl Mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review.*	NPWS (2011a) does not include attributes and targets for Freshwater Pearl Mussel. As such following a precautionary approach the assumption is made that Freshwater Pearl Mussel is present throughout the hydrological pathway from the Proposed Project and potential effects could adversely affect this QI.	
	• Sea Lamprey *Petromyzon marinus* [1095] • Brook Lamprey *Lampetra planeri* [1095] • River Lamprey *Lampetra fluviatilis* [1099]	Distribution: extent of anadromy Population structure of juveniles Juvenile density in fine sediment Availability of juvenile habitat	The attributes and targets set in the CO of the Slaney River Valley SAC for the 3 lamprey species are related with the species recruitment and migration impediments by instream barriers. The achievement of the CO related with these 3 lamprey species is not likely to be affected by any potential silt-laden discharge from the Proposed Project.	Spillage of contaminants associated with the Proposed Project is likely to significantly affect the water quality of the surface water bodies in its hydrological pathway. Hydrocarbons, for example, are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms, particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable to benthic organisms as they get adsorbed onto particles. and sediment

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Extent and distribution of spawning habitat		(Kuppusamy *et al.,* 2020), exposing the Sea Lamprey, Brook Lamprey, and River Lamprey populations to these contaminants, potentially causing lethal effects in all population strata.
	• Twaite Shad *Alosa fallax* [1103]	Distribution: extent of anadromy	This attribute relates to the maintenance of accessibility of all the river channels by Twaite Shad, unrestricted by artificial barriers. The achievement of the CO related to this attribute is not likely to be affected by any potential silt-laden discharge from the Proposed Project.	Spillage of contaminants associated with the Proposed Project is likely to significantly affect the water quality of the surface water bodies in its hydrological pathway. The contaminants may cause lethal or sublethal effects, which could crucially affect the Twaite Shad survival within the Slaney River Valley SAC, and all the CO for this QI species.
		Population structure- age classes	Siltation (leading to poor water quality) is identified as one of the factors responsible for the decline in the number of rivers with healthy populations. As this species requires clean gravels to spawn, they are particularly sensitive to suspended sediment concentrations in the water column. The discharge of silt-laden effluent to the hydrological pathway could, not only affect the water quality, but also it could affect the number and distribution of spawning habitat for this species.	
		Extent and distribution of spawning habitat		
		Water quality- oxygen levels		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Spawning habitat quality: Filamentous algae; macrophytes; sediment		
	• Atlantic Salmon *Salmo salar* (only in fresh water)	Distribution: extent of anadromy	This attribute relates to the maintenance of accessibility of all the river channels by Atlantic Salmon, unrestricted by artificial barriers. The achievement of the CO related to this attribute is not likely to be affected by any potential silt-laden discharge from the Proposed Project.	Spillage of contaminants associated with the Proposed Project is likely to significantly affect the water quality of the surface water bodies in its hydrological pathway. The contaminants may cause lethal or sublethal effects, which could crucially affect the Atlantic Salmon survival within the Slaney River Valley SAC, and all the CO for this QI species.
		Adult spawning fish	Siltation (leading to poor water quality) is identified one of the factors responsible for the decline in the number of rivers with "healthy populations" in Ireland (The Standing Scientific Committee for Salmon, 2011), particularly important in the early stages of salmonids (i.e. the quality of the spawning grounds - Smialek *et al.,* 2021), but potentially affecting all population strata over the long-term. Salmonids, and in particular Atlantic Salmon, are particularly sensitive to suspended sediment concentrations in the water column, patent on the limit of 25mg/litre set in the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. 293/1988). The discharge of silt-laden effluent to the hydrological pathway could,	
		Salmon fry abundance		
		Out-migrating smolt abundance		
		Number and distribution of redds		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Water quality	not only affect the water quality attribute (the Q-value target for Atlantic Salmon is at Q4), preventing the restoration of the QI favourable condition, but also it could affect the number and distribution of spawning reeds, as Atlantic Salmon spawns in clean gravels	
	• Estuaries [1130]	Habitat area	It is unlikely that silt-laden discharges from the Proposed Project will negatively affect either the 'habitat area', 'community distribution' and/or 'community extent of QI habitat 1130 of the Slaney River Valley SAC	Spillage of hydrocarbons, for example, which are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms, particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable, getting adsorbed onto particles. and sediment (Kuppusamy *et al.*, 2020), exposing communities to potentially lethal effects, affecting all attributes for this QI.
		Community distribution		
	• Mudflats and sandflats not covered by	Habitat area	It is unlikely that silt-laden discharges from the Proposed Project will negatively affect either the 'habitat area', 'community distribution' and/or 'community extent of	Spillage of hydrocarbons, for example, which are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms,

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	seawater at low tide [1140]	Community distribution	QI habitat 1130 of the Slaney River Valley SAC	particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable, getting adsorbed onto particles. and sediment (Kuppusamy *et al.,* 2020), exposing communities to potentially lethal effects, affecting all attributes for this QI.
	• Otter *Lutra lutra* [1355]	Distribution	Although indirect effects on Otter from silt-laden discharges from the Proposed Project would be initially inferred (i.e. the discharges would reduce rivers' water quality, affecting Otter prey items availability), Otter opportunistic feeding nature seems to renders the species with a high tolerance to rivers of low water quality (Reid, *et al.,* 2013), and it is unlikely to restrict Otter distribution within the Slaney River Valley SAC	Spillage of hydrocarbons, for example, which are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms, particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable, getting adsorbed onto particles. and sediment (Kuppusamy *et al.*, 2020), exposing communities to potentially lethal and sublethal effects. These effects could restrict significantly Otter distribution within the Slaney River Valley SAC
		Extent of terrestrial habitat	It is unlikely that silt-laden discharges, from the Proposed Project will negatively affect either the terrestrial and /or marine habitat for Otter of the Slaney River Valley SAC	The accidental contaminant spillages from the Proposed Project running off towards surface water bodies will not negatively affect the terrestrial habitat for Otter of the

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Extent of marine habitat		Slaney River Valley SAC. With regards to the marine habitat, the hydrological pathway for water pollution effects from the Proposed Project is considered to lose its significance upon the Upper Slaney Estuary WFD transitional water body, i.e. upstream of any marine habitat.
		Extent of fresh water (river) habitat	Although indirect effects on Otter from silt-laden discharges from the Proposed Project would be initially inferred (i.e. the discharges would reduce rivers' water quality, affecting Otter prey items availability), Otter opportunistic feeding nature seems to renders the species with a high tolerance to rivers of low water quality (Reid, *et al.*, 2013), and it is unlikely to restrict Otter distribution within the Slaney River Valley SAC	Similarly to the appraisal for the attribute 'Distribution' above, spillage of contaminants as hydrocarbons, for example, could restrict significantly the availability of riverine habitat to Otter within the Slaney River Valley SAC by virtue of the associated lethal and non-lethal effects
		Extent of fresh water (lake) habitat	There are no lake water bodies hydrologically and/or hydrogeologically connected with the Proposed Project (Section 4.1.3). Therefore, it is unlikely that silt-laden discharges and or contamination from the Proposed Project will negatively affect the lake habitat for Otter of the Slaney River Valley SAC.	
		Couching sites and holts	It is unlikely that either silt-laden discharges and/or contamination from the Proposed Project will affect the abundance of couching sites and holts over the Slaney River Valley SAC.	

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Fish biomass available	Otter is principally piscivorous, relying predominantly on salmonids, but also Eel (*Anguilla anguilla*). Salmonids are particularly sensitive to suspended sediment concentrations in the water column, patent on the limit of 25mg/litre set in the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. 293/1988). Therefore, the potential silt laden discharge from the Proposed Project could affect the available fish biomass for Otter, especially for the favoured salmonid species	As with the justification given for the silt-laden discharge source of effects, the Second Schedule of the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. 293/1988) includes a standard for "Petroleum Hydrocarbons", stating that these products "must not be present in such quantities that they (...) produce harmful effects in fish". As contaminants from the Proposed Project, as hydrocarbons, are bioavailable, bioaccumulated, highly toxic, mutagenic, and carcinogenic (Kuppusamy *et al.*, 2020), they could affect the available fish biomass for Otter
		Barriers to connectivity	It is unlikely that either silt-laden discharges and/or contamination from the Proposed Project will affect the abundance of couching sites and holts over the Slaney River Valley SAC.	
	• Harbour Seal *Phoca vitulina* [1365]	Access to suitable habitat	It is unlikely that silt-laden discharges or contamination, from the Proposed Project will negatively affect either the terrestrial and /or marine habitat for Harbour seals nor will it affect the other associated behaviours for this QI species of the Slaney River Valley SAC	
		Breeding behaviour		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Moulting behaviour		
		Resting behaviour		
		Disturbance		
	• Water courses of plain to montane levels with the *Ranunculion fluitantis and Callitricho-Batrachion* vegetation [3260]	Habitat distribution	Silt-laden discharges and/or contamination from the Proposed Project will not affect the habitat distribution or hydrological regime within the Slaney River Valley SAC.	
		Habitat area		
		Hydrological regime: river flow		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Hydrological regime: tidal influence		
		Substratum composition: particle size range	The silt-laden discharge from the proposed project would further deteriorate the substratum quality of the receiving water bodies for the growth of suitable algae and bryophytes to promote tufa formation.	Contamination from the Proposed Project will not affect the substratum composition within the Slaney River Valley SAC.
		Water quality: nutrients	Although the target for this attribute does not explicitly refer to contamination, instead focusing on nitrogen and phosphorus nutrients, it requires the achievement of at least Good WFD water quality status. Such status would be unlikely to be maintained in the event of contamination arising from the proposed project (e.g. hydrocarbon inputs). In addition, the high toxicity of potential contaminants discharged to receiving water bodies, together with substrate changes resulting from increased siltation, could adversely affect nutrient levels and vegetation assemblages within QI habitat 3260, particularly sensitive bryophyte and algal communities.	
		Vegetation composition: typical species		
		Floodplain connectivity: area	Silt-laden discharges and/or contamination from the Proposed Project will not affect the floodplain connectivity within the Slaney River Valley SAC.	
	• Old sessile oak woods with *Ilex and Blechnum* in	Habitat area	Silt-laden discharges and/or contamination arising from the Proposed Project will not affect the attributes of this Qualifying Interest within the Slaney River Valley SAC, as the habitat is terrestrial in nature and has no functional dependence on hydrological sources, and no impact pathway exists.	

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	the British Isles [91A0]	Habitat distribution		
		Woodland size		
		Woodland structure: cover and height		
		Woodland structure: community diversity and extent		
		Woodland structure: dead wood		
		Woodland structure: natural regeneration		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Woodland structure: veteran trees		
		Woodland structure: indicator of local distinctiveness		
		Vegetation composition: native tree cover		
		Vegetation composition: typical species		
		Vegetation composition: negative indicator species		
	• Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*	Habitat area	Alluvial forests (*Alnus glutinosa and Fraxinus excelsior*) [91E0] are dependent on a characteristic hydrological regime, including periodic inundation and associated sediment processes. Mapping contained within the Conservation Objectives document indicates that the majority of this habitat type occurs in discrete patches upstream of the Proposed	

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	(Alno-Padion, Alnion incanae, Salicion albae) [91E0]	Habitat distribution	Project. While limited areas of riparian woodland may occur downstream and retain a hydrological connection to the receiving watercourse, the nature, scale, and duration of the proposed works are such that no measurable alteration of the hydrological regime, flooding patterns, or sediment dynamics relevant to the conservation of this habitat would occur at these locations. Any project-related sediment release and/or contamination would be short-term, localised, and controlled, and would not affect woodland structure, regeneration, or the hydrological processes that underpin this QI.	
		Woodland size		
		Woodland structure: cover and height		
		Woodland structure: community diversity and extent		
		Woodland structure: natural regeneration		
		Hydrological regime: Flooding depth/height of water table		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
		Woodland structure: dead wood		
		Woodland structure: veteran trees		
		Woodland structure: indicator of local distinctiveness		
		Vegetation composition: native tree cover		
		Vegetation composition: typical species		
		Vegetation composition: negative indicator species		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
Wexford Harbour and Slobs SPA [4076]	• Little Grebe *Tachybaptus ruficollis* (wintering) [A004] • Great Crested Grebe *Podiceps cristatus* (wintering) [A005] • Cormorant *Phalacrocorax carbo* (wintering) [A017] • Grey Heron *Ardea cinerea* (wintering) [A028] • Red-breasted Merganser *Mergus serrator* (wintering) [A069] • Little Tern *Sterna albifrons* (breeding) [A195]	Population trend Distribution	These SCI species are typically associated with open water habitats within the receiving watercourse and have a distribution that overlaps with the hydrological pathway downstream of the Proposed Project. They are dependent, in whole or in part, on aquatic prey species such as fish and aquatic invertebrates. Localised deterioration in water quality, through the release of suspended solids, may occur during the construction phase and has the potential to result in a temporary reduction in the availability and/or accessibility of aquatic prey resources within affected downstream reaches. This may lead to a short-term, localised reduction in foraging success, with consequent effects on the distribution of individuals within the watercourse and a temporary adverse influence on population parameters relevant to the conservation objectives of these SCI species.	Spillage of hydrocarbons, for example, which are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms, particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable, getting adsorbed onto particles. and sediment (Kuppusamy *et al.,* 2020), exposing communities to potentially lethal effects, affecting all attributes for these SCIs

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	• Light-bellied Brent Goose *Branta bernicla hrota* (wintering) [A046] • Shelduck *Tadorna tadorna* (wintering) [A048] • Wigeon *Anas penelope* (wintering) [A050] • Teal *Anas crecca* (wintering) [A052] • Mallard *Anas platyrhynchos* (wintering) [A053]	Population trend	These species forage predominantly on mudflats or terrestrial habitats adjacent to the receiving watercourse. Their diet comprises invertebrates, shellfish, or plant material that are not reliant on areas potentially affected by sedimentation arising from the Proposed Project. The nature, scale, and location of the project mean that these terrestrial and intertidal habitats will not experience measurable changes in habitat quality or prey availability. Consequently, no reduction in population trend or distribution, of these SCI species is anticipated, and no indirect effects on these attributes are predicted.	

	• Pintail *Anas acuta* (wintering) [A054] • Scaup *Aythya marila* (wintering) [A062] • Goldeneye *Bucephala clangula* (wintering) [A067] • Coot *Fulica atra* (wintering) [A125] • Oystercatcher *Haematopus ostralegus* (wintering) [A130] • Golden Plover *Pluvialis apricaria* (wintering) [A140] • Grey Plover *Pluvialis squatarola* (wintering) [A141] • • Lapwing *Vanellus vanellus* (wintering) [A142] • Black-tailed Godwit *Limosa limosa* (wintering) [A156] • Bar-tailed Godwit *Limosa lapponica* (wintering) [A157] • Curlew *Numenius arquata* (wintering) [A160]	Distribution		

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	• Redshank *Tringa tetanus* (wintering) [A162] • Black-headed Gull *Chroicocephalus ridibundus* (wintering) [A179] • Lesser Black-backed Gull *Larus fuscus* (wintering) [A183]			
	• Bewick's Swan *Cygnus columbianus* (wintering) [A037] • Whooper Swan *Cygnus cygnus* (wintering) [A038] • Hen Harrier *Circus cyaneus* (post-breeding/roost) [A082] • Greenland White-fronted Goose *Anser albifrons flavirostris* (wintering) [A395]	Population trend Distribution	These SCI species are typically terrestrial in their habitat use and foraging ecology, and their distribution is confined to terrestrial habitats that are not hydrologically connected to the receiving watercourse. As such, these species and their supporting habitats are not susceptible to sedimentation arising from the Proposed Project. The nature, scale, and location of the project mean that no measurable changes to terrestrial habitat quality, prey availability, or ecological function would occur as a result of sediment release. Consequently, no reduction in population trend or distribution, of these SCI species is anticipated, and no indirect effects on these attributes are predicted.	

Site Name [Code] (Conservation Objectives)	Qualifying Interest/Special Conservation Interest	Attribute	Effect Appraisal	
			Siltation	Contamination
	• Wetlands [A999]	Habitat area	It is unlikely that silt-laden discharges from the Proposed Project will negatively affect the 'habitat area' of this QI habitat of the Wexford Harbour and Slobs SPA	Spillage of hydrocarbons, for example, which are highly toxic, mutagenic, and carcinogenic in nature, and are easily adsorbed/absorbed by organisms, particularly in the aquatic environment, where even the non-bioavailable hydrocarbons, (e.g. hydrophobic) become bioavailable, getting adsorbed onto particles. and sediment (Kuppusamy *et al.*, 2020), exposing communities to potentially lethal effects, affecting all attributes for this habitat.

7. MITIGATION

The mitigation measures proposed herein are aimed at preventing the Proposed Project to give rise to likely significant effects to European sites and the CO set for the QIs and SCIs or the sites, in particular the avoidance of the sources identified in Section 5.1, and elaborated in Section 5.1.1. This AA concluded that the Proposed Project, in the absence of appropriate mitigation measures, could result in adverse effects on the Slaney River Valley SAC and the Wexford Harbour and Slobs SPA. For the purpose of Article 6(3) of the Habitats Directive, the mitigation measures prescribed hereunder and in Table 7-1 will avoid and/or reduce the significance of potential adverse effects on European sites.

All construction works will comply with relevant Best Practice/Industry Standards, such as from IFI (IFI, 2016), Construction Industry Research and Information Association (CIRIA)[18], and 'Guidance for Pollution Prevention' documents (GPPs)[19], particularly in respect of the protection of water quality, and the prevention of noise, such as:

- CIRIA Report C502 Environmental Good Practice on Site;
- CIRIA Report C532 Control of Water Pollution from Construction Sites;
- CIRIA Report C648 Control of Pollution from Linear Construction Project; Technical Guidance;
- CIRIA Handbook C650 Environmental Good Practice on Site;
- CIRIA Handbook C651 Environmental Good Practice on Site Checklist;
- GPP 1: Understanding your Environmental Responsibilities – Good Environmental Practices;
- GPP 2: Above Ground Oil Storage Tanks;
- GPP 5: Works And Maintenance In Or Near Water;
- GPP 6: Working at Construction and Demolition Sites;
- GPP 8: Safe Storage and Disposal of Used Oils;
- GPP 13: Vehicle Washing and Cleaning;
- GPP 21: Pollution Incident Response Planning; and
- GPP 22: Dealing with Spills.

7.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

In order to mitigate potential effects during the construction phase, best practice construction methods will be implemented in order to prevent water (surface and groundwater) pollution. A Construction Environmental Management Plan (CEMP) has been developed for the project to ensure adequate protection of the water environment. All personnel working on the project will be responsible for the environmental control of their work and will perform their duties in accordance with the requirements and procedures of the CEMP.

The CEMP for the project, covers the potential environmental risks and the proposed environmental construction strategies that are to be carried out before and during the construction phase of the Proposed Project. It includes all the mitigation measures prescribed

[18] Available at https://www.ciria.org/. Accessed in December 2025
[19] Available at https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/. Accessed in December 2025

in the Natura Impact Statement (NIS) and best practice measures to prevent environmental impacts.

The CEMP will be a live document that will be updated according to changing circumstances on the project and to reflect activities on site. It is intended that this CEMP will be finalised by the appointed contractor prior to commencement of construction.

7.2 Appointment Of Ecological Clerk Of Works

A suitably qualified Ecological Clerk of Works (ECoW) will be appointed by the developer. The contact details of the ECoW will be provided to IFI. The ECoW will ensure that all mitigation measures prescribed in this NIS, EIAR biodiversity chapter and, consequently, in the CEMP are implemented during the construction phase of the Proposed Project. The duties of the ECoW will include, but are not limited to:

- Liaise regularly with the appointed Contractor and review all Method Statements;
- Ensure all mitigation measures prescribed herein are implemented correctly and effectively throughout the duration of the construction phase;
- Inspect the installation and removal of all mitigation measures;
- Undertake regular inspections of all mitigation measures throughout the duration of the construction phase;
- Carry out regular spot checks on the adequacy of cleaning and storage of waste onsite;
- Inspect compliance with spill kit replacement; and
- Carry out regular inspection of the site control measures such as silt fences.

7.3 Water Quality Mitigation

During the construction phase of the Proposed Project all pollution control measures will be designed, installed, and maintained in accordance with CIRIA guidance for '*Environmental Good Practice on Site'* (C741)[20] , 'Control of Water Pollution from Linear Construction Projects Technical guidance' (C648)[21] and with regard to IFI guidance '*Guidelines on the Protection Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*' (IFI 2016) to ensure the protection of watercourses located within the Proposed Project site. Near-stream construction work will be carried in accordance with the requirement of the IFI. Near-stream construction work will only be carried out during the period permitted by Inland Fisheries Ireland (IFI, 2016)[22] guidance document "*Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites*". Furthermore, further specific mitigation measures associated with the protection of water quality are outlined in Table 7-1.

[20] https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductcode=C741&Category=BOOK
[21] https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C649&Category=BOOK
[22] IFI (2016) Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites

Table 7-1: Specific Mitigation Measures During the Construction Phase of the Proposed Project

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
Water Quality - Siltation	▪ Excavation/ trenching ▪ Installation of Clear span Bridges	▪ Prevention; ▪ Secluding works and stock piling areas from rivers.	The following mitigation measures are prescribed to ensure the prevention of water quality degradation due to the runoff of construction pollution during the construction works: • Installation of clear span bridges will only take place during periods of dry weather and low water levels, with the appointed ECoW using weather forecasting resources (e.g. Met Éireann) to determine an optimal period. This will minimise the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses. ▪ The clear span bridge approaches will be protected against erosion e.g., by re-vegetation or rock surfacing etc. In accordance with the IFI (2016) Guidelines On Protection Of Fisheries During Construction Works In And Adjacent To Waters, watercourse banks should use rock or other course material to protect from scour. ▪ Weather forecasting resources will be used (e.g. Met Éireann[23]), and works will be planned for when a dry spell of weather is forecasted. Excavation work will not be undertaken during periods of high rainfall (i.e., if there is a yellow weather warning in place or 5mm in a 1-hour period). This will minimise the risk of entrainment of suspended sediment in surface water runoff and transport via this pathway to nearby rivers. ▪ Suspended soils will not exceed 25 mg/l or result in the deposition of silts on gravels of any aquatic flora or fauna as specified in the Salmonid waters regulations SI 293 of 1988; ▪ This soil storage area will be located a minimum of 10m from any adjacent drainage ditches or the river. The amount of excavated material is expected to be small, but stockpiling of large volumes of loose soil material onsite will be avoided, and surplus material will be reused on site where possible or removed as soon as work is completed ▪ Installing silt fencing (woven, high tensile strength heavy porous filter fabric) requires proper placement based on the site's contours, fencing without long runs, heavy porous filter fabric i.e. TerrastopTM, posts with proper depth and spacing, and tight soil compaction on both sides of the silt fence. ▪ Silt fencing will also be installed on site where appropriate, prior to the installation of the proposed clear span bridge and related access works to prevent discharge into the Lodgewood stream. The silt fences will be used to prevent sediment entering the river during the installation of the span bridges; ▪ Silt fencing will be positioned on each side of the river, where the proposed bridges are being installed. They will be positioned 2m back on the river bank between the river and the proposed foundation site for the span bridge. When the foundations are laid and set, a section of silt fence

[23] Available at https://www.met.ie/. Accessed in December 2025

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
			will be removed to allow the bridge to be laid down in position. The remaining curtains will stay in position during the full construction phase of the Proposed Project; ▪ Double silt fencing will be placed at the outer edge of the 10m protective buffer mentioned above, The silt fencing will be extended at least 10m upstream and downstream of the two proposed watercourse crossings; ▪ Silt fencing will be embedded into the soil to ensure all site water is captured and filtered. ▪ Silt fences will be constructed using a permeable filter fabric (Hy-Tex Terrastop Premium silt fence or similar) and not a mesh. Silt fencing will be installed as per the manufacturer's guidelines prior to any ground disturbance works Silt fences will be installed under the ECoW supervision and will be maintained until all ground disturbance has ceased and vegetation re-established. Once installed, the silt fence will be inspected regularly during construction and more frequently during heavy rainfall events. The ECoW will also supervise the removal of the silt fences following the completion of the works. Works will not be carried out during heavy rains or where there is high risk of pollutants entering the surface waters.
Water Quality - Contamination	▪ Pouring of cement	▪ General best-practice ▪ Minimising and containment of spread/spillage	▪ Prior to pouring, all joints in the pre-cast beams will be sealed using mortar; ▪ Shuttering will be installed under the bridge as well as polythene sheeting, to prevent excess run off into the watercourse; ▪ All concrete will be mixed off site and will be brought in as required and poured in place at site. There will be no batching or storage of cement allowed onsite; ▪ All concrete works will be scheduled during dry weather conditions only to reduce the elevated risk of runoff. The pour site will be kept free of standing water and plastic covers will be ready in case of sudden rainfall event. All concrete poured at site will be isolated from any flowing water that may drain into the river. There will be no direct discharge of cement or residues made to waters; ▪ Where concrete will be delivered on site, only the chute will need to be cleaned, using the smallest volume of water practicable. Wash out of the main concrete bottle will not be permitted on site; wash out is restricted only to chute wash out. This designated washout area will be undertaken at the construction compounds and placed at least 50m from any water feature (e.g., drain). All washings will be removed offsite and treated at a licensed facility. ▪ Concrete chute washout will collect and retain all the concrete washout water and solids in leak proof containers or impermeable lined wash out pits, so that the wash material does not reach the soil surface and then migrate to surface waters or into the ground water. The collected concrete washout water and solids will be emptied on a regular basis by a licenced waste collector according to the manufacturer's guidelines; ▪ Concrete washings will not be disposed of onsite to any surface or ground water feature. Wash down and washout of the concrete transporting vehicles will take place at an appropriate facility offsite. No chemicals that are deleterious to aquatic organisms will be used in cleaning works. All

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
			raw, uncured waste concrete will be cured at a designated location within the construction compound or off site; ▪ No washing out of any plant or equipment used in concrete transport will be allowed within 50m of watercourses.
	▪ Storage of contaminants	▪ Designating secluded storage areas	▪ There will be no storage of fuel, or any other toxic materials (e.g. oils and other lubricants, paint, cement), permitted within 50m of a watercourse; ▪ Any toxic materials stored at the Construction Compound (e.g. fuel, lubricants, paint) will be stored in bunded storage tanks with a volume of, at least, 110 % of the volume of such materials stored. ▪ On completion of the works, all apparatus, plant, tools, offices, sheds, surplus materials, rubbish, and temporary erections or works of any kind will be removed from the site.
	▪ Refuelling operation	▪ Restriction	▪ Re- fuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles / equipment will take place in designated flat hard surface, bunded areas within the construction compound or off site only. If it is not possible to bring machinery to the refuelling point, fuel will be delivered in a double-skinned mobile fuel bowser. All on-site refuelling will be carried out by a trained competent operative. Due care and attention will be taken during refuelling and maintenance operations. A drip tray will be used beneath the fill point during refuelling operations in order to contain any spillages that may occur. Refuelling will only occur within the construction compound or off site and under inspection by the ECoW. ▪ There will be no refuelling allowed within 50m of a watercourse; ▪ The oil and fuel containment facility will be regularly inspected and maintained. In the event of an accidental spill of chemicals, oil, or fuel into the watercourse, IFI will be informed immediately;
	▪ Machinery/ vehicle movement, operation, and maintenance	▪ General best-practice	▪ The construction compound and parking will be located to the north of the proposed substation building, with wheel-washing facilities present at the site entrance ▪ An emergency plan for the construction phase of the Proposed Project to deal with accidental spillages will be drawn up, which all site personnel must adhere to and receive training in; ▪ Emergency drip trays and spill kits will be kept available on site, to ensure that any accidental spills from vehicles and machinery are contained and removed off site. Spill-kits and hydrocarbon absorbent packs will be stored in the cabin of all construction vehicles. All machine operators and site staff will be fully trained in the use of this equipment; ▪ The ECoW will keep a log (which will be made available for the competent authority inspection) of all accidental spills of toxic materials, detailing the approximate volume spilled and the corrective measures undertaken. All machinery and vehicle operators will be appropriately trained for managing such accidental events;

Potential Effect	Source of the Potential Effect	Proposed Mitigation Measure	Further Description
			▪ Equipment, vehicle and machinery will be checked weekly by the respective operators for any potential defects that could generate accidental leaks and will carry spill kits. These checks, and any required maintenance, will be exclusively undertaken at the Construction Compound. ▪ Biosecurity measures will be employed during the construction works associated with the drainage ditch instream works. The biosecurity measures will have regard to IFI Biosecurity Protocols including: 'IFI Biosecurity Protocol for Field Survey Work (December 2010)24'; ▪ Site hygiene measures will be put in place to ensure that the further spread of invasive species is avoided. All machinery and equipment used during the drainage works will be inspected and will be completely dry prior to works commencing to prevent the risk of pathogen translocation; and ▪ A 'Check, Clean, Dry' protocol will be undertaken with all equipment, machinery and vehicles entering and leaving the Proposed Project site. All equipment/machinery used within the drainage ditch will be checked for living plants and animals. Equipment and machinery used will be washed thoroughly and then allowed to dry for at least 48 hours.

The appointed Contractor will be responsible for ensuring all mitigation measures listed above, including any additional planning conditions, are fully implemented during construction works. The above listed mitigation measures will be implemented prior to the construction works commencing and/or undertaken throughout the duration of the works. The above mitigation measures are best practice and are proven technologies/methods.

These mitigation measures, once correctly applied, will avoid, or reduce the magnitude of potential impacts on the receiving environment, therefore ensuring avoidance of adverse effects on the integrity of the Slaney River Valley SAC and the Wexford Harbour and Slobs SPA.

[24]https://www.fisheriesireland.ie/sites/default/files/202106/research_biosecurity_biosecurity_for_fieldsurveys_2010.pdf

8. CONCLUSION

This Natura Impact Statement (NIS) has been prepared in accordance with the Department of the Environment, Heritage and Local Government guidance, Appropriate Assessment of Plans and Projects in Ireland; Guidance for Planning Authorities. Its purpose is to provide the competent authority with sufficient objective scientific information to undertake an Appropriate Assessment in line with the Habitats Directive, Part XAB of the Planning and Development Act 2000, and relevant case law.

The assessment evaluates whether the proposed amendment to the Tincurry 110kV Substation, alone or in combination with other plans or projects, is likely to result in adverse effects on the integrity of any European site within the zone of influence of the development. It also considers any mitigation measures required to avoid or reduce the risk of such effects.

In the absence of mitigation, the proposed project could theoretically affect European sites through three main pathways:

- Siltation; and
- Contaminant release

Localised increases in fine sediment could occur from construction-related bank disturbance and erosion, potentially affecting downstream habitats used by Freshwater Pearl Mussel, lampreys, Atlantic Salmon, and Twaite Shad, and influencing prey availability for otters and piscivorous birds. Accidental release of contaminants, such as hydrocarbons, could further degrade water quality, causing lethal or sub-lethal effects on aquatic organisms, bioaccumulation in sediments, and indirect impacts on associated predators.

Potential effects on European sites through siltation, contaminants are addressed through a series of robust mitigation measures:

- For siltation, excavation and trenching works will be scheduled during dry weather, with stockpiles set back a minimum of 10 m from watercourses, and secured with double silt fencing embedded into the soil to capture and filter runoff. These measures prevent mobilisation of fine sediment into rivers, protecting downstream habitats used by Freshwater Pearl Mussel, lampreys, Atlantic Salmon, Twaite Shad, and other aquatic species.
- For contaminants, best-practice management of cement, fuels, oils, and lubricants will prevent release into watercourses. This includes sealed pre-cast joints, shuttering, bunded storage tanks, restricted refuelling zones, spill kits, and trained personnel under ECoW supervision, ensuring any accidental release is contained and removed.

Collectively, these mitigation measures prevent the mobilisation of sediment and contaminants within the site and along riparian margins. When combined with the natural hydrological and sediment-buffering capacity of riverine, wetland, and estuarine systems, there is no measurable impact on habitat extent, water quality, vegetation composition, prey availability, or species distribution. Therefore, following implementation of these mitigation measures, no significant adverse effects on the integrity of European sites are predicted, either alone or in combination with other plans or projects.

In accordance with Article 6 of the Habitats Directive 92/43/EEC, this assessment has carefully analysed the nature of the Proposed Project, the characteristics of the relevant Qualifying

Interests (QIs) and Special Conservation Interests (SCIs), and the potential linkages between the project and the European sites. Based on this evaluation, no adverse effects on the integrity of any European site are anticipated during the construction or operation of the Tincurry 110kV Substation and Grid Connection, either alone or in combination with other plans or projects, and there is no scientific uncertainty associated with this conclusion.

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Appendix A HABITATS WITHIN THE STUDY AREA OF THE PROPOSED PROJECT

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Biodiversity Value
Polygon Habitats							
P1	WN1	Oak-birch-holly woodland	0.83	D	Holly	*Ilex aquifolium*	▪ Contains semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness
				A	Grey Willow	*Salix cinerea*	
					Downy Birch	*Betula pubescens*	
				F	Gorse	*Ulex europaeus*	
					Hawthorn	*Crataegus monogyna*	
					Oak	*Quercus spp.*	
					Bramble	*Rubus fructicosus* agg.	
				O	Elder	*Sambucus nigra*	
					Common Alder	*Alnus glutinosa*	
					Broad Buckler-fern	*Dryopteris dilatata*	
				R	Portugal Laurel	*Prunus lusitanica*	
					Yew	*Taxus baccata*	
					Honeysuckle	*Lonicera periclymenum*	
					Hard Fern	*Blechnum spicant*	
P2	GA1	Improved agricultural grassland	9.25	D	Perennial Rye-grass	*Lolium perenne*	▪ Small area of semi-natural habitat that are of some local importance for wildlife
				A	Yorkshire Fog	*Holcus lanatus*	
				F	False Oat-grass	*Arrhenatherum elatius*	
				O	Ribwort Plantain	*Plantago lanceolata*	
					Red Clover	*Trifolium pratense*	
				R	Common Nettle	*Urtica dioica*	
P3	BC1	Arable crops	45.43	D	Wheat	*Triticum* spp.	
				R	Knotgrass	*Polygonum aviculare*	
					Greater Plantain	*Plantago major*	
P4	WD1	(Mixed) broadleaved woodland	8.11	A	Scots Pine	*Pinus sylvestris*	▪ Contains semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness
					Holly	*Ilex aquifolium*	
					Bramble	*Rubus fructicosus* agg.	
					Pedunculate Oak	*Quercus robur*	
					Downy Birch	*Betula pubescens*	
					Ivy	*Hedera hibernica*	
				F	Bracken	*Pteridium aquilinum*	
					Gorse	*Ulex europaeus*	
					Beech	*Fagus sylvatica*	
				O	Honeysuckle	*Lonicera periclymenum*	
					Hard Fern	*Blechnum spicant*	

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Biodiversity Value
					Common Tamarisk-moss	*Thuidium tamariscinum*	
					Common Haircup	*Polytrichum commune*	
					Broad Buckler-fern	*Dryopteris dilatata*	
					Male Fern	*Dryopteris filix-mas*	
				R	Wood Horsetail	*Equisetum sylvaticum*	
					Sheep's Sorrel	*Rumex acetosella*	
					Ground-ivy	*Glechoma hederacea*	
					Lesser Celandine	*Ficaria verna* ssp *verna*	
					Remote Sedge	*Carex remota*	
					Yew	*Taxus baccata*	
					Bilberry	*Vaccinium myrtillus*	
					Lords-and-ladies	*Arum maculatum*	
					Devil's-Bit Scabious	*Succisa pratensis*	
P5	GS2	Dry meadows and grassy verges	0.30	D	Yorkshire Fog	*Holcus lanatus*	
				A	Cocksfoot	*Dactylis glomerata*	
				F	Meadow Buttercup	*Ranunculus acris*	
					Sweet Vernal-grass	*Anthoxanthum odoratum*	
					False Oat-grass	*Arrhenatherum elatius*	
				O	Rosebay Willowherb	*Chamaenerion angustifolium*	
					Common Nettle	*Urtica dioica*	
				R	Bush Vetch	*Vicia sepium*	
					Meadow Vetchling	*Lathyrus pratensis*	
Linear Habitats							
L01	FW1	Eroding/upland rivers	Results in Section 4.2.4.1				▪ Contains habitats and species that are rare or are undergoing a decline in quality or extent at a national level
L02	FW4	Drainage ditches	77	-	-	-	▪ Dry; ▪ Not connected to river; ▪ Small area of semi-natural habitat that is of some local importance for wildlife
L03	FW4	Drainage ditches	106	O	Hard Fern	*Blechnum spicant*	
					Ivy	*Hedera hibernica*	
					Broad Buckler-fern	*Dryopteris dilatata*	
L04	FW4	Drainage ditches	83	O	Holly	*Ilex aquifolium*	
					Ivy	*Hedera hibernica*	
					Hard Fern	*Blechnum spicant*	

Map Ref.	Dominant Habitat Code	Dominant Habitat Name	Extent (ha or m)	DAFOR*	Common Name	Scientific Name	Biodiversity Value
L05	WL2	Treelines	133	D	Scots Pine	*Pinus sylvestris*	▪ Contains features essential in maintaining links and ecological corridors between features of higher ecological value
L06	FW4	Drainage ditches	120	O	Hard Fern	*Blechnum spicant*	▪ Dry/damp; ▪ Not connected to river; ▪ Small area of semi-natural habitat that is of some local importance for wildlife
					Ivy	*Hedera hibernica*	
					Broad Buckler-fern	*Dryopteris dilatata*	
					Holly	*Ilex aquifolium*	
					Honeysuckle	*Lonicera periclymenum*	
					Eared Willow	*Salix aurita*	
				F	Gorse	*Ulex europaeus*	
					Ash	*Fraxinus excelsior*	
				O	Elder	*Sambucus nigra*	
				R	Rosebay Willowherb	*Chamaenerion angustifolium*	

Polygon Habitats

Habitat P1

Habitat P2

Habitat P3

Habitat P4

Habitat P5

Linear Habitats

Habitat L01

Habitat L02

Habitat L03

Habitat L04

Habitat L05

Habitat L06

Habitat L07

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