



Carrigeen Renewable Energy Development

Screening Report for Appropriate Assessment

DEC Ltd.

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Carrigeen Renewable Energy Development

Co. Roscommon

Screening Report in support of Appropriate Assessment

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1 INTRODUCTION

Doherty Environmental Consultants Ltd has been commissioned by Carraigin Power Ltd. (the Applicant) to undertake a Screening Report in support of an Appropriate Assessment (AA), under Article 6 of the EU Habitats Directive, for a proposed 11 turbine wind farm at Carrigeen, Co. Roscommon, including a Grid Connection route between the proposed Wind Farm Site and the existing ESB substation at Flagford, Co. Roscommon, and a Turbine Delivery Route from Galway Port to the proposed Wind Farm Site (together the Project). The study area boundary relating to the proposed Wind Farm Site that is considered as part of this screening exercise is shown in green outline on **Figure 1.2**.

Figure 1.1 shows the location of the proposed Wind Farm Site; the location of the proposed Grid Connection route and the location of the temporary road widening area along the proposed Turbine Delivery Route (TDR), located at the junction of the N17 and the N5 at Charlestown. **Figure 1.2** shows the proposed wind farm layout, whilst **Figure 1.3** provides a plan view of the Grid Connection.

This Screening Report for an Appropriate Assessment forms Stage 1 of the Habitats Directive Assessment process and is being undertaken in order to inform the competent authority's assessment under Article 6(3) of the Habitats Directive 92/43/EEC (as amended). The function of this Screening Report is to identify the potential for the project to result in likely significant effects to European Sites and to provide information so that the competent authority can determine whether a Stage 2 Appropriate Assessment is required for the Project.

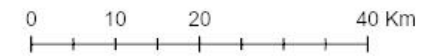


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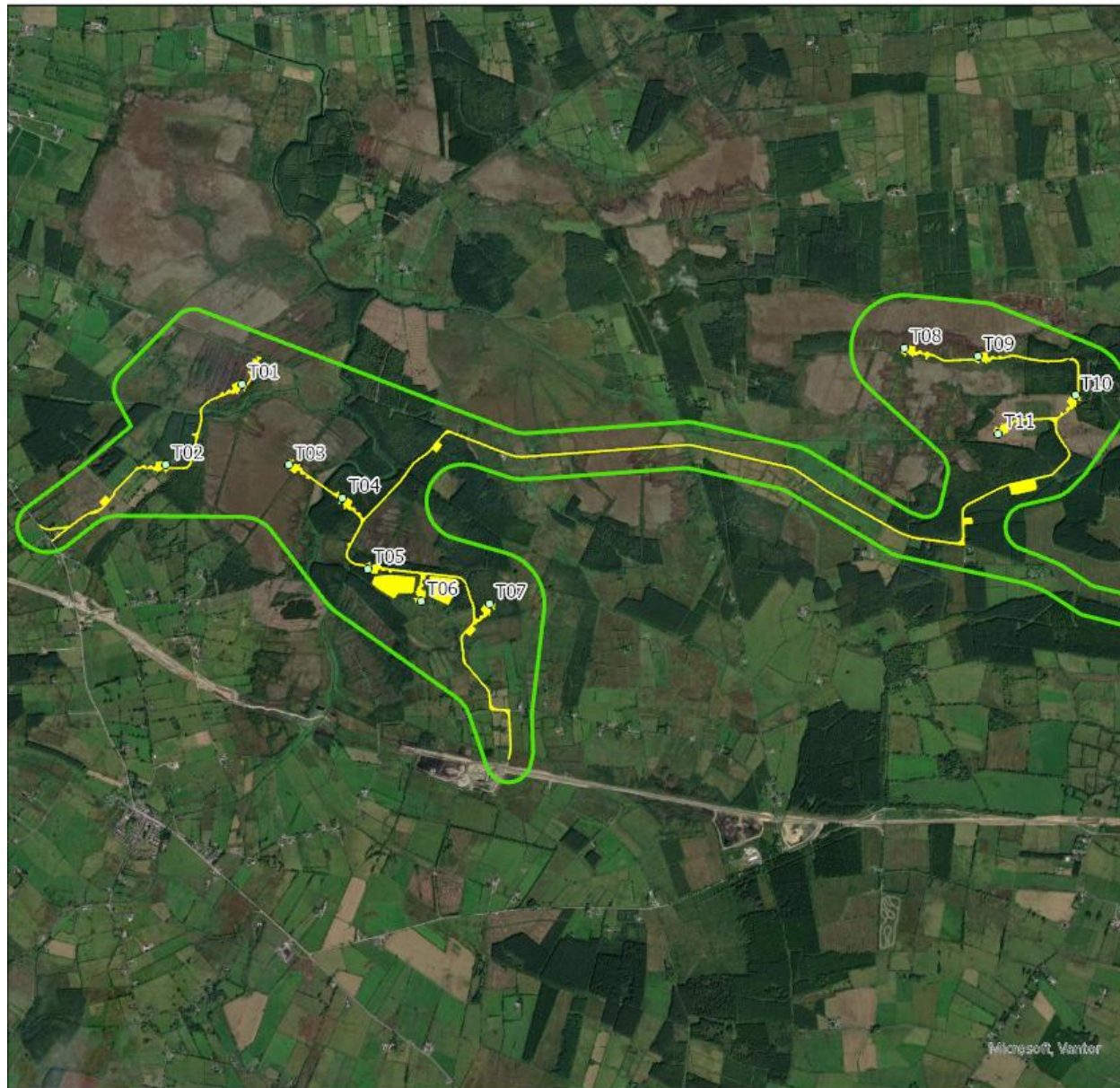
Figure 1.1

Project Extent

-  Carrigeen Wind Farm
-  110kV Grid Connection
-  TDR
-  TDR Widening Location



Date	16/12/2025
Drawn By	PD
Source	Maxar; NPWS; EPA



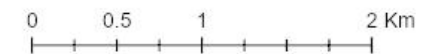
Carrigeen Renewable Energy Development

Figure 1.2

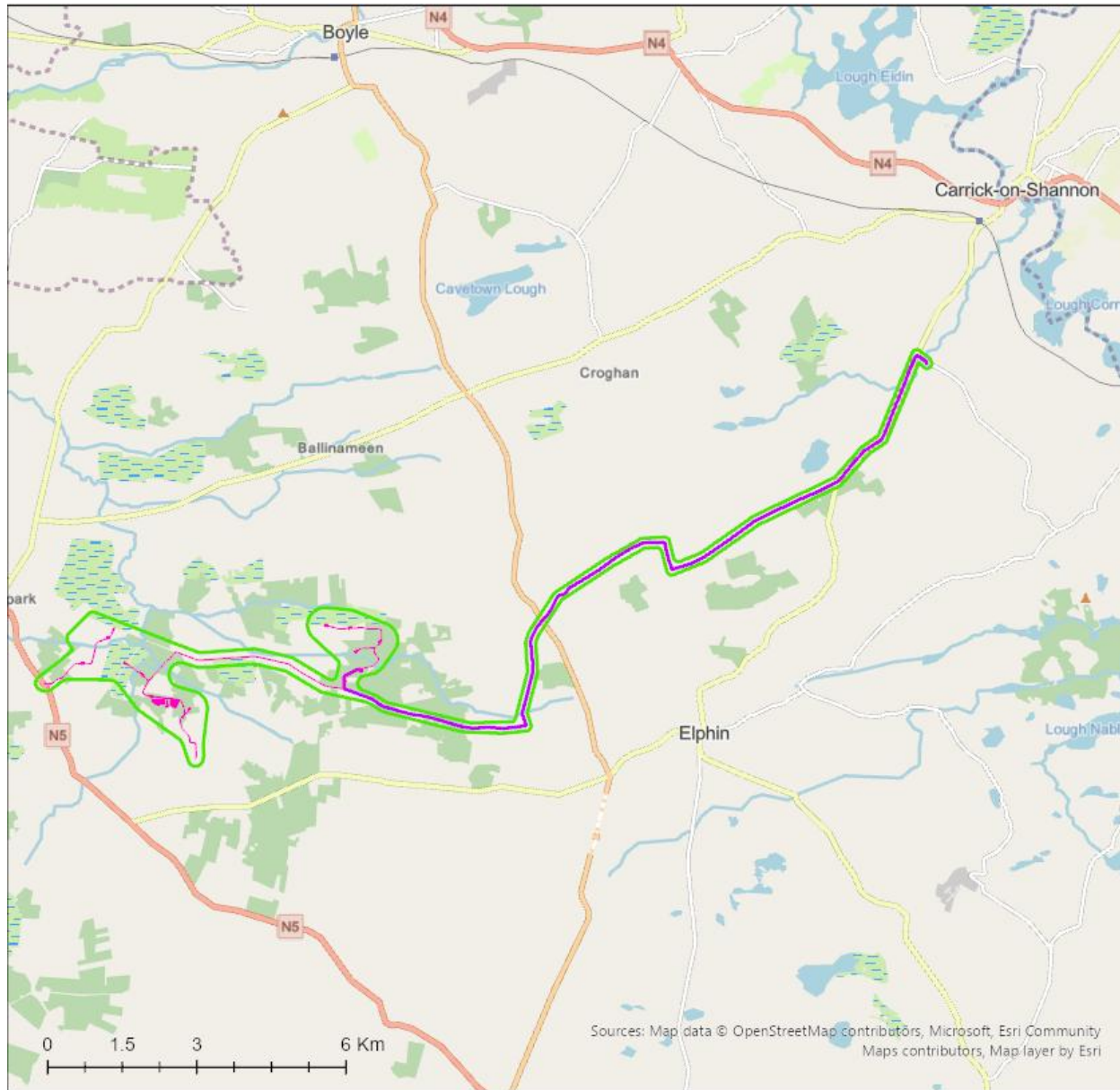
Carrigeen Wind Farm

Infrastructure Layout (Permanent & Temporary)

- ▭ Study Area Boundary
- ▭ Carrigeen WF Layout
- ◊ Turbine Locations



Date	28/01/2026
Drawn By	PD
Source	Maxar



Carrigeen Renewable Energy Development

Figure 1.3

View of Grid Connection

- ▭ Project Boundary
- ▬ 110kV Grid Connection
- ▭ Carrigeen Wind Farm



Date	16/12/2025
Drawn By	PD
Source	OSM

1.1 STATEMENT OF AUTHORITY

This Appropriate Assessment Screening Report has been prepared by Mr. Pat Doherty BSc., MSc, MCIEEM, of DEC Ltd. Mr. Doherty is a consultant ecologist with over 20 years' experience in completing ecological impact assessments and environmental impact assessments. Pat has been involved in the completion of assessment reports for proposed developments and land use activities under the EIA Directive and Article 6 of the Habitats Directive since 2003 and 2006 respectively. He has extensive experience completing such reporting for projects located in a variety of environments and has a thorough understanding of the biodiversity issues that may arise from proposed land use activities. Pat was responsible for completing one of the first Appropriate Assessment reports for large scale infrastructure developments in Ireland when he prepared the Appropriate Assessment for the N25 New Ross Bypass in 2006/07. Since then, Pat has completed multiple examinations of both plans and projects in Ireland. He has completed Natura Impact Statements for national scale plans such as Ireland's CAP Strategic Plan and National Seafood Development Plan and regional and county scale plans including County Development Plans, Local Area Plans, Tourism Strategies and Climate Action Plans. Pat has completed multiple Natura Impact Statements for a range of development types that include large scale infrastructure developments in sectors such as transport and energy as well as industrial, commercial and residential developments.

Pat has completed focused certified professional development training in Appropriate Assessment as well as in a range of ecological survey techniques and assessment processes. Training has been completed for National Vegetation Classification (NVC) and Irish Vegetation Classification (IVC) surveying, bryophyte survey for habitat assessment and identification, professional bat survey and assessment training, mammal surveying and specific training for bird and bat survey techniques. Ongoing training has been completed by approved training providers such as CIEEM, British Trust for Ornithology, the Botanic Gardens and the Field Studies Council.

1.2 LEGISLATIVE CONTEXT

Legislative protection for habitats and species is provided within the European Union by the Habitats Directive. The Habitats Directive has been implemented in Ireland and throughout Europe through the establishment of a network of designated conservation areas known as the Natura 2000 (N2K) network. The N2K network includes sites designated as Special Areas of Conservation (SACs), under the EU Habitats Directive and Special Protection Areas (SPAs)

designated under the EU Birds Directive 2009/147/EC (as amended). SACs are designated in areas that support habitats listed on Annex I and/or species listed on Annex II of the Habitats Directive. SPAs are designated in areas that support: 1% or more of the all-Ireland population of bird species listed on Annex I of the EU Birds Directive; 1% or more of the population of a migratory species; and more than 20,000 waterfowl.

This Screening Report for Appropriate Assessment is being prepared in order to enable the competent authority to comply with Article 6(3) of Council Directive 92/43/EEC (The Habitats Directive). It is prepared to assess whether or not the project alone or in combination with other plans and projects is likely to have a significant effect on any European Site in view of best scientific knowledge and in view of the conservation objectives of the European Sites and specifically on the habitats and species for which the sites have been designated. Measures intended to avoid or reduce the harmful effects of the proposed project on European sites (i.e. “mitigation measures”) or best practice measures have not been taken into account in this screening stage appraisal.

1.2.1 Requirement for an Assessment under Article 6 of the Habitats Directive

According to section 177U(1) of the Planning and Development Act 2000 (as amended) the competent authority has a duty to:

- Determine whether the proposed Project is directly connected to or necessary for the management of one of more European Sites; and, if not,
- Determine if the Project, either individually or in combination with other plans or projects, would be likely to have a significant effect on the European Site(s) in view of best scientific knowledge and the Conservation Objectives of the site(s).

This report contains information to support a Screening for Appropriate Assessment and is intended to provide information that assists the competent authority when assessing and addressing all issues regarding the construction, operation and decommissioning of the Project and to allow the competent authority to comply with the Habitats Directive. Article 6(3) of the Habitats Directive defines the requirements for assessment of projects and plans for which likely significant effects on European Sites may arise. The Birds Directive and the Habitats Directive together list habitats and species that are of international importance for conservation and require protection. The Habitats Directive requires competent authorities, to carry out a Screening for Appropriate Assessment of plans and projects that are not directly connected to

or necessary for the management of a European Site, to assess whether the plan or project alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the site's conservation objectives. This requirement is transposed into Irish Law by, inter alia, Part XAB of the Planning and Development Act, 2000 (as amended). Section 177U(4) of Part XAB of the Planning and Development Act states:

"The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is required if it cannot be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. "

1.3 SCREENING METHODOLOGY

This Screening Report has been prepared in order to comply with the legislative requirements outlined in Section 1.2 above and aims to establish whether or not the proposed Project, alone or in combination with other plans or projects, would be likely to have significant effects on European Sites in view of best scientific knowledge and the site's conservation objectives. In this context "likely" means a risk or possibility of effects occurring that **cannot** be ruled out based on objective information and "significant" means an effect that would undermine the conservation objectives of the European sites, either alone or in-combination with other plans and projects (Office of the Planning Regulator (OPR), 2021).

The nature of the likely interactions between the Project and the Conservation Objectives of European Sites will depend upon the:

- the ecological characteristics of the species or habitat, including their structure, function, conservation status and sensitivity to change; *and/or*
- the character, magnitude, duration, consequences and probability of the impacts arising from land use activities associated with the Project, in combination with other plans and projects.

This Screening Report for Appropriate Assessment has been undertaken in accordance with respective National and European guidance documents: Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities (DEHLG 2010) and *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*; Office of the Planning

Regulator – OPR Practice Note PN01: Appropriate Assessment Screening for Development Management (2021), and recent European and National case law. The following guidance documents were also of relevance during the preparation of this Screening Report:

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2010). DEHLG.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EEC. European Commission (EC) (2021).
- Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission (2018).

The EC (2021) guidelines outline the stages involved in undertaking a Screening Report for Appropriate Assessment for projects. The methodology adopted during the preparation of this Screening Report is informed by these guidelines and was undertaken in the following stages:

1. Describe the Project and determine whether it is necessary for the conservation management of European Sites;
2. Identify European Sites that could be influenced by the Project;
3. Where European Sites are identified as occurring within the zone of influence of the Project identify potential effects arising from the Project and screen the potential for such effects to negatively affect European Sites identified under Point 2 above; and
4. Identify other plans or projects that, in combination with the Project, have the potential to affect European Sites.

1.4 SCIENTIFIC INVESTIGATIONS

A range of scientific site investigations have been completed for the Project and these are relied upon in this Screening Report. The primary investigations include ecological field surveys, hydrological field surveys and geotechnical field surveys.

Desk-based investigations were completed to identify pathways connecting the Project to European Sites. Datasets used to assist with the desk-based investigations include:

- NPWS European Sites and site-specific conservation objectives datasets;
- EPA Rivers and Lakes dataset;
- EPA surface water catchment and sub-catchment datasets;
- NPWS Article 17 Habitats and Species datasets;
- OSI Geohive and OSI Historic townlands online mapping portal;
- National Biodiversity Data Centre (NBDC) online mapping portal; and
- NPWS Protected Species Dataset for the Project site and surrounding area.

The ecological field surveys that have been completed include:

- Habitats and vegetation surveys and mapping at the Wind Farm Site
- Ornithological surveys which included non-breeding season and bird species vantage point surveys, transect surveys and hinterland surveys completed between the breeding season of 2022 and the breeding season of 2025, amounting to 4 no. breeding seasons and 3 no. non-breeding seasons.
- Bat surveys over spring, summer and autumn during the 2025 bat activity seasons.
- Aquatic surveys including habitat assessment, fish habitat suitability assessment surveys, biological water quality surveys and physio-chemical water sampling.

Detailed hydrological and geotechnical surveys were also completed at the Wind Farm Site between September 2024 and February 2025.

The methods used during the completion of these site investigations are described in full in Chapter 6, 7, 8, 9, 10 and 11 of the EIAR (Jennings O'Donovan, 2026).

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Project will consist of the provision of the following:

- 11 no. Wind Turbines with an overall turbine tip height of 185m, turbine hub height of 103.5m, and rotor blade diameter of 163m, a meteorological mast with a height of 30 metres, and associated foundations and hardstanding areas, and subsequent decommissioning of the wind turbines and meteorological mast, following a thirty five year operational life from the date of full commissioning of the wind turbines;
- A 110kV substation compound (Including control buildings (591 Sq. m) with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, storage containers, underground wastewater holding tank, site drainage and all ancillary works);
- Underground electrical (110kV) and communications cabling from the proposed 110kV Onsite Substation to the existing Flagford 220kV substation in the townland of Flagford (including joint bays, communication chambers, earth sheath links, and ancillary works along the underground electrical cabling route). This cabling route is primarily located within the public road corridor;
- Underground electrical (33kV) and communications cabling connecting the Wind Turbines and meteorological mast to the proposed 110kV Onsite Substation;
- 6 no. Temporary Construction Compounds (including site offices and welfare facilities (with a floor area of 405 Sq. m)).
- Junction accommodation works to facilitate turbine delivery and construction access to the Wind Farm Site, including the upgrade of an existing site entrances off the N5 national road, and the construction of new site access roads off the L-1217 and L-56421 local roads;
- Upgrade of existing Site Access Roads and provision of new Site Access Roads, junctions and hardstand areas (including upgrade of 3.6km of the L-1217, 660m of the L-56402, 360m of the L-5642, 480m of the L-56421, 210m of the L-56492 and 85m of the L-56491 local roads);

- 2 no. Borrow Pits;
- Peat & Spoil Management;
- Site Drainage;
- Tree felling and vegetation removal;
- Operational stage site signage;
- Biodiversity Enhancement measures and;
- All ancillary works and apparatus.

The Onsite Substation and Grid Connection will be under the ownership of ESB Networks and will form a permanent part of the national grid infrastructure, which will not be decommissioned with the wind farm at the end of its operational life.

2.2 TURBINE FOUNDATION AND TURBINE HARDSTANDS

The Turbine Hardstand is designed to accommodate the delivery, laydown, and assembly of turbine components (in particular, rotor assembly) prior to turbine lifting and assembly and is shown in **Drawing No 6575-JOD-CGWF-XX-DR-C-0501** and **Drawing No 6575-JOD-CGWF-XX-DR-C-0502**. The Turbine Hardstands are needed to support the cranes during turbine construction, operational and maintenance and for decommissioning. The Turbine Hardstands will be constructed and used to facilitate Turbine Foundation construction, such as steel reinforcement delivery and pouring of concrete.

The total Turbine Hardstands area will be c.45,435m² and includes the main crane hardstand, the component set down area, the assist crane hardstands and the vehicle parking. These areas will consist of hardcore material topped with crushed stone.

Construction of the Turbine Hardstand and met mast hardstand will require the excavation of soils, the laying of a geotextile material on the formation surface and placing engineered stone and a top dressing.

The Turbine Foundations will be made of steel reinforced concrete, c.27.2m in diameter and have a depth of c 3.5m. The final Turbine Foundation design will depend on the turbine type and will be decided by the structural engineers at detailed design stage. The central part of the foundation (plinth) as seen on **Drawing No. 6575-JOD-CGWF-XX-DR-C-0501**, will be c.6m in diameter and will be raised from the main Turbine Foundation below ground level.

The area around and above the Turbine Foundation will be backfilled with compacted stone or crushed rock to a minimum specific density as this acts as additional ballast on top of the finished wind turbine foundation.

Confirmatory site investigations will be undertaken post consent to confirm that conditions do not vary from those encountered when initial investigations took place. This will confirm that the mitigation measures to be implemented remain accurate in protecting the environment. All proposed Wind Turbines, with the exception of T1 and T3, are expected to be traditional gravity foundations. These are concrete structures that depend on their own weight to achieve sufficient stability against overturning and sliding.

Turbine Foundations will need to be taken down to a level where the underlying soil or rock can bear the weight of a structure without shifting or compressing. This will be done by excavating through the peat / soil, subsoil and rock where necessary (depending on the various geological locations).

The proposed Wind Turbines T1 & T3 will likely require piled foundations, comprising rotary bored piles into bedrock supporting the concrete base slab with a central upstand to support the tower. A typical piled foundation for turbines such as that proposed use approximately 16 No. 10m long piles bored at least 3m into intact limestone bedrock. Piled foundation bases will be approximately 21m in diameter with detailed foundation design being dictated by the local ground conditions. The construction methodology for the turbine foundations is detailed **Appendix 2.1 – CEMP** (provided under separate cover with the planning application documentation). The arrangement is shown on Drawing No. **6575-JOD-CGWF-XX-DR-C-502**. The foundations for each individual Wind Turbine will be designed by the appointed designer.

After the foundation level of each Wind Turbine has been formed, the bottom section of the turbine tower or cage reinforcing steel is then built up around and through the foundation insert

or bolt cage and the outside of the foundation is shuttered with demountable formwork to allow the pouring of concrete.

The method of construction for a gravity Turbine Foundation is described as follows:

- Set out Turbine Foundations and required finish levels etc.
- Construct formation and/or supporting structures.
- Construct drainage as required.
- Provide a minimum of 100mm concrete blinding.
- Place bottom mat of steel reinforcing.
- Place Turbine Foundation base insert or bolt cage.
- Fix cable ducting and foundation earthing.
- Complete reinforcing steel.
- Fix shuttering to base sidewalls.
- Fix ducts and earthing wires between insert and walls of base.
- Carry out any corrective works as directed by Engineer.
- Check weather conditions and schedule concrete deliveries.
- Place concrete and take quality control slumps and cubes.
- Concrete surface finishing.
- Apply curing and protection of concrete.
- Strip formwork.

- Placing of any earthing wires around and over the base.
- Backfill base sides and place overburden.
- Confirm that cube results are satisfactory¹.
- Grout the top flange.

The method of construction specific for the piled foundation is described as follows:

- Excavate approximately 300mm to 500mm of topsoil and install approximately 500mm of crushed stone, compacted in two layers to form a stable platform used to support the piling rig during drilling.
- Set out pile locations.
- Construct piles by drilling vertical holes of approximately 900 mm in diameter to a minimum depth of 3 m into bedrock and installing steel reinforced cage and structural concrete.
- Excavate the footprint of the turbine foundation including working width for formwork and duct installation to formation level.
- Construct 100 mm thick concrete blinding layer.
- Prepare top of piles for connection to foundation reinforcement

¹ Concrete cubes made during the pouring of the base are crushed to confirm that the required concrete strength has been reached.

- Once formation level, pile preparation and concrete binding is in place, the methodology will be the same construction methodology as outlined for gravity turbine foundations above.

2.2.1 Access to the Wind Farm Site

There are 5 proposed site entrances. The site entrances are shown on **EIAR Figure 2.2**.

Site entrance 1 on the existing N5 and site entrance 1a on the L56402 will be constructed to facilitate the delivery of the Wind Turbine components to Wind Turbines T1 and T2. The site entrances will allow abnormal load vehicles to leave the N5 at site entrance 1 and join the L56402 at site entrance 1a to access Wind Turbines T1 and T2 and avoid the existing N5 / L56402 junction which is not suitable for abnormal load vehicles. The existing N5 is a 6.0m wide Type 3 single carriageway with hard strips and grass verges. The N5 runs between Longford and Westport and currently has a 100km/h speed limit classification at the proposed site entrance 1. Existing traffic volumes on the N5 were obtained from the TII traffic counter on the N5 located to the east of Frenchpark near site entrance 1. The results from the automatic traffic counter show that in 2025 the N5 had an annual average daily traffic (AADT) of 6,471 vehicles with 10.6% HGV traffic. The realignment of the N5 between Ballaghaderreen to Scramoge is due to open in 2026 and the section of the N5 at site entrance 1 will become a regional / local road with reduced traffic volumes and reduced speed limit. Site entrance 1 on the N5 will be used by abnormal load vehicles during Wind Turbine delivery, general construction traffic will use the existing N5 / L56402 junction to access the Wind Farm Site. The L56402 is typically a 3.0m wide single carriageway with grass verges and has a 60km/h speed limit classification. Existing traffic volumes on the L56402 are calculated from the classified traffic counts carried out by JOD on 12th December 2025 at the N5 / L56402 junction. Using the methodology from TII publication PE-PAG-02039 to calculate the AADT from short period traffic counts, the resulting AADT on the L56402 is calculated from the recorded traffic counts. The L56402 local road has an AADT of 57 vehicles at its junction with the N5 which equates to a two-way traffic flow of approximately 4 vehicles during peak hour traffic periods with 0% HGV traffic recorded during the survey period. The L56402 is currently used for forestry operations and will be used by HGV's for haulage of construction materials and components to the Wind Farm Site.

Site entrances 2, 3 and 5 will be constructed on the L1217 local road. Site entrance 2 will be a new entrance and site entrances 3 and 5 will be constructed at existing forestry entrances which will be upgraded for construction and Wind Turbine delivery traffic. The L1217 runs between

the R361 regional road at Frenchpark to the L1216. The L1217 is typically a 3.0m wide single carriageways with grass verges and has a 60km/h speed limit classification. The L1217 local road will be used by wind farm construction, operations and Decommissioning traffic to access the Project. Existing traffic volumes on the L1217 are calculated from the classified traffic counts carried out by JOD on 12th December 2025 at the L1216 / L5601 junction. Using the methodology from TII publication PE-PAG-02039 to calculate the AADT from short period traffic counts, the resulting AADT on the L1217 is calculated from the recorded traffic counts. The L1217 local road has an AADT of 128 vehicles at its junction with the L5601 which equates to a two-way traffic flow of approximately 9 vehicles during peak hour traffic periods with 0% HGV traffic recorded during the survey period. The L1217 is currently used for forestry operations and will be used by HGV's for haulage of construction materials and components to the Wind Farm Site.

Site entrance 4 on the L56421 will be a new entrance constructed to access Wind Turbines T3 to T11 of the Project. Access to site entrance 4 will be from the new N5 / L5642 priority junction using the L5642 and L56421 local roads. The L5642 and L56421 local roads are typically 3.0m wide single carriageways with grass verges and have a 60km/h speed limit classification. The L5642 and L56421 local roads will be used by wind farm construction, operations and Decommissioning traffic to access the Project.

Further details of site entrances are set out in EIAR **Chapter 16: Traffic and Transportation**.

2.2.2 Turbine Delivery Route

It is proposed that the Wind Turbine nacelles, tower hubs, turbine towers, and rotor blades will be landed at Galway Port from their country of origin. From there they will be transported to the Wind Farm Site via the L5048, R339, N83, N17 and N5 to the upgraded site entrances.

The delivery of the Wind Turbines will require co-ordination with a number of statutory bodies including Galway, Mayo and Roscommon County Councils, An Garda Síochána, and Transport Infrastructure Ireland (TII); and delivery details are set out in EIAR **Chapter 16: Traffic and Transportation**.

A trial run will be undertaken prior to delivery of Wind Turbine components, this will include assessment of vertical alignment of the road network. If the vertical alignment is not sufficient for the length of the blade delivery vehicles, a dolly type vehicle can be utilised.

Enabling works required along the Galway Port route are set out in **Table 2.2**.

Temporary accommodation requirements will be required to accommodate the delivery of the Wind Turbine components. The works locations are outlined in **Table 2.2**.

Table 2.1: Enabling Works for Galway Port Turbine Delivery Route

Location	ITM (Easting)	ITM (Northing)	Works Required
R339 / R338 Junction	531128	726314	1. Bollards to be temporarily removed from central island.
R339 / L5034 Junction	531745	726697	1. Traffic lights to be temporarily relocated 2. Lighting Column to be temporarily relocated 3. Lighting Column to be temporarily relocated 4. Vegetation to be trimmed 5. Lighting Column and pole to be temporarily relocated
R336 / L5034 Junction	531798	727007	1. Lighting column on inside of bend to be temporarily relocated 2. Loadbearing area to be constructed 3. Vegetation to be trimmed for load oversail
N17 / N83 Junction, Tuam	541634	751131	1. Lighting column to be temporarily removed 2. Sign to be temporarily removed 3. Signs to be temporarily removed from splitter island 4. Vegetation to be trimmed
N17 / N83 Junction, Tuam (West)	543806	754103	1. Lighting column to be temporarily removed 2. Road sign to be temporarily removed on central island 3. Road sign on splitter island to be temporarily removed at two locations 4. Sign in verge to be temporarily removed
N17 Milltown	540584 540073	762895 763383	1. Signs and bollards to be temporarily removed from central island at two locations.
N17 Ballindine	536890 536742	769010 769299	1. Signs and bollards to be temporarily removed from central island at four locations. 2. Bollards to be temporarily removed from central islands at two locations
N17 / N5 Roundabout, Charlestown	547918	800434	1. Road widening in verge 2. Road widening / Footpath strengthening 3. 2 no. Lighting columns to be temporarily removed 4. Signs to be temporarily removed from islands at two locations 5. Vegetation to be trimmed
N5 Junction, Charlestown	548388	800815	1. Flexible bollards to be temporarily removed from slip road 2. Flexible bollards to be temporarily removed from N5 3. Lighting column to be temporarily removed

Location	ITM (Easting)	ITM (Northing)	Works Required
			4. Sign to be temporarily removed from splitter island 5. Sign to be temporarily removed from verge 6. Vegetation to be removed 7. Oversail in third party lands
Realigned N5 to Existing N5, Frenchpark	569070	793015	1. Temporary access road to be constructed between realigned N5 and existing N5
Site Entrance 1, N5	574150	789496	1. Site Entrance 1 - New site entrance on the existing N5 constructed to accommodate the swept path of abnormal vehicles.
Realigned N5 / L5642 Junction	577210	787922	1. Road widening at junction for abnormal load vehicles
L5642 & L56421 Local Roads	577220	788280	1. Road widening in third party lands
Site Entrance 3, L56421	576818	790119	1. Site Entrance to be Constructed on L56421 2. Vegetation to be trimmed for load oversail
Site Entrance 4, L1217	576938	788599	1. Site Entrance to be Constructed on L1217 with overrun area for abnormal load vehicles 2. Vegetation to be removed for oversail
Site Entrance 5, L1217	580207	789375	1. Site Entrance to be Constructed on L1217 with overrun area for abnormal load vehicles 2. Vegetation to be removed for oversail

Abnormal loads for the Project will be shipped to Galway Port. The Wind Turbine components will be transported on the public road network using abnormal load vehicles between the landing port and site entrance 1 or site entrance 4 on the N5. The site entrances are shown on **Figure 2.2**.

The delivery of the Wind turbines will require co-ordination with the Council's Roads Department, An Garda Síochána, TII and Motorway Operators. Efforts will be made to avoid peak times such as school drop off times, church services, peak traffic times where it is considered this may lead to unnecessary disruption, and abnormal loads may travel at night and outside the normal construction times as may be required by An Garda Síochána. The process has been set out in the Traffic Management Plan (TMP) **Appendix 16.2** which will be implemented in full and will be further developed prior to the commencement of construction by the Contractor. The proposed TDR is shown on **Figure 1.1** above.

All material deliveries will have a maximum axle load of 12 tonnes per axle and a maximum gross vehicle weight of 139 tonnes. The vehicle weights do not exceed 180 tonnes and are therefore not subject to a Category 3 structural assessment as defined in Section 1.3 of DN-STR-03001 published by TII for exceptional abnormal loads.

2.2.3 Construction Haul Routes

2.2.3.1 Machinery Access for Felling

For the proposed commercial forestry felling activities, it is intended that much of the existing commercial forest track infrastructure will be utilised. The Wind Turbine layout seeks to maximise use of the commercial forestry access tracks already present. Where there is already a track there will be less intrusion and disturbance to the soil and surrounding trees. Some widening and building up of the existing track network will be required which will minimise impacts on habitats compared to the construction of new forest tracks. These upgraded tracks will also be used for access for removal of the felled timber.

2.2.4 Site Access Roads

Site Access Roads refers to the internal road structure to facilitate the construction, operation and decommissioning of the Project. The Site Access Roads layout follows the existing commercial forestry access tracks into the Wind Farm Site as far as possible and avoids environmental constraints. Every effort has been made to minimise the length of track necessary.

Site Access Roads will be upgraded and constructed to provide a running width of 5m but may be wider at bends. The proposed Site Access Roads construction detail is shown on Drawing No. **Drawing No. 6575-JOD-CGWF-XX-DR-C-0401** and **Drawing No. 6575-JOD-CGWF-XX-DR-C-0402**. (provided under separate cover as part of the planning drawings) and the Site Access Roads are shown in **Figure 1.2**.

The Site Access Roads within the floodplain will be finished at existing ground level during the construction phase and track edges will be marked out using snow poles. During the operational phase, the roads will be set to the 1 in 20-year flood level. In the event of a flood event, the maximum flooded depth along access roads will be between 200 and 400mm. Site Access Roads will be marked with snow poles to allow for emergency vehicular access. A

length of c.6,382m of existing Site Access Roads will be upgraded for the Project to minimize land take.

There will also be c.5,325m of new Site Access Roads required for the Project. These Site Access Roads will be excavated to firm bearing strata and constructed using rock from the Turbine Foundation excavations, the onsite Borrow Pits, or from imported quarry stone. Site Access Roads are shown on **Figure 1.2**. Sections of the new Site Access Roads will be of a floating road construction type. Site Access Roads across peat greater than 1m deep will be floated using layers of geosynthetic materials and aggregates. Site Access Roads on peat less than 1m deep will generally be constructed using traditional cut and fill methodology.

There are five proposed crossings of rivers and natural streams along the internal Site Access Roads, and 1 proposed crossing along the L1217 local road, where the Internal Cabling runs from the western portion to join up with the Onsite Substation on the eastern portion. All major crossings are clear span bridges and minor watercourse crossings will be culverts. The bridges will be constructed with reinforced concrete and will join to the gravel Site Access Roads. The bridges will range from 600mm to 2000mm in width. Further to consultation with Inland Fisheries Ireland (IFI), the proposed crossings have been designed in accordance with Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters, 2016.

The surface of the Site Access Roads will be maintained during the construction phase. All imported stone to the Wind Farm Site will have undergone appropriate quality testing to Transport Infrastructure Ireland (TII) specifications.

2.2.5 Permanent Met Mast

EirGrid's grid code² requires an independent assessment of wind farm performance. One such requirement is that all wind farms with an installed capacity of greater than 10MW are required to supply continuous, real-time weather data for the wind farm location. The data required is the wind speed and wind direction, air temperature and air pressure. The data required for the

² EirGrid (15 December 2021). EirGrid Grid Code Version 10

Project will be provided by a dedicated Permanent Meteorological (Met) Mast measuring 30m in height (location as detailed in **EIAR Figure 1.2**).

The Permanent Met Mast will be located in the western portion of the Wind Farm Site as detailed in **EIAR Figure 1.2**. The Permanent Met Mast foundation will be 4.5m by 4.5m, with a depth of approximately 2.25m. It will be designed and constructed similarly to the Turbine Foundations. It will encompass a cast-in insert or bolts to connect to the bottom of the Permanent Met Mast and reinforced bar structural elements. The area around and above the Turbine Foundation will be backfilled with compacted crushed rock. The Permanent Met Mast will be linked to the Onsite Substation via buried Internal Cabling for power and communication. It will be required for the full operational duration of the Project.

2.2.6 Onsite Substation

It is proposed to construct a 110kV electricity Onsite Substation within the Wind Farm Site, as shown on **EIAR Figure 1.2**. The Onsite Substation will connect to the national grid at the existing Flagford 220kV substation via c.17.5km of 110kV underground electricity cabling. Electricity transmitted between the Wind Turbines and the Onsite Substation on the Wind Farm Site will be at a voltage of 33kV. Voltage will be stepped up to 110kV within the Onsite Substation for onward transmission via the Grid Connection.

The Onsite Substation will serve two main functions:

- 1) provide housing for switchgear, control equipment, monitoring equipment, and storage space necessary for the proper functioning of the wind farm
- 2) allow for metering and for switchgear to connect to the National grid

The construction and electrical components of the Onsite Substation will be to EirGrid specifications. The substation compound area will measure c.8,527m² and will be constructed from engineered stone material using similar construction techniques for the Turbine Hardstands. The overall compound will be enclosed by a 2.6m high palisade fence and will contain 2 no. control buildings, ancillary equipment, including the transformers, switch gear, fault protection, metering, car parking and other ancillary elements necessary for the operation of the Project.

The control buildings will contain an ESB room, control room, switchgear room, small store, an office and toilet. The control components will include metering equipment, switchgear, the central computer system and electrical control panels. A spare parts store and workshop will also be located in the control building. The control building will be a single story pitched roof structure with traditional rendered finishes. The appearance and finish of the control building will be similar to an agricultural building with a slated roof and nap plaster finish. It will have a suitably sized footpath around it and an adjacent parking area. The final finish of the control building will be an off-white or grey colour.

2.2.7 Internal Cabling

Each Wind Turbine will be connected to the Onsite Substation on site via underground Medium Voltage (MV) 33kV cables. Fibre-optic cables will also connect each wind turbine to the wind turbine control system located within control building in the Onsite Substation. The electrical and fibre-optic cables running from the turbines to the Onsite Substation will be laid in cable ducts approximately 1.2m below the ground surface within the Site Access Roads and/or their verges.

2.2.8 Grid Connection

Connection will be sought from the grid system operator by application to EirGrid. It is proposed that the Onsite Substation will connect to the existing Flagford 220kV substation via 110kV underground electricity cabling. The cables will connect into existing infrastructure within the confines of the existing Flagford 220kV substation and its compound. The proposed Grid Connection will be constructed to the requirements and specifications (CDS-GFS-00-001-R13) of EirGrid.

³ <https://www.eirgridgroup.com/site-files/library/EirGrid/110kV-Underground-Cable-Functional-Specification-General-Requirements.pdf>

2.2.8.1 The Connection Route

The proposed route of this Grid Connection is provided in **Figure 1.3**. The overall length of the Grid Connection between the substation and the existing Flagford 220kV AIS substation is c.17.5km which is located primarily within the public road corridor.

It is proposed that the Grid Connection route will exit the Onsite Substation east onto the Local Road L-1217 travelling for approximately 3.7km before turning north onto the L-5650. While travelling along the L-5650 the route crosses the N61, the route then continues in a northeasterly direction along the L-5650, L-6019, L-600, R368 and L-1034 for 11.5km before reaching Flagford 220kV Substation.

2.2.8.2 Cable Ducts

The electricity will be transmitted as a three-phase power supply meaning there will be three individual conductors. The three conductors will be laid in separate ducts. The width of a 110kV cable trench with a trefoil formation will be 600mm. The depth of the trench for 110kV cables is approximately 1.3m. Separate ducts will be provided within the trench for fibre optic communications.

The following is a summary of the typical main activities for the installation of ducts:

- Confirmatory drawings for all existing services will be obtained from ESB Networks, Gas Networks Ireland, Eir, Local Authorities, Irish Water and other utility operators.
- Preparation and approval of necessary Risk Assessments and Method Statements (RAMS)
- Immediately prior to construction taking place, the area where excavation is planned will be surveyed by CAT or GPR scan (sub-surface survey technique to locate any below-ground utilities) and all existing services will be verified. Temporary warning signs will be erected.
- Clear and visible temporary safety signage will be erected all around the perimeter of the live work area to visibly warn members of the public of the hazards of ongoing construction works.

- Where necessary, a silt fencing filtration system will be installed on all existing drainage channels before and for the duration of the cable construction to prevent contamination of any watercourse.
- A 13-tonne rubber tracked 360-degree excavators will be used to excavate the trench to the dimensions of 600mm wide by 1.3m deep.
- Once the trench is excavated, a 65mm depth base layer of sand (in road trench) or concrete (off road trench) will be installed and compacted. All concrete will be offloaded directly from the concrete truck into the trench.
- uPVC ducts will be installed on top of the compacted base layer material in the trench.
- Once the ducts are installed, couplers (a device used for joining pipes) will be fitted and capped to prevent any dirt entering the unjointed open end of the duct.
- The as-built location of the installed ducts will be surveyed and recorded using a total station/GPS before the trench is backfilled to record the exact location of the ducts.
- The co-ordinates will be plotted on as-built record drawings for the grid connection cable operational phase.
- When ducts have been installed in the correct position on the trench base layer, sand (in road trench) or concrete (off road trench) will be carefully installed in the trench around the ducts so as not to displace the duct and compacted.
- Timber spacer templates will be used during installation so that the correct cover of duct surround material is achieved above, below and at the sides of the duct in the trench.
- A red cable protection strip will be installed above the layer of material surrounding the duct and for the full length of the cable route.
- A layer of concrete (in road) or excavated material (off road) will be installed on top of the duct as a surround material to a level 300mm below the finished surface level.

- Yellow marker warning tape will be installed for the full width of the trench, and for the full length of the cable route, 300mm from the finished surface level.
- The finished surface of the road will then be reinstated and finished with a bituminous layer. For off-road sections of the Grid Connection Route, the trenches will be reinstated with the related excavated material.
- Precast concrete cable joint bays will be installed within the excavated trench at set intervals.
- The joint bays will be backfilled and the surface above will be finished with a bituminous layer. The cable joint bays will be opened a second time during cable pulling and jointing, after which the finished surface above the joint bays will be reinstated again to its original condition.
- When trenching and ducting is complete, the installation of the Grid Connection cable will commence between the Onsite Substation and the existing 220kV substation at Flagford.
- The underground cabling will be pulled through the installed ducts from a cable drum set up at one joint bay and using a winch system which is set up at the next joint bay.
- The cables will be jointed together within the precast concrete Joint Bay.
- The surface above each cable joint bay will be finished with a bituminous layer to the satisfaction of the Local Authority / TII as appropriate and as good as the pre-existing condition.

2.2.8.3 Joint Bays

Joint Bays are pre-cast concrete chambers along the Grid Connection route where individual lengths of cables will be joined to form one continuous cable. A joint bay is constructed in a pit. Each joint bay typically will be 6m long x 2.5m x 2.3m deep. A reinforced concrete slab will be constructed on top of the bay.

The joint bay locations have been dictated by suitable terrain and access to facilitate the operation of cable pulling equipment at any phase of the development and future operation of

the installation in accordance with the EirGrid specifications (CDS-GFS-00-001-R1). Final joint bay locations will be determined by the electrical designer. Communication chambers, which are similar to small manholes, will be installed at the joint bay locations to facilitate connection of fibre-optic communication cables which run parallel to the electricity ducts.

2.2.9 Horizontal Directional Drilling Works

Figure 1.3 shows details of the Grid Connection. There are 8 no. watercourse crossings along the Grid Connection route, 3 of which will be HDD crossings. Directional drilling is the practice of drilling holes in a non-vertical direction for the laying of ducts which contain cables beneath features such as watercourse and this is what is proposed to traverse watercourse crossings. The directional drilling commences at the launch pit which is the entry point for pipes and ducts to be placed. Pipes and ducts are brought through the drilled hole to a receiving pit on the opposite side of the hole to the launch pit. The crossings will comprise 4 x 110 mm High Performance Polyethylene (HPPE) pipes/ducts each directionally drilled. Two separate excavations will be made to a depth of 2 metres to accommodate the directional drilling launch and reception pits in the road on either side of the crossing (no third-party lands either side of the road are anticipated to be required). Spoil arisings will be loaded onto trucks for disposal off-site as soil is excavated. The excavation launch and reception pits will be reinstated using compacted layers of crushed stone on completion of drilling and jointing operations.

The Drill head will be placed in the open excavation (launch pit) and it will be guided in by the operator for the first 1-2 metres. A series of drill rods will be connected to the head as it travels further along the shaft.

The drill position is always known to the operator and the drill can be manoeuvred in 3 planes / axis. A surveyor will monitor drilling works to ensure that the modelled stresses and collapse pressures are not exceeded. A drilling lubricant will be required, and this will be delivered directly to the drill head by hydraulics. The lubricant will be chemically inert bentonite slurry mixture which lubricate the drill head and remove the drilled earth and stone. Once the conduit is completed, the drill head is exposed at the reception pit and removed. Once the first pilot hole has been completed a hole-opener or back reamer will be fitted in the exit pit and will pull a drill pipe back through the bore to the entry side. The drill rods are connected to the duct pipe and the drill is reversed pulling the pipe back through the conduit.

A spoil volume of 5 m³ will be excavated for each 100 m run of 4 pipes. This spoil will be largely subsoil material. This material will exit the launch pit within the bentonite slurry

mixture. A mobile bunded tank will be located next to the launch pit into which the material/slurry mixture will be pumped.

2.2.10 Borrow Pits

Two Borrow Pits will be constructed as part of the Project, as per Figure 1.2. The Borrow Pits will be located in the western portion of the Wind Farm Site. It is estimated that the Borrow Pits will provide 240,000m³ excavated material to provide fill for the Site Access Roads, Turbine Hardstands, upfill to Turbine Foundations and the Temporary Construction Compounds. The Borrow Pits will be excavated only as required. Where rock and fill material is available from the excavation of Turbine Foundations this material will be used first. The use of the on-site Borrow Pits will reduce the need to transport material to the Wind Farm Site.

Site investigation borehole logs indicate that bedrock is relatively unweathered at each site investigation borehole location at the Wind Farm Site. Unconfined Compressive Strength results indicate the bedrock underlying the Wind Farm Site is considered weak. When the Borrow Pits are no longer required, they will be reinstated using any surplus inert material such as peat and subsoil from the Wind Farm Site, allowed to restore naturally and made secure using permanent stock proof fencing.

The rock will be extracted from the proposed Borrow Pits using two main methods, rock breaking and rock blasting. The primary method will be rock breaking.

2.2.10.1 Rock Breaking

Weaker rock will be extracted using a hydraulic excavator and a ripper. Where stronger rock is encountered and cannot be extracted using an excavator, then rock breaking equipment will be employed. This will typically involve the use of a 40-60 tonne 360-degree hydraulic excavator with a rock breaker. The rock breaker is supported by a smaller 30-40 tonne rock breaker which breaks the rock down further for feeding into the rock crusher machine. The larger rock breaker breaks out the rock in a progressive manner from the Borrow Pit and the smaller rock breaker breaks it down further.

The broken-down rock is loaded into mobile crusher using a wheeled loading shovel machine and crushed down into the correct grade for use in the construction of Site Access Roads, Turbine Hardstands, and Temporary Construction Compounds.

2.2.11 Onsite Drainage

The existing surface water runoff is contained within natural and artificial drainage channels that include stream and river waterbodies, drainage ditches, and other minor natural and artificial manmade drainage features.

Drainage measures will be provided to attenuate runoff, guard against soil erosion, soil compaction, and safeguard local water quality.

A buffer zone of at least 50m will be in place for major watercourses. Where this is not possible for example, at the 5 watercourse crossings where Site Access Roads will be constructed or at the 3 horizontal directional drilling sites along the Grid Connection route.

Sustainable Drainage System (SuDS) principles namely separation of overland flow from construction areas, the mimicking of diverted overland flow around construction areas and treatment trains to treat water from construction areas, will all be employed. Associated controls are listed below:

Source controls for surface water

- Interceptor drains, vee-drains, diversion drains, flume pipes, erosion and velocity control measures such as use of sandbags, oyster bags filled with gravel, filter fabrics, and other similar/equivalent or appropriate systems.
- Maintaining small working areas; covering stockpiles with geotextiles to protect against water erosion and runoff in rainy weather, and/or cessation of works in certain areas during wet and windy weather.

In-line controls for surface water

- In line controls are controls which are directly applied to the surface water body including interceptor drains, vee-drains, oversized swales, erosion and velocity control measures such as check dams, sandbags, oyster bags, straw bales, flow limiters, weirs, baffles, silt bags, silt fences, sedimats, filter fabrics, and collection sumps, temporary sumps/attenuation lagoons, sediment traps, pumping systems, settlement ponds and/or temporary pumping chambers.

Treatment systems for surface water:

- Temporary sumps and attenuation ponds, temporary storage lagoons, sediment traps, and settlement ponds, and proprietary settlement systems such as Siltbusters.

When heavy rainfall is predicted works will be suspended or scaled back.

It is proposed that all drainage will be left in place upon completion of the construction phase.

2.2.12 Temporary Construction Compounds & Temporary Works Area

Up to six Temporary Construction Compounds are proposed. These will be constructed and established upon commencement of the construction phase. The proposed location for the individual Temporary Construction Compounds are shown in **EIAR Figure 1.2**. The compounds will be used as a secure storage area for construction materials and to contain temporary site accommodation units for staff welfare facilities. The compounds will contain cabins for offices space, meeting rooms, canteen area, a drying room, parking facilities, and similar personnel facilities.

An area within the compound will be used for the storage of fuel and oils and this will be suitably bunded and the bund will be lined with an impermeable membrane in order to prevent any contamination of the surrounding soils, vegetation and water table. Double protection containers / equipment will be used along with drip trays and details are included in **EIAR Appendix 2.1: CEMP**, provided under separate cover with the planning application documentation.

During the construction phase, water will be supplied by water bowser. The maximum wastewater production is estimated to be the same as the maximum water consumption (2,000 litres per day)⁴. The project will include an enclosed wastewater management system at the temporary compounds capable of handling the demand during the construction phase with 80-100 construction workers on site at peak. A holding tank is proposed for wastewater

⁴ Table 3 of the EPA WW treatment Manual (Treatment systems for Small Communities, Business, Leisure Centres and Hotels), Environmental Protection Agency, 1999. Quarry (excluding canteen) best reflects a construction site. [Available online: https://www.epa.ie/publications/compliance--enforcement/wastewater/EPA_water_treatment_manual_-small-comm_business.pdf]

management. Wastewater will be removed off-site weekly, by a licensed wastewater disposal company and disposed at an appropriate licenced facility.

2.2.13 Spoil Management

Excavated material can be used onsite in several ways. Suitable excavation material can be used onsite for reprofiling and landscaping or it can be permanently repositioned onsite. Excess material will be re-used offsite.

Excavated material for reuse and for permanent repository onsite will be managed in accordance with the Spoil Management Plan contained as part of the CEMP, provided under separate cover within the EIAR.

2.2.13.1 Spoil Quantities

The quantities of spoil likely to be generated at the Wind Farm Site have been calculated by Whiteford Geoservices Ltd. and checked by Jennings O'Donovan & Partners. It is estimated that based on site surveys, the amount of spoil predicted to be generated during construction of the Wind Farm is approximately 352,314 m³. **Management Plan No. 4: Spoil Management**, to the **CEMP** (provided under separate cover), contains the calculation of spoil volumes and how spoil will be managed onsite. Volumes are based on the site investigations undertaken to date, i.e. peat probing and trial pit excavations.

2.2.13.2 Landscape & Reinstatement

Topsoil and surface vegetation excavated during the construction works will be used to reinstate exposed areas around site infrastructure such as slopes or graded ground. Reinstatement and reprofiling of, and around, infrastructure will be carried out during the construction phase as outlined in the **Management Plan 4: Spoil Management**, to the **CEMP**, (provided under separate cover). All areas subjected to reinstatement will be fenced with stock-proof fencing to prevent livestock disturbance until vegetation has become established. A requirement as a minimum that any fencing posts are set in concrete and that the fencing is of a large animal stock proof material.

All of excavated material will be permanently repositioned onsite. Repository areas include areas. Excavated material for reuse onsite and for permanent repository onsite will be managed in

accordance with **Management Plan 4: Spoil Management**, to the **CEMP**, (provided under separate cover). Permanent repository areas onsite are shown on **Figure 1.2** of the EIAR.

Berms will generally consist of side cast topsoil, covered with peat, maintaining a distance of c. 5 m from the Site Access Roads and site infrastructure. These berms will be 5 m wide at base; 2 m at top; 2 m high. Berm storage and permanent spoil repository areas shall have side slopes battered back to a safe angle of repose not exceeding 60 degrees to the horizontal. These areas will be compacted, further helping to reduce any potential for slippage. Spoil repository areas will be tapered to the existing ground level.

2.3 CONSTRUCTION

The first phase of the Project will comprise the construction phase. This phase will begin with site preparation works and will be complete when the Wind Turbines are built and ready for commissioning, and when all wastes have been removed from the Wind Farm Site. For this Project, it is envisaged that the construction phase will last approximately 18 months. An indicated construction programme is set out at **Table 2.3**.

Table 2.2: Indicative Construction Programme

Activity	Month																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Site Establishment /Felling and Fencing	X	X	X																		
Site Access Roads Upgrade & Construction		X	X	X	X	X	X														
Onsite Substation & Temporary Compound Construction		X	X	X	X	X	X	X													
Onsite Substation Electrical Works									X	X	X	X	X	X	X	X	X				
Onsite Substation Commissioning																X	X				
Excavation & Construction of Turbine Foundations & Hardstands		X	X	X	X	X	X	X	X	X	X										
Internal Cabling Installation										X	X	X	X	X	X	X					
Turbine Delivery and Erection												X	X	X	X	X					
Grid Connection						X	X	X	X	X	X	X	X	X	X	X	X				

Activity	Month																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Energisation																		X			
Turbine Commissioning																			X	X	X
Site Restoration																		X	X	X	X

2.3.1 Construction and Environmental Management Plan (CEMP)

A CEMP is appended to the EIAR in **Appendix 2.1**. The CEMP includes an Emergency Response Plan, Spoil Management Plan, Surface Water Management Plan, Water Quality Management Plan and a Waste Management Plan. The CEMP includes all the mitigation measures recommended within the EIAR and the NIS. A summary of the mitigation measures is included in **Chapter 22** of the EIAR.

The CEMP provides a commitment to mitigation and monitoring and reduces the risk of pollution whilst improving the sustainable management of resources. The environmental commitments of the Project will be managed through the CEMP and will be secured in contract documentation and arrangements for construction and later phases, such that there will be a robust mechanism in place for their implementation. The CEMP addresses the construction phase, and will be continued through to the commissioning, operation and final decommissioning phases. An Environmental Manager / Ecological Clerk of Works (ECoW) with appropriate experience having completed a similar role will be appointed for the duration of the construction phase so that the CEMP is effectively implemented.

The following sections describe key activities which, if unmitigated against, may cause harm or nuisance to the public.

2.3.2 Refuelling

Vehicles will be refuelled off-site where possible. For vehicles that require refuelling on-site, refuelling will be carried out at designated refuelling areas at various locations throughout the Wind Farm Site. Heavy plant and machinery will be refuelled on-site by a fuel truck that will come to the Wind Farm Site as required on a scheduled and organised basis. Other refuelling will be carried out using mobile double skinned fuel bowser. The fuel bowser will be parked on a level area on-site when not in use. All refuelling will be carried out outside designated watercourse buffer zones. Only designated trained and competent operatives will be authorised

to refuel plant on-site. Mobile measures such as drip trays and fuel absorbent mats will be used during refuelling operations as required. All plant and machinery will be equipped with fuel absorbent material and pads to deal with any event of accidental spillage.

2.3.3 Concrete

There will be no concrete batching on the Wind Farm Site. Rather, it will be transported to the Wind Farm Site as it is required. Dedicated bunded areas will be created to cater for concrete wash-out and will be within the Temporary Construction Compounds. This will be for the wash-out of the chutes only after the pour. Concrete trucks will then exit the Site and return to the supply plant to wash out the mixer itself.

The main concrete pours at the Wind Turbine locations will be planned in advance and proposed mitigation measures are detailed in **Chapter 11** of the EIAR.

2.3.4 Dust Suppression

During periods of dry and windy weather there is potential for dust to become friable and cause nuisance to nearby residences and users of the local road network. Damping down will be required in this instance to see that dust does not become friable. This is most likely to occur during periods of dry and/or windy weather. This requires wetting the material and ensuring water is supplied at the correct levels for the duration of the work activity.

To reduce mud and debris from getting onto the local road network, a wheel wash facility will be employed at exiting points on-site which will wash mud and debris from vehicles egressing the Site.

Where rock is sourced from off-site HGVs entering the Wind Farm Site carrying rock will be covered to prevent dust generation. A road sweeper will be available for use in case of any mud or debris making it onto the public road network.

2.3.5 Construction Hours

The Project will have approximately 80-100 construction workers during the peak of the construction phase. Working hours for construction will be from 07:00 to 19:00 Monday-Saturday. It should be noted that during the Wind Turbine erection phase, operations will need to take place outside those hours with concrete pours commencing at c.05:00hrs, to facilitate

Turbine Foundation. Hours of working for Turbine Foundation construction will be agreed with Roscommon County Council prior to the commencement of Turbine Foundation construction. A detailed Traffic Management Plan will be implemented during the construction phase. This shall be agreed during the planning compliance stage with the Planning Authority so that strict controls described therein are in place with all suppliers coming to the Wind Farm Site.

2.3.6 Construction Turbine Assembly

Once on the Wind Farm Site, the Wind Turbine components will follow a detailed route and plan to minimise manoeuvring. Components will be placed on Turbine Hardstands prior to assembly, additional minor hardstand fingers will be provided to lay the turbine blades across once delivered. One large crane will be required for erecting the Wind Turbines, assisted by a smaller crane. The same number of cranes will also be required for maintenance during the operational phase.

The towers will be delivered in sections, and work on assembly will not start until a suitable weather window is available, e.g., wind gust speed threshold of less than 6ms^{-1} . The bottom tower section will be bolted onto the concrete foundations. The lower-mid tower section will then be lifted into position and bolted to the bottom tower section. The upper-mid tower section is then bolted to the lower-mid section. Finally, the top tower section will be lifted into position and bolted to the upper-mid tower section. Three methods can be used to attach the blades:

1. The blades can be attached to the nacelle and hub on the ground. The hub and blades are then lifted as one. The nacelle of a wind turbine houses the drive train and other tower-top components. The hub of the Wind Turbine connects the blades to the main shaft and ultimately to the rest of the drive train.
2. The hub can be attached to the nacelle and the two blades attached to the hub while the nacelle is on the ground – the "bunny lift". The nacelle is then lifted into position and the third blade lifted into place separately. This requires manoeuvring of several components on the ground and usually the repositioning of cranes.
3. Lifting the nacelle and hub as one unit, as described above and then attaching the blades one at a time, rotating the hub between lifts. The blade lifting operations do not require repositioning of the crane.

The most appropriate method will be decided by the lifting contractor and the turbine manufacturer, prior to Wind Turbine erection.

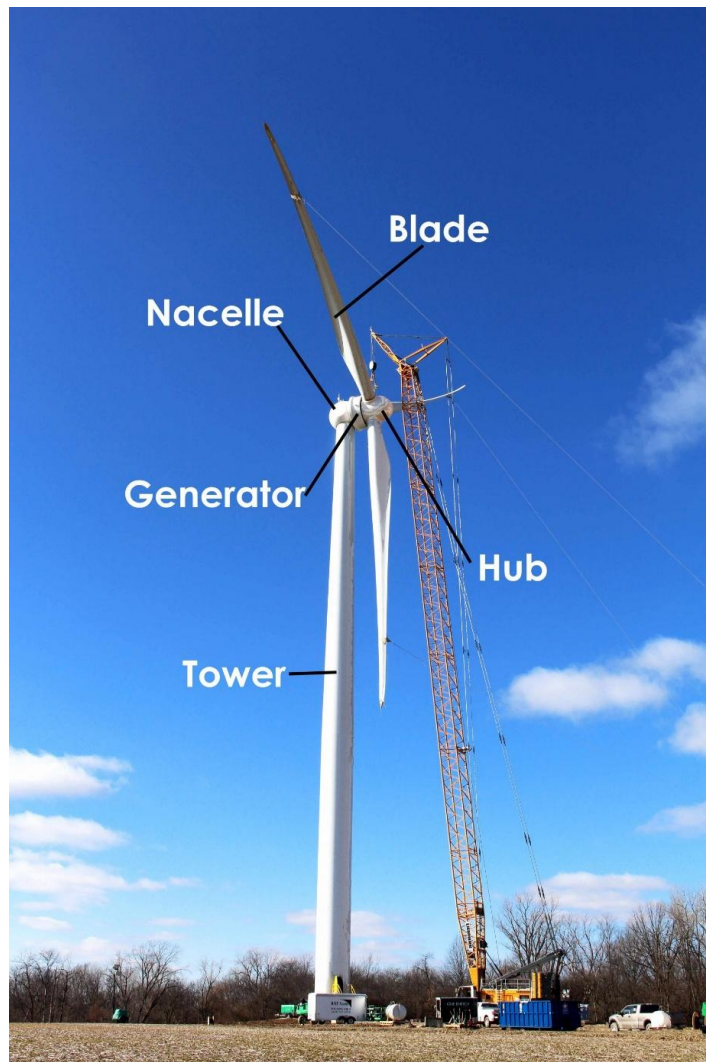


Plate 2.1: Turbine components

2.3.7 Construction Traffic

It is estimated that during civil construction 8,983 fully loaded Heavy Goods Vehicle trips will be required for the Project. This breaks down to 499 loads per month or an average of 16 loads per day.

It is anticipated that a maximum of 164 HGV vehicles (328 HGV movements) will visit the Wind Farm Site on a daily basis during the period. The peak traffic will occur on 11 days during the 9 month period between months 2 to 10 when Turbine Foundations are poured. Concrete

pours for individual Turbine Foundations will generate 120 HGV arrivals (240 HGV movements).

2.3.8 Reinstatement & Monitoring

Following completion of construction, all plant and machinery will be removed from the Wind Farm Site. The temporary works/assembly areas needed for the construction period will be reinstated using the original spoil material removed and stockpiled close to the location from where it was excavated. Stockpiles will be restricted to less than 2m in height and located outside of the surface water buffer zones. All stockpiling locations will be subject to approval by the Site Manager and Project Ecological Clerk of Works (ECoW).

The on-site installed drainage network will be left in place. This will be monitored on a quarterly basis to see that it is operating to its stated design purpose. Water monitoring on nearby natural watercourses will be undertaken during and post construction to determine if any pollution has migrated off-site, and if so, implement measures to rectify the impact.

2.3.9 Construction Supervision & Monitoring

The construction activities will be monitored by a Geotechnical Engineer, a qualified archaeologist and an ECoW. The Geotechnical Engineer will be contracted for the detailed design phase and their services retained throughout the construction and reinstatement phases. The Geotechnical Engineer will oversee all earthworks and excavation activities and monitor for issues such as ground stability, water ingress into excavations etc. Roles and responsibilities are further detailed in **EIAR Appendix 2.1**; CEMP.

Daily monitoring of excavations by the Geotechnical Engineer will occur during the construction phase. If high levels of seepage inflow occur, excavation work will immediately be stopped and a geotechnical assessment undertaken.

The ECoW will be employed prior to the commencement of the construction phase to monitor and review the pollution control measures and working practices during construction and have input into site remediation. The ECoW will have stop work authority if, for example, a sensitive habitat feature is encroached upon or there is the possibility of silt/pollution runoff to natural watercourses.

The archaeologist will have responsibility for ensuring that potential archaeological features are protected and will also have stop work authority should any be discovered during excavations. If any potential archaeological features are discovered, the archaeologist will inform the National Monuments Service (NMS).

A Water Quality Management Plan has been prepared as part of the CEMP and will be implemented prior to commencement of construction. Regular inspections of the installed drainage system will be undertaken, especially after heavy rainfall events, to check blockages and see that there is no build-up of standing water in any part of the system where it is not designed to be.

Excess build-up of silt will be removed at check dams, attenuation/settlement ponds or any other drainage feature by scraper or excavator and under the supervision of the ECoW.

During the construction phase, field testing and laboratory analysis of a range of parameters with relevant regulatory limits and Environmental Quality Standards will be undertaken for each watercourse close to the site, and specifically following heavy rainfall events (i.e., weekly, monthly and event based).

The CEMP for the Project sets out the proposed site organisation, sequencing of works, methodologies, mitigation measures and monitoring measures.

The local road network near the Wind Farm Site, used to transport construction materials, will be monitored during construction, so that any damage caused by construction traffic associated with the project can be identified and repaired. Any required monitoring programme will be agreed with the local authority, prior to the commencement of any construction works. Ready mix concrete and rock will be sourced from local quarries and monitoring may also be undertaken on the route as required.

2.3.10 Construction Sequencing

It is envisaged that the following will be the sequence of construction for the Project:

1. Site preparation including felling and drainage
2. Site Access Roads

3. Temporary Construction Compounds and welfare facilities
4. Turbine Hardstands
5. Turbine Foundations
6. Internal Cabling
7. Installation of the Grid Connection
8. Delivery and erection of Wind Turbines
9. Commissioning and energisation

The Onsite Substation will be constructed in parallel with Turbine Hardstands, Turbine Foundations and Internal Cabling works.

The first step will be to prepare the Wind Farm Site for construction. This will include key-hole felling of some commercial forestry and implementing the designed drainage measures. The Site Access Roads will then be constructed and/or upgraded. The next step will be to construct the Temporary Construction Compounds and welfare facilities. The next step will be to prepare the areas of the Site where site infrastructure is to be located by marking out the construction works corridor, the relevant environmental buffer zones.

Following the site preparation, construction of the Turbine Hardstand areas for the 11 No. Wind Turbines will occur. The 11 No. Turbine Foundations will then be excavated and foundations constructed using reinforcing bar (rebar) and imported concrete. No concrete batching will take place on site.

Following the construction of the Turbine Foundations, internal cable ducting from the turbine locations to the Onsite Substation will be laid in trenches along the constructed Site Access Roads.

The Grid Connection will then be constructed. There will be c.17.5km of trenches for the Grid Connection to Flagford 220kV substation. The ducts will be installed in an excavated trench which will be 650mm wide and 1.3m deep.

The last step will be to erect the 11 No. Wind Turbines on the foundations using two cranes. Commissioning and testing of the turbines can then proceed

2.3.11 Construction Employment

It is estimated that up to 80-100 direct and indirect jobs could be created during the construction phase of the Project. It is not expected that all of these jobs will be based at the Site.

2.4 COMMISSIONING

Wind farm commissioning can take in the region of three months to complete from the erection of the final Wind Turbine to the commercial exportation of power to the national grid. It involves electrical and mechanical testing and control measures to check that the wind farm will perform and export power to the national grid, as designed and commissioning engineers working through an entire schedule of SCADA (Supervisory Control and Data Acquisition).

2.5 OPERATION & MAINTENANCE

During the operation of the wind farm, the turbine manufacturer, the wind farm operator, or a service company will carry out regular maintenance of the Wind Turbines, Onsite Substation and all other site infrastructure. Monthly routine inspection and preventative maintenance visits will be necessary to provide for the smooth and efficient running of the wind farm. This will occur over one day with one vehicle attending the Wind Farm Site. In addition, operation and monitoring activities will be carried out remotely with the aid of computers connected via a telephone broadband link.

2.6 DECOMMISSIONING

The Applicant is applying for a consent for a period of up to 35 years for the operation of the wind farm. The full description of the decommissioning is as follows:

- Removal of 11 No. Wind Turbines and above ground concrete plinths.
- Removal of all associated underground electrical and communications cabling connecting the Wind Turbines to the Onsite Substation (ducting is to remain *in-situ*).

All other elements of the Project will remain in-situ. The Site Access Roads and associated drainage systems will serve ongoing commercial forestry and agriculture activity in the area. All other hard surfaced areas will be allowed to revegetate naturally. Based on the experience of the project team monitoring operational wind farm sites throughout the country, the approach of allowing these areas to revegetate naturally has proven to be very successful.

Cranes of similar size to those used for construction will disassemble each Wind Turbine using the same Turbine Hardstands. The towers, blades and all above ground components will be removed from site and reused, recycled, or disposed of in a suitably licenced facility.

Wind Turbines will be cut on site so as to fit on articulated trucks, therefore allowing the use of the civil construction delivery routes for removal.

Potential impacts will be similar to that of the construction phase, albeit to a lesser extent.

A Decommissioning plan is included as part of the CEMP in **EIAR Appendix 2.1**. Prior to the Decommissioning works, a plan will be submitted to the planning authority for written agreement. The plan will take account of contemporary best practice.

3 DESCRIPTION OF THE PROPOSED WIND FARM SITE & GRID CONNECTION ROUTE

3.1 LOCATION OVERVIEW

The Wind Farm Site is located within an agricultural, peatland and commercial forested landscape, between Frenchpark and Elphin, in Co. Roscommon. The nearest centre of population to the site is the small village of Frenchpark, which is located along the R361 regional road and is c.2.1km to the north of the closest Wind Turbine (T2). The small village settlement of Ballinagare is located c.2.2km to the south-west of T5, and Ballinameen c.3.4km to the north-east of T8. The Wind Farm Site is located c.12km north-east of Castlerea and c.16km south-west of Carrick-on-Shannon

The Project covers an area of c.1,040ha. The principal land use in the general area consists of agricultural pasture grazing land, peat harvesting and commercial forestry.

The proposed route of Grid Connection will connect the proposed Onsite Substation to the existing Flagford 220kV AIS substation. The proposed Grid Connection route is c.17.5km in length which is located entirely within the public road corridor.

It is proposed that the Grid Connection route will exit the Onsite Substation east onto the local road L1217 travelling for approximately 3.7km before turning north onto the L5650. While travelling along the L5650 the route crosses the N61, the route then continues in a north-easterly direction along the L5650, L6019, L600, R368 and L1034 for 11.5km before reaching Flagford 220kV Substation.

3.2 TOPOGRAPHY

Maximum ground levels within the Wind Farm Site are on lands in the vicinity of proposed turbine T11 (c. 79m OD). The lowest ground levels are in the vicinity the proposed access into the Wind Farm Site from the north (L1217) (c. 65m OD).

3.3 SOILS & GEOLOGY

According to the GSI online database, the Wind Farm Site is immediately underlain by the following rock formations (see details in **Chapter 10: Soils and Geology**):

- Boyle Sandstone Formation: sandstone, siltstone and black mudstone
- Ballymore Limestone Formation: dark, fine grained limestone and shale
- Croghan Limestone Formation: dark, cherty limestone and shale

The Wind Farm Site is underlain by the following superficial soil types:-

- Cut-over raised Peat or Topsoil
- Glacial Till derived mainly from limestone rocks

The bedrock occurring along the Grid Connection consists of the Croghan Limestone Formation: dark, cherty limestone and shale and the Bricklieve Formation – Interbedded Limestones and calcareous shales

The Grid Connection route is underlain by the following superficial soil types:-

- Cut-over raised Peat or Topsoil
- Glacial Tillis derived mainly from limestone rocks
- Alluvium, within river valley bottoms.

3.3.1 Peat Depths

Peat probing of the Wind Farm Site was completed as part of the Soils and Geology assessment of the Project (see EIAR Chapter 10, Jennings O’Donovan, 2026). A total of 2,386 no. peat probes were undertaken during multiple phases of fieldwork undertaken in 2024 and 2025.

The results of these peat thickness measurements are given in the table below.

Table 3.1: Peat Depth Distribution by Category

Peat Depth Category (m)	Number of Survey Points	Sufficient to influence ground stability
A – Absent or Negligible (0-0.5m)	1069 (44.8%)	Unlikely
B – Shallow (0.5-2.0m)	605 (25.3%)	Likely
C – Moderately Deep (2.0-3.0m)	263 (11.0%)	Very likely
D – Deep (3.0-4.0m)	132 (5.5%)	Very likely
E– Very Deep (>4.0m)	318 (13.3%)	Very likely

3.3.2 Landslide Susceptibility

According to Geological Survey of Ireland (GSI) mapping, Landslide Susceptibility within the Wind Farm Site and along the Grid Connection is LOW or LOW (INFERRED) risk. GSI also holds records of historic landslides and records two landslide events between 6km and 8km south-west of the Wind Farm Site.

Within the Wind Farm Site ground slopes are either flat or of a very low angle and, consequently, potential for natural soil movement is also considered to be low.

3.3.3 Peat Landslide Hazard

A Peat Landslide Hazard Assessment (PLHA) for the site was carried out as part of the Soils and Geology Assessment for the Project (see EIAR Chapter 10, Jennings O’Donovan, 2026) and has been identified as a potential risk on the Wind Farm Site.

This PLHA has determined that peat landslide hazard is moderate without mitigation. The walkover survey and subsequent site investigations confirm the presence of peat soils within the Wind Farm Site.

The maximum peat thickness encountered at the Wind Farm Site infrastructure is detailed in the table below.

Table 3.2: Summary of Peat Thickness at the Main Structures

Structure	Peat Thickness (m)	Peat Thickness Likely to Influence Stability?
T1	4.5	Very Likely
T2	0.7	Likely
T3	4.5	Very Likely
T4	1.6	Likely
T5	0.4	Likely
T6	1.2	Likely
T7	1.6	Likely
T8	2.2	Very Likely
T9	2.0	Likely
T10	1.8	Likely
T11	0.6	Likely
SUBSTATION	2.0	Likely

The following schedule summarises the relevant hazard ranking, applicable pre-mitigation, to the main infrastructure at the Project:

Table 3.3: Pre-mitigation Determination of Peat Landslide Hazard Ranking

Infrastructure Element Considered	Pre-Mitigation Peat Landslide Hazard Ranking
Wind Turbine T1	MEDIUM
Wind Turbine T2	LOW
Wind Turbine T3	MEDIUM
Wind Turbine T4	LOW
Wind Turbine T5	NEGLIGIBLE
Wind Turbine T6	NEGLIGIBLE
Wind Turbine T7	NEGLIGIBLE
Wind Turbine T8	LOW
Wind Turbine T9	LOW
Wind Turbine T10	NEGLIGIBLE
Wind Turbine T11	LOW
Onsite Substation	LOW
Site Access Road from site entrance 1 to T1	MEDIUM
Site Access Road from T1 to T2	MEDIUM
Site Access Road from site entrance 3 to T4	MEDIUM
Site Access Road from T4 to T5	MEDIUM
Site Access Road from Spur to T5 and T6	LOW
Site Access Road from T6 to T7	LOW
Site Access Road from T7 to site entrance 4	LOW
Site Access Road from site entrance 5 to Onsite Substation	MEDIUM
Site Access Road from Onsite Substation to T11	MEDIUM
Site Access Road from Spur at T11 to T8	LOW

3.4 HYDROLOGY

On a regional scale, the entirety of the Project lies within the Shannon catchment. The Wind Farm Site lies within the Breedoge_SC_010 WFD river sub-catchment. The Grid Connection route passes through the Breedoge_SC_010, Owenur_SC_010, and Shannon [Upper]_SC_030

WFD river sub-catchments. The sub-catchments relevant to the TDR outside of the Wind Farm Site are the Corrib and the Moy catchments. The sub-catchments in which the Project is located are further delineated into river sub-basins. The Wind Farm Site is located across three sub-basins; Carricknabraher_020 (IE_SH_26C020200) to the west, Breedoge_010 (IE_SH_26B090300) in the central section, and Mantua_010 (IE_SH_26M010200) to the east. The Grid Connection route is located within the Mantua_010, Kinard_010 (IE_SH_26K070500), and Killukin_020 (IE_SH_26K020700). The river sub-basin relevant to the TDR where works are proposed outside the Wind Farm Site, is the Charlestown Stream_010.

The latest (2019 – 2024) Water Framework Directive water quality status reported for the watercourses flowing through and draining the Wind Farm Site are as follows:

Table 3.4: Water Framework Directive water quality status (2019-2024)

River	Water Quality Status
Carricknabraher River	At Risk
Breedoge River	Not at Risk
Mantua River	Review
Kinard Stream	Not at Risk
Killukin Stream	At Risk
Charlestown Stream	At Risk

The WFD classification data available from Catchments.ie indicates the Carricknabraher_020, Mantua_010, and Killukin_020 river sub-basins have been assigned a status less than ‘Good’ due to ecological / biological (invertebrate) elements of the WFD classification.

3.5 HYDROGEOLOGY

The Project is underlain by 4 no. groundwater bodies as defined by EPA mapping. The western section of the Wind Farm Site is underlain by the Potentially Dependent Groundwater Waterbodies GWDTE-Bellanagare Bog (SAC000592) (IE_SH_G_241), GWDTE-Cloonshanville Bog (SAC000614) (IE_SH_G_067) as well as the Castlerea Bellanagare (IE_SH_G_054), and Carrick on Shannon (IE_SH_G_048) groundwater bodies.

The eastern section of the Wind Farm Site and the Grid Connection are underlain by the Carrick on Shannon (IE_SH_G_048) groundwater body. The characteristics of the groundwater bodies are summarised in the following sections.

GWDTE-Bellanagare Bog is in an intermediate / western raised bog underlain by low-permeability muddy Carboniferous limestone with a clayey limestone till subsoil; the peat surface is highly dependent on diffuse rainfall recharge and shallow groundwater feeding numerous flushes, springs and small streams. Groundwater flow is largely shallow and local — emerging as seepages/flushes and discrete spring/rise features across the bog — so groundwater levels are naturally high within the peat.

GWDTE-Cloonshanville Bog is a raised bog with extensive flush features; its hydrology is dominated by near-surface groundwater/peat water tables sustained primarily by direct rainfall recharge and impeded by peat/underlying low-permeability deposits. The central flush system shows localized groundwater emergence (diffuse seepage) rather than deep regional flow. Kelly (1995) described Cloonashanville Bog SAC as being located in a groundwater discharge zone, with the water table lowered due to extensive drainage works in the area around Lough Gara. Electric conductivity in shallow cut away drains bounding the high bog is low and not indicative of groundwater contact. Deeper drains at the west of the bog intercept the groundwater table and EC values are consistently higher at this location. Little runoff from the bog is believed to infiltrate to the water table since subsoils are generally of low permeability at depth. Kelly (1995) also noted that the bog lies in a regional discharge zone where drainage has lowered the water table. This has caused a former lake in the east to dry out with Kelly et al. (1995) suggesting that the bog is now located in a regional recharge area.

Castlerea Bellanagare GWB is classed as a shallow / poorly productive bedrock area overlain locally by till and peat in places near bogs. Groundwater in this GWB is generally of limited transmissivity (poorly productive bedrock), with recharge dominated by rainfall infiltration and groundwater contributions to nearby streams and drinking-water source protection zones.

Carrick on Shannon GWB is a karstified limestone aquifer with complex, shallow flow systems and strong connections to surface water. Recharge occurs via rainfall and swallow holes, leading to rapid water-level fluctuations. The aquifer is unconfined, highly vulnerable, and discharges to springs, turloughs, and rivers feeding the Shannon catchment.

3.6 BIODIVERSITY

3.6.1 European Sites

The proposed Wind Farm Site is not located within any European Sites. The proposed TDR does not occur within any European Sites. The Grid Connection route does not intersect any European Sites.

The Study Area Boundary over sails the Cloonashanville Bog SAC, whilst the nearest point of the infrastructure associated with the Project to this SAC is located approximately 125m to the east, southeast of the boundary. The nearest SPA to the Project is the Bellanagare Bog SPA, located approximately 1km to the southwest of the Project boundary.

3.6.2 Habitats

The habitats occurring at the proposed Wind Farm Site are dominated by conifer plantation, which accounts for approximately 46% of the land cover. Large stands of mature commercial plantation are located within and surrounding both the eastern and western parcels of the Wind Farm Site. Some areas of conifer plantation have been recently felled with felling operations being undertaken during 2024 and 2025.

Raised bog habitats occur in both the eastern and western parcels of the Wind Farm Site. The best remaining examples of raised bog habitat occurring at the site are located to the east of T3 and northwest of T8. Aside from these areas the raised bog habitat occurring in the has been subject to long-term historical and current turbary.

Grassland habitats in the form of improved agricultural grassland and wet grassland occur within the proposed Wind Farm Site. Improved agricultural grassland is limited to the east of the Wind Farm Site in the vicinity of the proposed Wind Turbine T2. The majority of the wet grassland habitat occurring at the site is located within the western parcel and is characterised by dense and species-poor *Juncus effusus* dominated swards. Areas of more diverse wet grassland habitat occur along the riparian fringes of the Carricknabraher River, at the northwestern extent of the Study Area Boundary and to the east of the proposed Wind Turbine T7.

Broadleaved woodland habitats in the form of scrub and wet woodland along with hedgerows occur within the Wind Farm Site. The hedgerow habitat is mainly restricted to the area

surrounding the proposed Wind Turbine T2. Pockets of wet woodland habitat occur towards the west of the site in areas of cutover raised bog. Pockets of scrub occur throughout Wind Farm Site

3.6.3 Fauna

3.6.3.1 Bats

In general, the landscape that the Wind Farm Site is a part of, has been classified at low to moderate suitability for bats.

Eight species of bats have been recorded as present at the Wind Farm Site during the bat surveys. All are listed as ‘Least Concern’ on the Irish Red List, and Annex IV of the EU Habitats Directive.

No lesser horseshoe bats have been recorded to rely on the proposed Wind Farm Site.

3.6.3.2 Non-volant mammals

Irish hare was observed at the proposed Wind Farm Site during field surveys and evidence indicating the presence of red deer was also observed. No evidence indicating the presence of badgers was observed during field surveys.

No otter holts or couches were observed along the watercourses draining the proposed Wind Farm Site. The fisheries resource of the main watercourses draining the proposed Wind Farm Site (i.e. the Carricknabraher, Breedoge and Mantua Rivers) have been found to be limited with low numbers of salmonids recorded, an absence of lamprey species and dominance of generally pollution tolerant species such as minnow, stickleback and stone loach. The limited fisheries resource is in turn likely to limit the potential for these stretches of watercourse to be relied upon by otters. No otter holts or couches were recorded along the main rivers draining the Wind Farm Site. Notwithstanding this, otters have been observed foraging along the Breedoge River during field surveys whilst spraints and slides were also observed along this river as well as the Carricknabraher River and the Mantua River.

No evidence of non-volant mammals was recorded at any of the proposed widening areas along the TDR.

No otter holts, couches or field signs were observed along the watercourses crossed by the proposed Grid Connection route between the Wind Farm Site and the ESB substation at Flagford.

One disused sett was recorded within the Wind Farm Site to the west of the proposed Wind Turbine T1.

3.6.3.3 Birds

Bird data gathered and surveys completed for the Project recorded a total of 53 species, 7 of which are Red-list status under the BoCCI (Gilbert et al., 2021). These include grey wagtail, kestrel, lapwing, meadow pipit, redwing, snipe and swift. A further 15 Amber-listed species were observed. A total of three Annex I species were recorded as part of the baseline bird data compilation and/or as part of the baseline ornithological surveys completed for the project. These three species comprise: Greenland white-fronted geese, Hen Harrier and Whooper Swan. Historical records are held for Greenland White-fronted Geese. This species, which was historically associated with the Bellanagare Bog and is the qualifying interest for which this bog is designated as an SPA, was not recorded during baseline ornithological surveys. Greenland White-fronted Geese have not been recorded at Bellanagare Bog SPA or the wider surrounding area in the recent past. Historical records for Hen Harrier and Whooper Swan are held for the wider area surrounding the Wind Farm Site and both of these species were observed during baseline ornithological surveys.

Table 3.5 lists the bird species that have been identified as key ornithological receptors for the assessment of ornithological impacts (see **EIAR Chapter 8**). The sensitivity of species as outlined on Table 3.5 are as per Chapter 8 of the EIAR.

Table 3.5: Key Ornithological Receptors

Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low / Very Low Sensitivity
Greenland White-fronted Geese	Hen harrier	Kestrel	Buzzard
	Whooper Swan	Grey Wagtail	Starling
		Meadow Pipit	Cormorant
		Redwing	Heron
		Snipe	House Martin
		Swift	House Sparrow
			Lesser Black-backed Gull

Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low / Very Low Sensitivity
			Linnet
			Mallard
			Skylark
			Teal
			Willow Warbler

3.6.3.4 Invertebrates

No marsh fritillary were recorded at the proposed Wind Farm Site during field surveys. However, a record for the presence of marsh fritillary larvae, recorded on the 21st March 2019, is held for a location within the Wind Farm Site boundary, approximately 360m to the south of the proposed infrastructure footprint between T3 and T4.

4 IS THE PROJECT NECESSARY FOR THE CONSERVATION MANAGEMENT OF EUROPEAN SITES

The Project has been described in Section 2 of this Screening Report and it is clear from the description provided that the Project is not directly connected with or necessary for the future conservation management of any European Sites.

5 IDENTIFICATION OF EUROPEAN SITES WITHIN THE ZONE OF INFLUENCE OF THE PROJECT

5.1 WITHIN/ADJOINING EUROPEAN SITES

In order to identify European Sites that could potentially be located within the zone of influence of the Project, the current digital mapping (shapefile) of European Sites in Ireland⁵, as published by the NPWS, was reviewed to identify the European Sites that could conceivably be connected to the Wind Farm Site via pathways. During this review, the Study Area boundary of the Project was identified as occurring within one European Site, namely the Cloonashanville Bog SAC.

⁵ Current SAC shapefile layer dated January 2026; current SPA shapefile layer dated January 2026

Given that this European Site overlaps with/adjoins the Project it is considered to occur within its zone of influence.

5.2 SOURCE-PATHWAY-RECEPTOR MODEL

Current guidance informing the approach to screening for Appropriate Assessment defines the zone of influence of a proposed development as the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. It is recommended that this is established on a case-by-case basis using the Source-Pathway-Receptor (SPR) model.

Under the SPR model, the works associated with the construction and decommissioning phase and the operation of the Project represent the source of potential impacts.

Pathways that can arise as a result of developing projects and lead to offsite/downstream impacts are listed below and an appraisal of the potential for these pathways to connect the Project to European Sites and their qualifying features of interest (which represent the receptors under the SPR model) is also provided:

- Emissions to surface water: In the absence of a suitable design and control measures the Project will have the potential to result in emissions to surface waters. Where receiving surface waters establish a connection between the Project and European Sites downstream then a hydrological pathway will be established. The hydrological pathway can function as a vector for the transport of pollution generated by the Project. Examples of such pollution include the release of contaminating aqueous solutions required for construction works; cementitious materials; hydrocarbons and oil; sediment and silt arising from construction works and ground instability and failure. EPA sub-catchment and rivers and streams digital baseline mapping was used to identify hydrological pathways between the Project and European Sites. The potential for hydrological pathways to function as an impact pathway is examined further in Table 5.3 below.
- Emissions to groundwater: Infiltration of surface waters to ground is not considered to be high at the Wind Farm Site (see **EIAR Chapter 11**) and there are no proposals to discharge surface waters generated at the Project to ground via infiltration. There will

be no groundwater emissions pathways with the potential to connect the Project to European Sites.

- Noise emissions: Noise emissions are considered to have the potential to result in negative impacts to biodiversity up to a 300m distance from the emission source. This distance is based on the maximum noise disturbance zone of 300m for wetland bird species, as specified by Cutts et al. (2013)⁶. Noise effects for other qualifying species as well as qualifying habitats of European Sites are less than 300m. For mammal species listed as qualifying features of interest for SACs in the surrounding area this distance is set at 150m, as per the NRA (2009). For qualifying aquatic species a potential noise impact pathway will only arise where works such as piling or blasting are proposed at instream or bankside locations within adjoining SACs. Piling works are proposed for the Wind Turbines T1 and T3. Both turbines are located over a 100m from the nearest watercourse and as such no proposals for piling at or immediately adjacent to watercourses form part of the overall project. There are European Sites occurring within 300m of the Project and the potential for noise emissions to function as a pathway is examined further in Table 5.3 below.
- Emissions to air: Air emissions that have been identified as arising from the Project relate to the generation of dust emissions during the construction phase (see **EIAR, Chapter 18**). Dust emissions can have the potential to result in negative impacts to biodiversity up to 50m from the source of the emission. This is supported by the guidance outlined by Holman *et al.* (2014), which provides a risk assessment for ecological impacts arising from dust deposition. European Sites are ranked as high sensitive sites and the risk to high sensitive sites ranges from high (at less than 20m from source) and medium (at less than 50m from source), while low risks, representative of insignificant and de-minimis effects, arise at distances greater than 50m from source.

⁶ It is noted Nature Scotland (2022) published disturbance zones for bird species at a greater distance than 300m. However unlike Cutt et al. (2013) who specifically examined disturbance effects generated by noise stimuli, the potential disturbance stimuli set out in the Nature Scotland publication are not concerned specifically with noise stimuli. As such the Cutts et al. (2013) publication and maximum noise disturbance distance is relied upon.

- Light emissions: the Project will include for the provision of night time beacon lights on Wind Turbines. The potential for this operation phase lighting to result in a negative effect to European Sites is examined further in Table 5.3 below.
- Visual emissions: Certain qualifying species of European Sites can be sensitive to visual changes in the landscape and visual disturbance as a result of new structures. Species that are sensitive to such disturbance are wildfowl in the form of geese and swans. The proposed 11 Wind Turbines will represent the only prominent structures in the landscape. The potential zone of sensitivity arising from turbines reaches a maximum distance for geese and swans at 1km and 600m respectively (as per McGuinness et al., 2015; Nature Scotland 2022). The potential for visual disturbance during the operation phase to result in a negative effect to European Sites is examined further in Table 5.3 below.
- Mobile Species Pathway: Development projects that are located outside of European Sites can also result in impacts to mobile qualifying species of European Sites in the event that such species rely on habitats occurring within the proposed development site. For the purposes of including such a scenario in the consideration of potential pathways, this screening report refers to the reliance of mobile qualifying species of European Sites on the Project as a “mobile species pathway”. When considering the mobile species pathway the following publications were used to identify their presence within the zone of influence of the Project:

For bird species:

- Scottish Natural Heritage (SNH, now Natural Scotland) guidance document “Assessing connectivity with Special Protection Areas (SPA) (SNH, 2016) and McGuinness *et al.* (2015) for a range of waterbirds were used as the principal sources for establishing foraging range distances. As per the SNH (2016) guidance core foraging ranges (which are considered to be representative of species mean foraging ranges) are relied upon. Woodward et al. (2024) have also recommended that core foraging ranges (i.e. global mean foraging ranges) are likely to be the most appropriate metric to use when examining potential impact of wind energy development to seabird populations. Where no distances for certain species are reported in these two sources, other published

sources, that set out core (i.e. mean) foraging ranges for bird species to be considered, (see Table 5.1), that are relied upon are listed below.

- The Bird Foraging Table (version 6th Jan. 2020), prepared for DAFM, Forestry Division⁷
- Woodward et al. (2024) for seabirds (i.e. Lesser Black-backed Gull and cormorant);
- Johnson et al (2014) for mallard and teal;
- Colhoun et al. (2024) for chough
- Gillings & Fuller (1999) for golden plover during the non-breeding season

were used to identify connectivity between the Project and SPAs in the wider surrounding area.

- Non-native invasive species pathway: the potential for the project to result in the spread of non-native invasive species within European Sites.
- Disturbance pathway: Human disturbance, ex-situ of a project site, to a European Sites is representative of an indirect impact arising as a result of land use activities generated by a project. An example of such an indirect impact is an increase in human presence and associated pressures within a European Sites. New developments in areas outside of, but proximate to European Site, can result in an increase in the presence of people within European Sites, such as for recreational activities. However, given the nature of the Project, which will not generate increased levels of human activity within surrounding European Sites, this example of a human disturbance pathway will not arise.

Human disturbance in the form of noise and visual emissions arising from activities (e.g. from construction activities) to qualifying species can also arise from areas outside of European Sites if activities are located within the disturbance zone of sensitivity for these species. The qualifying species of surrounding European Sites that could be

⁷ available at <https://assets.gov.ie/96741/2601fdb4-420a-45da-948a-ac2b5b0babe3.docx>

sensitive to this are special conservation interest bird species and otters. The zone of sensitivity of special conservation interest bird species are set out in Table 5.1 below, while the zone of sensitivity of otters to human activities is dependent on the type of activity and ranges up to a maximum distance of 150m from the activity source (NRA, 2009). The potential for such a human disturbance pathway to effect these species is considered under the noise and visual pathways listed above.

In order to identify a list of European Sites in the wider area surrounding the Project that require examination for pathway connectivity a variety of distance criteria were used to establish a preliminary list of European Sites to be considered.

With respect to SACs, the criteria that requires examination of SACs over the greatest distance is the surface water catchment criteria. As such, all SACs occurring downstream within the Upper Shannon Catchment (Catchment ID_26B) have been included in the preliminary list of SACs to be considered. The location of these SACs with respect to the Project is shown on Figure 5.1. The locations where works along the TDR are required outside of the Wind Farm Site and Grid Connection are located within the Moy catchment. The locations of SACs downstream of the TDR works location at the N17/N5 Roundabout at Charlestown are shown on Figure 5.3.

With respect to SPAs, the preliminary list of SPAs that require to be considered for pathway connectivity is based upon:

1. connectivity with the Upper Shannon catchment as described above; and/or
2. the species that have been identified as key ornithological receptors of the Project, as listed on Table 3.1 above.

The key ornithological receptors listed on Table 3.1 above that are special conservation interest bird species of SPAs are set out below in Table 5.1.

Table 5.1 also identifies the distance from the Project over which each of the special conservation interest bird species that have been identified as key ornithological receptors could range. The ranging distances identified in Table 5.1 are based on the referenced sources listed above for the mobile species pathway with respect to bird species.

Table 5.1: Foraging Ranges for special conservation interest bird species recorded during baseline bird surveys

Special conservation interest bird species	Zone of Sensitivity (m) (McGuinness et al., 2015)	Within Zone of Sensitivity (km) (Bird Sensitivity Tool)	SNH Foraging Range (km)	Other Publication Foraging Range (km)
Teal	600	No	NR	3.13 [†]
Greenland White-fronted Geese	600	No	8	-
Cormorant	NR	No	NR	7.1*
Whooper Swan	NR	No	5	-
Grey heron	NR	No	NR	10.5*
Hen harrier	2000	2	2	-
Lesser black-backed gull	NR	No	NR	43.3*
Mallard	600	No	NR	1 [†]
Colour Key				
	Species recorded in winter non-breeding season only			
	Species recorded in winter non-breeding season and summer breeding season			
	Species recorded in breeding season only			

* Woodard et al. (2024) for seabirds – Lesser Black-backed Gull; Cormorant;

[^]Gilling & Fuller (1999)

[†]Johnson et al. (2014)

[✓]Colhoun et al. (2024)

The species listed in **Table 5.1** whose foraging ranges overlap with the proposed Wind Farm Site are identified in **Table 5.2** below. Based on the foraging ranges set out in **Table 5.1** above the foraging range of only one species, namely Greenland White-fronted Geese, overlaps with the proposed Wind Farm Site. It is noted that the foraging range for Whooper Swan is up to 5km. Lough Gara SPA, which lists Whooper Swans as a special conservation interest, is located c. 5.8km from the proposed Wind Farm Site. Given the proximity of the proposed Wind Farm Site to the foraging range of this species, and the observed presence of this species during baseline ornithological surveys, Lough Gara SPA and Whooper Swan are listed in **Table 5.2** below. The remaining SPAs within the foraging ranges of other species listed on **Table 5.1** are not designated for these species and therefore these species do not establish pathways between the Project and other SPAs.

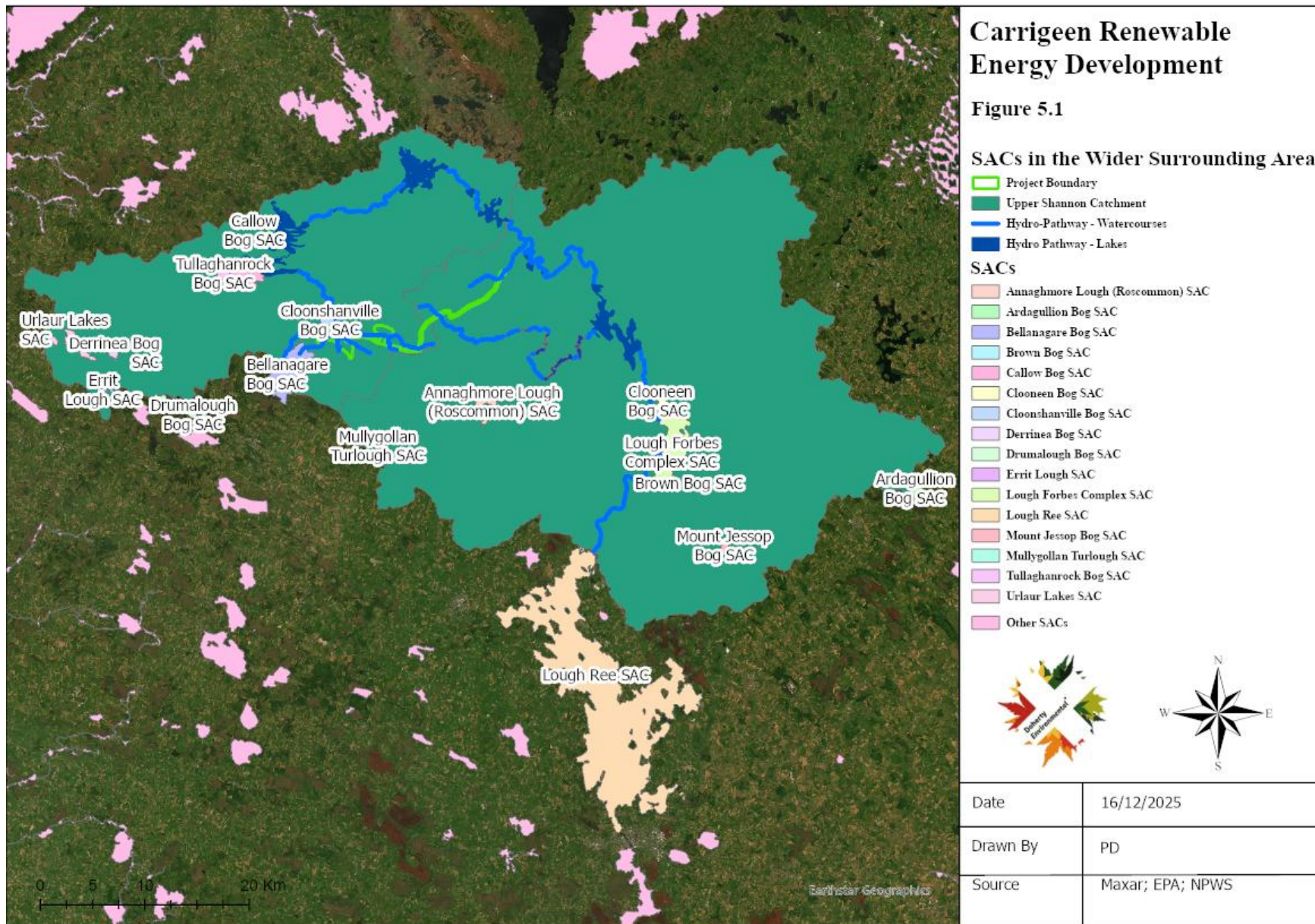
Table 5.2: SPAs to be Considered

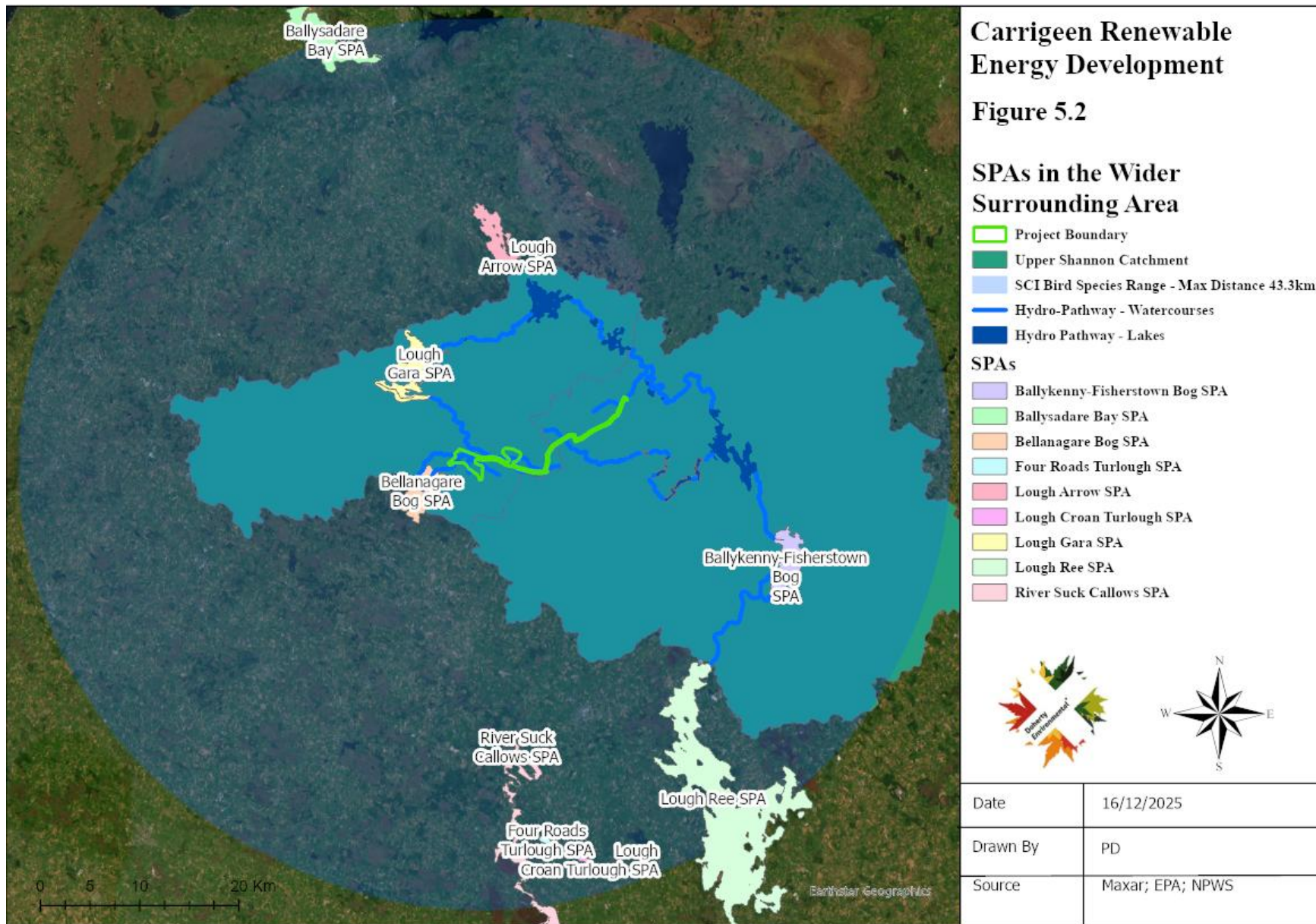
Special conservation interest bird species	Zone of influence (Km) (as per greatest distance set out in Table 5.1)	Proposed Project element within zone of influence	SPAs
Greenland White-fronted Geese	8	Wind Farm Site; Grid Connection; TDR	Bellanagare Bog SPA
Whooper Swan	5	Wind Farm Site; Grid Connection; TDR	Lough Gara SPA
Teal	3.13	N/A	No SPAs within zone of influence – no mobile species pathway
Cormorant	7.1	N/A	No SPAs within zone of influence – no mobile species pathway
Grey heron	10.5	Wind Farm Site; Grid Connection; TDR	No SPAs within zone of influence – no mobile species pathway
Hen harrier	2	N/A	No SPAs within zone of influence – no mobile species pathway
Lesser black-backed gull	43.3	N/A	No SPAs within zone of influence – no mobile species pathway
Mallard	1	N/A	No SPAs within zone of influence – no mobile species pathway

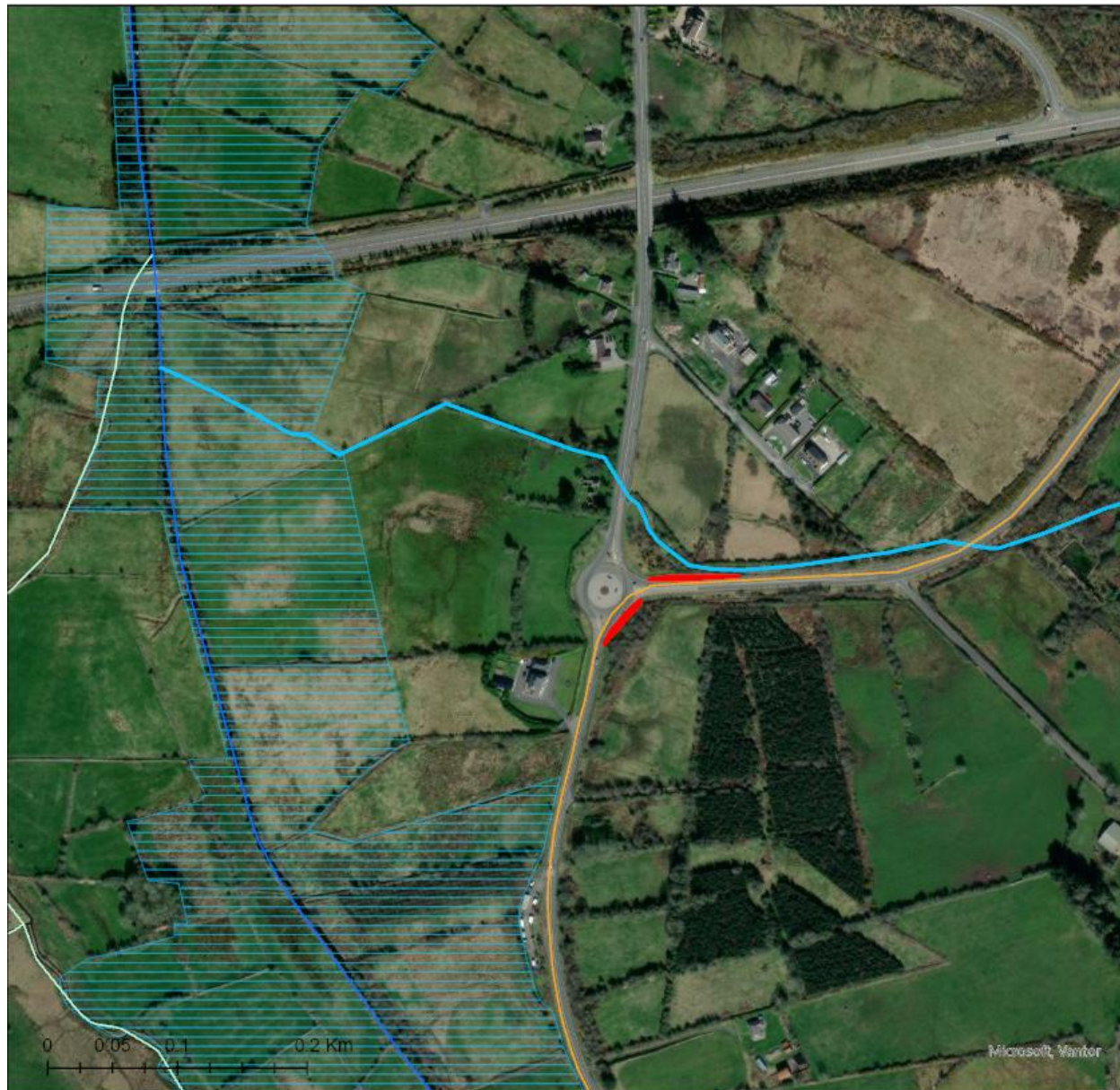
5.2.1 European Sites in the zone of influence

Table 5.3 provides an evaluation as to whether the European Sites identified on Figure 5.1 to Figure 5.3 below occur within the Project’s zone of influence by virtue of pathways that could establish a connection between them.

In line with Section 5.1 above all European Sites that occur within or adjoin the Project are automatically considered to occur within the zone of influence of the Project. For those other European Sites listed on Table 5.3 and shown on Figure 5.1 to Figure 5.3 the pathways set out in Section 5.2 above are used to examine whether or not these European Sites occur within the zone of influence of the Project.







Carrageen Renewable Energy Development

Figure 5.3

River Moy SAC in Vicinity of TDR Works at N17/N5 Roundabout Charlestown

- TDR Widening Locations
- TDR
- ▨ River Moy SAC
- Non-EPA Mapped Stream
- - - Charlestown/Mullaghanoe Stream
- Other Watercourses



Date	16/12/2025
Drawn By	PD
Source	Maxar; NPWS; EPA

Table 5.3: identification of European Sites within the Zone of Influence of the Project

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
SACs			
<p>Cloonshanville Bog SAC Site Code 000614 Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Bog woodland [91D0]</p>	<p>The Cloonashanville Bog SAC is located within the nominal Study Area boundary, as shown in Green on Figures presented above. The nearest infrastructure element of the Project, the proposed Site Access Roads, is located approximately 125m from the SAC boundary</p>	<p>The Study area boundary intersects the boundary of this SAC. As such this SAC is considered to occur within the zone of influence of the Project.</p>	<p>Yes.</p>
<p>Bellanagare Bog SAC Site Code 000592 Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>1km to the west</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are located upstream from the Project. The Water Framework Directive Cycle 2 report for the Catchment Upper Shannon – Sub-catchment Boyle_SC_010 lists the Bellanagare Bog as a potentially dependent groundwater body with shallow groundwater feeding numerous flushes, springs and small streams. Groundwater flow is largely shallow and local — emerging as seepages/flushes and discrete spring/rise features across the bog — so groundwater levels are naturally high within the peat.</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>The nearest point of Bellanagare Bog to the Project is c. 1.3km to the southwest. The elements of the Project that will be construction at this location will be the proposed Site Access Road leading to Wind Turbine T2. Both the access road and the Wind Turbine T2 will be positioned to the north of the new N5 national road scheme. For the section of Site Access Road to Wind Turbine T2 it is proposed to construct this using a floated road design. The approach to the construction of the floated road will comprise the grading of grassland habitat to a flat surface so that geo-membranes can be laid out to support the road formation. As such this section of access road will not require the excavation of peat and soil substrate to bedrock level and below and will not have the potential to result in any changes to groundwater levels and flows. In terms of nearest area of project excavations to bedrock level to the SAC, this will occur at the proposed Wind Turbine T2 hardstand, approximately 2.2km to the northeast of the SAC. The position of this turbine is separate from the SAC by the new N5 national road, extensive cutaway and other local roads. It is considered that excavations at the Wind Turbine T2 location will not have the potential to alter groundwater levels and flows interacting with raised bog habitat of the SAC to the south. As such no groundwater pathway is identified.</p> <p>Noise Pathway This SAC is circa 1km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 1km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p>	

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Annaghmore Lough (Roscommon) SAC (Site Code: 1626) Alkaline fens [7230] Vertigo geyeri (Geyer's Whorl Snail) [1013]</p>	<p>7km to the south</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SAC.</p> <p>Noise Pathway This SAC is circa 7km (as the crow flies) from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 7km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway The Vertigo species for which this SAC is designated are sedentary, being confined to the fen habitat. No mobile species pathway connects the Project to this SAC.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Callow Bog SAC (Site Code: 000595)</p> <p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>7.5km to the northwest</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 7.5km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 7.5km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Mullygollan Turlough SAC (Site Code: 000612)</p> <p>Turloughs [3180]</p>	<p>8.4km to the south</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SAC.</p> <p>Noise Pathway This SAC is circa 8.4km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 8.4km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Tullaghanrock Bog SAC (Site Code: 002354) Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	10.3km	<p>Hydrological pathway No hydrological pathways connect the Project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 10km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 10km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Drumalough Bog SAC (Site Code: 002338)</p> <p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>12.5km to the southwest</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 12.5km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 18km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Cloneen Bog SAC [3110] Oligotrophic Waters containing very few minerals [3260] Floating River Vegetation [4010] Wet Heath [4030] Dry Heath [4060] Alpine and Subalpine Heaths [7130] Blanket Bogs (Active)* [8110] Siliceous Scree [8210] Calcareous Rocky Slopes [8220] Siliceous Rocky Slopes [1393] Slender Green Feather-moss (<i>Drepanocladus vernicosus</i>)</p>	<p>17.9km to the southeast</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 18km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 18km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is designated for its role in supporting <i>Hamatocaulis vernicosus</i> a sedentary bryophyte species. As such the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Derrinea Bog SAC (Site Code: 000604) Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>19km to the west</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature and buffered.</p> <p>Noise Pathway This SAC is circa 19km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 19km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Lough Forbes Complex SAC Site Code 1818 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p>	<p>19.5km to the southeast</p>	<p>Hydrological pathway This SAC is located over 100km downstream of the proposed Wind Farm Site and approximately 40km downstream from the nearest point of the Project which is the terminus of the proposed Grid Connection route at the ESB Flagford Substations. The Project is separated from this SAC by a series of large lakes including Corry Lough, Tap Lough, Boderg Lough and Bofin Lough. These are depositing wetland systems that naturally function as hydrological breaks between the Project and this SAC. Even under a worst-case scenario of a profound pollution event at the Project site, the presence of these multiple lake systems along with the distance of c. 90km downstream will function as break to the transport of pollutants downstream to this SAC. As such no function hydrological pathway is considered to connect the Project to this SAC.</p> <p>Noise Pathway This SAC is circa 19.5km (as the crow flies) from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 19.5km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Errit Lough SAC (Site Code: 000607) Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</p>	<p>20km to the west.</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 20km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 20km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Urlaur Lakes SAC (Site Code: 001571)</p> <p>Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</p>	<p>21km to the west.</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 21km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 21km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p> <p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Lough Ree SAC (Site Code: 000440)</p> <p>Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]</p>	<p>24km to the south.</p>	<p>Hydrological pathway This SAC is located over 100km downstream of the proposed Wind Farm Site and approximately 45km downstream from the nearest point of the Project which is the terminus of the proposed Grid Connection route at the ESB Flagford Substations. The Project is separated from this SAC by a series of large lakes including Corry Lough, Tap Lough, Boderg Lough, Bofin Lough and Forbes Lough. These are</p>	<p>No</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Alkaline fens [7230] Limestone pavements [8240] Bog woodland [91D0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Lutra lutra</i> (Otter) [1355]</p>		<p>depositing wetland systems that naturally function as hydrological breaks between the Project and this SAC. Even under a worst-case scenario of a profound pollution event at the Project site, the presence of these multiple lake systems along with the distance of c. 100km downstream from the proposed Wind Farm Site and c. 45km downstream from Flagford, will function as break to the transport of pollutants downstream to this SAC. As such no function hydrological pathway is considered to connect the Project to this SAC.</p> <p>Noise Pathway This SAC is circa 24km (as the crow flies) from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 24km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p>	

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Brown Bog SAC (Site Code: 002346) Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	25.5 to the west	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 25km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 25km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p>	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Mount Jessop Bog SAC (Site Code: 002202) Degraded raised bogs still capable of natural regeneration [7120] Bog woodland [91D0]</p>	<p>32.3km to the southeast</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 32km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 32km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
<p>Ardaguillion Bog SAC (Site Code: 002341)</p> <p>Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150]</p>	<p>43.8km to the southeast</p>	<p>Hydrological pathway No hydrological pathways connect the project to this SAC and its qualifying habitat, all of which are terrestrial in nature.</p> <p>Noise Pathway This SAC is circa 43km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 43km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway This SAC does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SAC.</p> <p>Visual Emission Pathway This SAC does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SAC no visual emission pathway connects the Project to this SAC.</p> <p>Mobile Species Pathway This SAC is not designated for its role in supporting Annex 2 species and therefore the potential for a mobile species pathway is eliminated.</p> <p>Non-Native Invasive Species No element of the Project will interact with this European Site and as such there will be no potential for the Project to result in the spread of non-native invasive species within this SAC.</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Human Disturbance Pathway This SAC is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SAC.</p>	
SPAs			
<p>Bellanagare Bog SPA (Site Code: 004105) Greenland White-fronted Geese</p>	<p>1km to the west</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 1km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 1km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is located within the foraging range of Greenland White-fronted Geese, the species for which this SPA is designated.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	<p>Yes</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
<p>Lough Gara SPA (Site Code: 004048) Whooper Swan Greenland White-fronted Geese</p>	5.8	<p>Hydrological pathway A hydrological pathway connects the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 5.8km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 5.8km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is located in close proximity to the limit of Whooper Swan foraging range and given the proximity of the Project to the 5km foraging range of this species and following a precautionary approach a mobile species pathway is identified.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	Yes
<p>Lough Arrow SPA (Site Code: 004050)</p>	18.4	<p>Hydrological pathway No hydrological pathways connect the project to this SPA.</p> <p>Noise Pathway</p>	No

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Tufted Duck (<i>Aythya fuligula</i>) [A061] Wetland and Waterbirds [A999]		<p>This SPA is circa 18.4km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 18.4km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	
Ballykenny-Fisherstown Bog SPA (Site Code: 004101) Greenland White-fronted Geese	26.5	<p>Hydrological pathway This SPA is located c. 90km downstream of the proposed Wind Farm Site and approximately 25km downstream from the nearest point of the Project which is the terminus of the proposed Grid Connection route at the ESB Flagford Substations. The Project is separated from this SPA by a series of large lakes including Corry</p>	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Lough, Tap Lough, Boderg Lough and Bofin Lough. These are depositing wetland systems that naturally function as hydrological breaks between the Project and this SPA. Even under a worst-case scenario of a profound pollution event at the Project site, the presence of these multiple lake systems along with the distance of c. 90km downstream will function as break to the transport of pollutants downstream to this SPA. As such no function hydrological pathway is considered to connect the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 18.4km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SPA is circa 18.4km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
<p>River Suck Callows SPA (Site Code: 004097) Whooper Swan (Cygnus cygnus) [A038] Golden Plover (Pluvialis apricaria) [A140] Lapwing (Vanellus vanellus) [A142] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wigeon (Mareca penelope) [A855] Wetland and Waterbirds [A999]</p>	<p>29.2</p>	<p>Hydrological pathway No hydrological pathways connect the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 29.2km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 29.2km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species populations supported by this SPA.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	<p>No.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
<p>Four Roads Turlough SPA (Site Code: 004140) Golden Plover (<i>Pluvialis apricaria</i>) [A140] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Wetland and Waterbirds [A999]</p>	36.3	<p>Hydrological pathway No hydrological pathways connect the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 36.3km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 36.3km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	No.
<p>Lough Croan Turlough SPA (Site Code: 004139)</p>	38.6	<p>Hydrological pathway No hydrological pathways connect the Project to this SPA.</p>	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
Golden Plover (<i>Pluvialis apricaria</i>) [A140] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395] Shoveler (<i>Spatula clypeata</i>) [A857] Wetland and Waterbirds [A999]		<p>Noise Pathway This SPA is circa 38.6km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 38.6km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species.</p> <p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	
Ballysadare Bay SPA (Site Code: 004129) Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	39.7	<p>Hydrological pathway No hydrological pathways connect the Project to this SPA.</p> <p>Noise Pathway</p>	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
Grey Plover (<i>Pluvialis squatarola</i>) [A141] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetland and Waterbirds [A999]		This SPA is circa 39.7km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA. Air Emission Pathway This SPA is circa 39.7km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA. Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA. Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA. Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species. Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.	
Lough Ree SPA (Site Code: 004064) Little Grebe (<i>Tachybaptus ruficollis</i>) [A004]	42.2	Hydrological pathway This SPA is located c. 100km downstream of the proposed Wind Farm Site and approximately 40km downstream from the nearest point of the Project which is the terminus of the proposed Grid Connection route at the ESB Flagford Substations. The Project is separated from this SPA by a series of large lakes including Corry	No.

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Mallard (Anas platyrhynchos) [A053] Tufted Duck (Aythya fuligula) [A061] Common Scoter (Melanitta nigra) [A065] Goldeneye (Bucephala clangula) [A067] Coot (Fulica atra) [A125] Golden Plover (Pluvialis apricaria) [A140] Lapwing (Vanellus vanellus) [A142] Common Tern (Sterna hirundo) [A193] Wigeon (Mareca penelope) [A855] Shoveler (Spatula clypeata) [A857] Wetland and Waterbirds [A999]		<p>Lough, Tap Lough, Boderg Lough, Bofin Lough and Lough Forbes. These are depositing wetland systems that naturally function as hydrological breaks between the Project and this SPA. Even under a worst-case scenario of a profound pollution event at the Project site, the presence of these multiple lake systems along with the distance of c. 100km downstream of the wind farm site and c. 45km downstream of the proposed Grid Connection route terminus at Flagford, will function as break to the transport of pollutants downstream to this SPA. As such no function hydrological pathway is considered to connect the Project to this SPA.</p> <p>Noise Pathway This SPA is circa 42.2km from the nearest point of the Project and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SPA. No noise emission pathway connects the Project to this SPA.</p> <p>Air Emission Pathway This SPA is circa 42.2km from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SPA.</p> <p>Light Emission Pathway This SPA does not support features of interest that are sensitive to light emissions. As such no light emission pathway connects the Project to this SPA.</p> <p>Visual Emission Pathway This SPA does not support features of interest that are sensitive to visual emissions. Given this and the distance to this SPA no visual emission pathway connects the Project to this SPA.</p> <p>Mobile Species Pathway The Project is not located within the foraging range of any special conservation interest bird species for which this SPA is designated. With regard to waterbirds, it is noted that the waterbirds identified as key ornithological receptors, as set out in Table 3.1 above, comprise Mallard, Teal, Heron and Cormorant. The Project is located outside of the foraging range of any of these waterbird species.</p>	

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Human Disturbance Pathway This SPA is a remote distance from the nearest point of the Project site and given this distance and the nature of the Project, there will be no potential for it to result in changes to human activity within this SPA.</p>	
European Sites relevant to TDR Works Locations			
<p>River Moy SAC (Site Code: 002298) Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] Alkaline fens [7230] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] <i>Petromyzon marinus</i> (Sea Lamprey) [1095] <i>Lampetra planeri</i> (Brook Lamprey) [1096] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355]</p>	<p>170m to the west of TDR Works at N17/N5 Roundabout</p>	<p>Hydrological pathway The TDR works locations is situated on an area of dry meadows and grassy verges immediately adjacent to a non-EPA mapped stream. As shown on Figure 5.3 this stream is a minor tributary of the Charlestown Stream. The Charlestown Stream forms part of the River Moy SAC. As such a hydrological pathway connects the Project to this SAC.</p> <p>Noise Pathway This SAC is circa 170m from the nearest point of this TDR works area and lies outside the maximum distance (150m) of the zone of sensitivity of features of interest supported by this SAC. No noise emission pathway connects the Project to this SAC.</p> <p>Air Emission Pathway This SAC is circa 170m from the nearest point of the Project, which is beyond the distance of air emission risks. No air emission pathway connects the Project to this SAC.</p> <p>Light Emission Pathway The works associated with this TDR widening area will not result in any changes to baseline lighting. As such no lighting emissions will arise.</p> <p>Visual Emission Pathway The works will be minor in scale and set back from the SAC with no line of sight between the works and the SAC. As such visual emissions pathway will arise.</p> <p>Mobile Species Pathway The works will be located in a minor area of dry meadows and grassy verges that does not function as ex-situ habitat for any qualifying feature of interest of the River</p>	<p>Yes.</p>

European Sites & Qualifying Features of Interest/Special Conservation Interests	Distance (Km) (Over Land)	Pathway Connection	Does European Site occur within the Projects Zone of Influence?
		<p>Moy SAC. The adjacent non-EPA mapped stream is of low fisheries value and does not have the potential to support mobile qualifying species of this SAC.</p> <p>Human Disturbance Pathway This SAC is buffered from this TDR works area by approximately 170m and the existing N17 national road. Given the minor works required at this widening location, the buffer distance and the existing presence of the N17 between the works area and the SAC, there will be no potential for a disturbance pathway to arise.</p>	

In summary, the following European Sites listed in Table 5.3 above have been identified as occurring within the zone of influence of the Project:

Cloonashanville Bog SAC

Bellanagare Bog SPA

Lough Gara SPA

River Moy SAC

However, whilst the above listed European Sites have been identified as occurring within the zone of influence of the Project, the elements of the Project and the features of interest that are connected to these elements have not been identified in the preceding examination. As such the following subsection examines which of the qualifying features of interest of these European Sites that are connected to the Project and by what element of the Project a pathway is established.

5.3 IDENTIFICATION OF FEATURES OF INTEREST IN THE ZONE OF INFLUENCE OF THE PROJECT

The qualifying features of interest of the European Sites are listed in Table 5.4 and an examination of potential pathways between the features of interest and the elements of the Project is also provided.

Table 5.4: Identification of Qualifying Feature of Interest of European Sites within the Zone of Influence of the Project

Qualifying features of interest	Pathway
Cloonashanville Bog SAC	
Active raised bogs [7110]	The Study Area boundary of the Project overlaps this SAC.
Degraded raised bogs still capable of natural regeneration [7120]	The Study Area boundary of the Project overlaps this SAC.
Depressions on peat substrates of the Rhynchosporion [7150]	The Study Area boundary of the Project overlaps this SAC.
Bog woodland [91D0]	The Study Area boundary of the Project overlaps this SAC.
Bellanagare Bog SPA	
Greenland White-fronted Geese	Mobile species pathway - The Project is located in close proximity to the foraging range of this species.

Qualifying features of interest	Pathway
Lough Gara SPA	
Whooper Swan	Hydrological pathway – Wetland habitats of the SPA are located downstream of the Project. Mobile species pathway - The Project is located in close proximity to the foraging range of this species.
Greenland White-fronted Geese	Hydrological pathway – Wetland habitats of the SPA are located downstream of the Project. Mobile species pathway - The Project is located within the foraging range of this species
River Moy SAC	
Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>) [6510]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Active raised bogs [7110]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Degraded raised bogs still capable of natural regeneration [7120]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Depressions on peat substrates of the <i>Rhynchosporion</i> [7150]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Alkaline fens [7230]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0]	This is a terrestrial habitat. Not influenced by lotic processes. No hydrological pathway.
<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	Yes. This species has been recorded in the Mullaghanoe catchment
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	Yes. This species has been recorded in the Mullaghanoe catchment downstream of the TDR works area.
<i>Lampetra planeri</i> (Brook Lamprey) [1096]	Yes. This species has been recorded in the Mullaghanoe catchment downstream of the TDR works area.
<i>Salmo salar</i> (Salmon) [1106]	Yes. This species has been recorded in the Mullaghanoe catchment downstream of the TDR works area.
<i>Lutra lutra</i> (Otter) [1355]	Yes. This species has been recorded in the Mullaghanoe catchment downstream of the TDR works area.

In summary all qualifying features of interest of the Cloonashanville Bog SAC; Bellanagare Bog SPA; and Lough Gara SPA are considered to occur within the zone of influence of the Project, whilst the aquatic Annex 2 species of the River Moy SAC are considered to occur within the zone of influence

of the Project. These qualifying features of interest are considered to occur within the zone of influence of the Project due to:

1. an overlap between the Study Area boundary of the Project and Cloonashanville Bog SAC;
2. an overlap/close proximity between the foraging range of special conservation interest bird species of the Lough Gara SPA and Bellanagare Bog SPA and the Project; and
3. the location of Lough Gara SPA downstream of the Project.
4. a hydrological pathway connecting the proposed TDR temporary widening works at the N17/N5 roundabout with the Charlestown Stream/Mullaghanoe River.

6 IDENTIFICATION OF LIKELY SIGNIFICANT EFFECTS

An examination of the likely significant effects to the Cloonashanville Bog SAC; Bellanagare Bog SPA; Lough Gara SPA and the River Moy SAC and their qualifying features that could arise as a result of the elements of the Project and the pathways summarised in Table 5.4 above is set out in the following subsections. This examination is provided with respect to each of the pathways identified in Table 5.3.

6.1 DIRECT

The Study Area boundary of the Project falls within the Cloonashanville Bog SAC with the nearest element of the Project infrastructure the proposed Site Access Roads being located within 125m of the SAC boundary. Activities within, adjoining or in close proximity to the SAC and its qualifying habitats could result in direct habitat loss or degradation. Further examination of these potential impacts will be required as part of a Natura Impact Statement for the Project.

6.2 HYDROLOGICAL PATHWAY

The Lough Gara SPA and the River Moy SAC are located downstream of the Project. The element of the Project connected to the Lough Gara SPA is the Wind Farm Site, whilst the TDR widening location

at the N17/N5 roundabout is connected to the River Moy SAC. In the absence of appropriate safeguards, works associated with the construction, operation and decommissioning of the wind farm and those associated with the temporary widening at the N17/N5 roundabout will have the potential to generate contaminated surface water runoff. The discharge of contaminants from these locations along hydrological pathways to wetland habitats and the habitats relied upon by the special conservation interest bird species of the Lough Gara SPA and lotic habitats relied upon Annex 2 freshwater species of the River Moy SAC and their potential to result in negative effects to the status of these habitats and undermine their conservation objectives cannot be ruled out at the screening stage.

Given the potential for such a risk to arise further examination of the Project and the impacts that could arise as a result of the release of contaminated surface water runoff along hydrological pathways is required as part of a Natura Impact Statement for the Project.

6.3 MOBILE SPECIES PATHWAY

A potential mobile species pathway has been identified between the Project and the Greenland White-fronted Geese population of the Bellanagare Bog SPA and the Greenland White-fronted Geese and Whooper Swan population of the Lough Gara SPA. This pathway has been identified on the basis of an overlap/approximate overlap between the foraging range of these species and the Project. Given the presence of a mobile species pathway the potential for associated impacts such as disturbance, displacement and collision cannot be ruled out at the screening stage. Further examination of these potential impacts will be required as part of a Natura Impact Statement for the Project.

6.4 IN-COMBINATION EFFECTS

In the event that the Project overlaps with other projects and land use activities that give rise to similar impacts to the features of interest occurring within the zone of influence of the Project, the potential will exist for cumulative negative impacts to these receptors. In light of this an examination of the Projects potential to combine with other projects and land use activities in the surrounding area will be required to determine whether or not these species are at risk of adverse effects. This examination will be required to form part of the Natura Impact Statement for the Project.

7 SCREENING CONCLUSION

The project has been screened for its potential to result in likely significant effects to surrounding European Sites. A Source-Pathway-Receiver model was used to identify potential impact pathways linking the project site to European Sites.

A total of 4 no. European Sites comprising the Cloonashanville Bog SAC; Bellanagare Bog SPA; Lough Gara SPA; and River Moy SAC have been identified as occurring within the zone of influence of the project. During the screening the potential for the Project to result in negative impacts to all qualifying features of interest of the Cloonashanville Bog SAC; Bellanagare Bog SPA and Lough Gara SPA could not be ruled out. The potential for negative impacts to the Annex 2 freshwater species of the River Moy SAC could not be ruled out.

For the reasons outlined above it is the considered view of the authors of this Screening Report for Appropriate Assessment that the potential for likely significant effects to the Cloonashanville Bog SAC; Bellanagare Bog SPA; Lough Gara SPA; and the River Moy SAC cannot be ruled out at the Screening stage and that an Appropriate Assessment of the Project is required. The authors have also concluded that it cannot be excluded, on the basis of objective information and in view of best scientific knowledge, that the Project, individually or in combination with other plans or projects, will not have a significant effect on any other European Site. Based on this conclusion a NIS has been prepared to inform the competent authority, in this case An Coimisiún Pleanála, during its Appropriate Assessment of the project and its potential to result in adverse effects to the integrity of the above listed European Sites, alone or in-combination with other plans or projects.

8 REFERENCES

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