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NATURA IMPACT STATEMENT

Shelbourne Solar Project

*Ballykeerogemore, Ballykeerogebeg, Knockea,
and Garryduff, Co. Wexford*

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Abbreviations

Abbreviation	Term
AA	Appropriate Assessment
BOCCI	Birds of Conservation Concern in Ireland
CJEU	Court of Justice of the European Union
EC	European Commission
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effects
NHA	Natural Heritage Areas
NIS	Natura Impact Statement
pNHA	proposed Natural Heritage Areas
OPR	Office of the Planning Regulator
SCI	Special Conservation Interest
TFEU	Treaty on the Functioning of the European Union
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Definitions

Definition	Term
Appropriate Assessment (AA)	An assessment of the potential adverse effects of a plan or project (in combination with other plans or projects) on Special Areas of Conservation and Special Protection Areas
Department of Environment, Heritage, and Local Government	The previous name the Department of Housing, Local Government and Heritage. The Irish government department is responsible for housing, local government (including planning) and heritage.

Effect	Outcome to an ecological feature from an impact, e.g., the effects on an animal population from the loss of a hedgerow.
European Commission (EC)	The executive body of the European Union is responsible for proposing legislation, enforcing European law, setting objectives and priorities for action, negotiating trade agreements, and managing and implementing European Union policies and the budget.
Habitats Directive (92/43/EEC)	European Directive relevant to on the conservation of natural habitats and of wild fauna and flora
Impact	Actions resulting in changes to an ecological feature, e.g., the construction activities of a development removing a hedgerow.
Natura 2000 / European Site	A network of sites selected to ensure the long-term survival of Europe's most valuable and threatened species and habitats. European site" replaced the term "Natura 2000 site" under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011
Receptor	Environmental components that may be affected, adversely or beneficially, by the project.
Special Protection Areas (SPAs).	Sites are classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species.
Special Areas of Conservation (SACs)	Areas of protected habitats and species as defined in the Habitats Directive (92/43/EEC).
Qualifying Interest (QI)	Relates to the habitats and/or (non-bird) species for which an SAC or SPA is selected
Zone of Influence (Zoi)	Spatial extent of potential impacts resulting from the project.

Update Following Request for Further Information

Following the submission of the planning application, a Request for Further Information (RFI) was issued by the planning authority. In response, updates have been made to the Project Description of the NIS to address conflicting detail between the NIS and other planning documents and to ensure consistency across the application documentation.

1 Introduction

This Appropriate Assessment and Natura Impact Statement (NIS) has been developed by ID Environmental Consultants on behalf of Shelbourne Solar Limited, who intend to apply to Wexford County Council for a 10-year permission for a solar photovoltaic (PV) development, with a 40-year operational life from the date of commissioning and all associated works, within the townlands of Ballykeerogemore, Ballykeerogebeg, Knockea, and Garryduff, County Wexford.

An AA Screening was completed by the current authors for the proposed project. This report concluded that the risk of Likely Significant Effects (LSE) upon the qualifying interests of the following European Designated Sites could not be definitively ruled out at the screening stage:

- River Barrow and River Nore SAC (002162)
- Lower River Suir SAC (002137)

As such, a Natura Impact Statement is required.

This stage 2 Appropriate Assessment (AA) (Natura Impact Statement (NIS) is used to determine whether the proposed development would adversely affect the integrity of these European sites. This involves identifying potential adverse effects to habitats and/or species that form the qualifying interests of the European site in question. This report assesses the significance of potential adverse effects on their conservation status. Negative impacts on the integrity of these habitats or species will require the implementation of avoidance or mitigation measures to avoid progression to stages 3 and 4 of the Appropriate Assessment process as defined by the Planning and Development Acts 2000 to 2020.

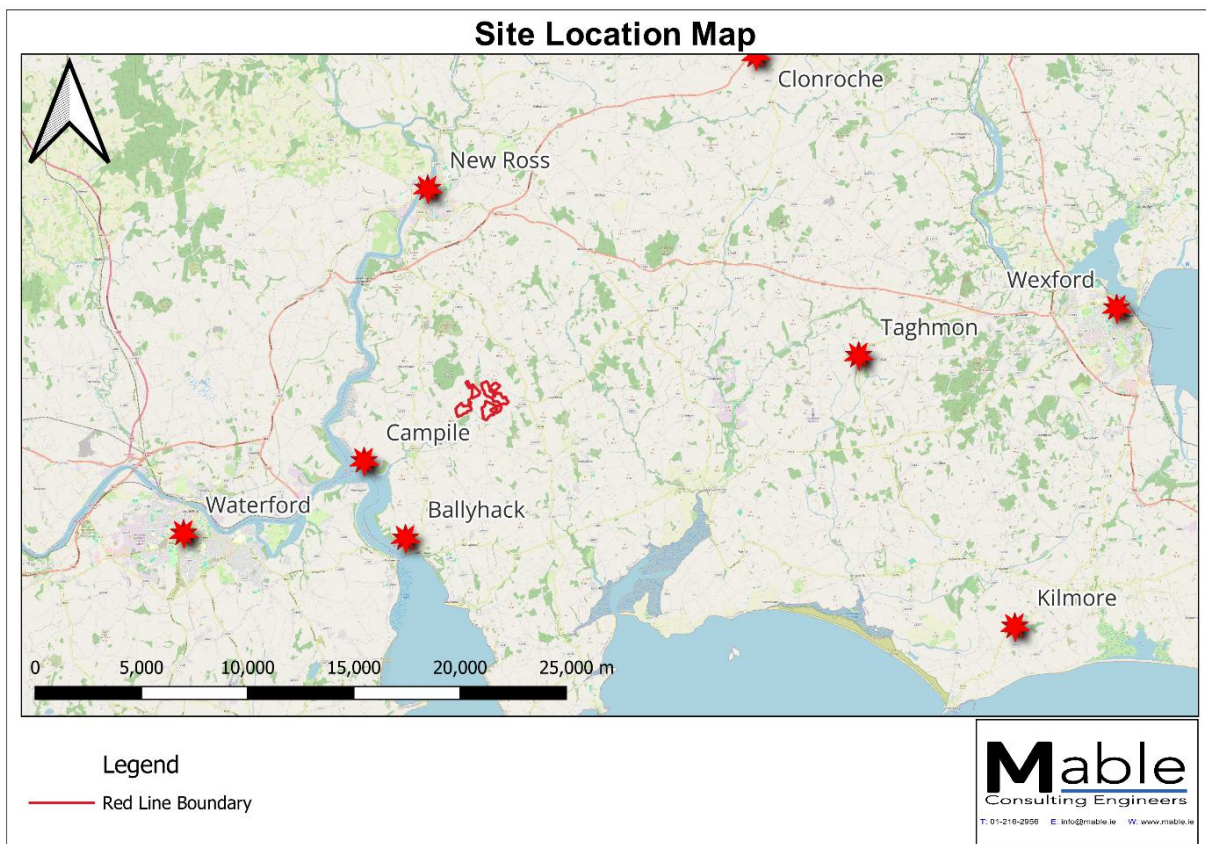
A full description of the project and all project elements is provided in Section 2 of the Appropriate

Assessment Screening Report and Section 1.2 of this report.

1.1 Site of Works

The study site is located within the townlands of Ballykeerogemore, Ballykeerogebeg, Knockea, and Garryduff, County Wexford. Garryduff and Knockea in County Wexford are approximately 2.5km northeast of Campile Town. The site is approximately 187ha, of which 142.6ha will be utilised for solar infrastructure. The area is predominantly made up of fields of improved agricultural grassland and tillage land. Hedgerows, drainage ditches and sections of scrub typically separate fields within the site. Improved agricultural grassland and croplands are also the predominant land use of the lands surrounding the proposed development. A number of private residential dwellings and farmyards are located adjacent to and in close proximity to the works area.

Figure 1: Site Location Map



1.2 Description of Works

The Proposed Development will consist of a 10-year permission for a solar photovoltaic (PV) development, with a 40-year operational life from the date of commissioning and all associated works, within the townlands of Ballykeerogemore, Ballykeerogebeg, Knockea, and Garryduff, County Wexford.

1.2.1 Solar Farm

The main components of the Solar Farm will comprise of:-

- I. Installation of ground-mounted Solar PV Panel arrays on fixed frames with string inverters.
- II. Installation of 36 No. Electrical Skid Units (approx. 12.2m x 2.4m each) on a 14.2m x 11.8m stoned hardstand area.
- III. Construction of 5 No. temporary construction compounds, including fencing, site offices, parking, material laydown and storage areas.
- IV. Erection of 2.4m high security fencing around the site.
- V. Installation of pole-mounted security cameras.
- VI. Upgrade of 4 No. existing site entrances.
- VII. Extinguishing of 3 No. existing site entrances
- VIII. Construction of 4 No. new permanent site entrances.
- IX. Construction of 2 No. temporary construction site entrances.
- X. Upgrading and widening of existing access tracks, and construction of new access tracks.
- XI. Construction of upgraded and new drainage/watercourse crossings to facilitate access tracks and underground cabling.
- XII. Installation of electrical cabling.
- XIII. All associated ancillary development, landscaping and reinstatement works.

1.2.2 BESS Compound

The main components of the BESS will comprise of:-

- I. Construction of a Battery Energy Storage System (BESS) Compound Consisting of 32 No. BESS Modules (approx. 2.6m x 1.7m each), 4 No. MV Skid Units (approx. 8.3m x 2.1m each), 1 No. Transformer Unit, 1 No. Control Unit (approx. 12.2m x 2.4m), and 1 No. Spares Container (approx. 12.2m x 2.4m).
- II. Erection of 2.6m high security fencing around the BESS Compound.
- III. Installation of pole-mounted security cameras.

1.2.3 Landscaping and Biodiversity Enhancement

A landscaping plan has been developed by Marcoworks (2025) and has been submitted as part of this planning application. This outlines the location and distribution of a range of ecological enhancement measures, including planting and enhancing existing hedgerows, as well as the establishment of large areas of wildflower meadows.

1.2.4 Operational Management

Once operational, the site will require only occasional visits by personnel to maintain the site infrastructure and to clean the panels. The site's grasslands will be managed through annual cutting.

1.2.5 Decommissioning

Unless planning permission is granted to extend the duration of operation. At the end of the life of the project, the Solar Panels, Electrical Skids, BESS Units, MVS Units, and all their associated above ground components will be dismantled and removed from site using appropriate decommissioning and reinstatement practices in place at that time.

Prior to commencement a decommissioning plan will be prepared for agreement with Wexford County Council. The plan will include a material recycling / disposal plan and traffic management plan and other similar mitigation measures to those implemented during the construction phase.

In terms of traffic effects, the decommissioning stage will generally mirror that of the construction stage, although the effects will be significantly reduced as the volumes of materials removed from the site will be less than delivered.

The site Access Track will serve functions beyond operation of the proposed development, such as agricultural access. Therefore, subject to agreement with Wexford County Council it is proposed to keep the site Access Track in place for future use.

After completion of decommissioning works the affected areas will be reinstated to their former agricultural use.

1.2.6 Construction Time and Phasing

The construction period for this development is likely to be between 18 months. This is inclusive of all site works, mounting frames, cabling and the installation and commissioning of the PV panels and inverters. The first phase of the works will comprise the preparation of the construction compound and the set-down area. The parameter fencing will be installed next, followed by the underground cabling and finally the panels. Commissioning of the substation within the factory grounds and the Solar array will be the final stage in the construction phase. Groundworks will be carried out between April and October to take advantage of favourable ground conditions.

- IV. Construction of a Battery Energy Storage System (BESS) Compound Consisting of 32 No. BESS Modules (approx. 2.6m x 1.7m each), 4 No. MV Skid Units (approx. 8.3m x 2.1m each), 1 No. Transformer Unit, 1 No. Control Unit (approx. 12.2m x 2.4m), and 1 No. Spares Container (approx. 12.2m x 2.4m).
- V. Erection of 2.6m high security fencing around the BESS Compound.
- VI. Installation of pole-mounted security cameras.

2 Potential Impacts

2.1 Description of Potential Impacts and Effects

The potential impacts of the Special Conservation Interests of the River Barrow and River Nore SAC and Lower River Suir SAC associated with the construction phase of the proposed development are discussed hereunder. No work will occur within any European designated sites. Therefore, this project will not directly impact or fragment habitat. Having established that there are no direct impacts or habitat fragmentation, the assessment focuses on potential indirect effects on the QIs of the European Sites.

The site is dissected by numerous drainage ditches, which provide hydrological connectivity to the Carrowanree River, which flows along the site's western boundary and its tributary, the Ballykerrogemore River. The Carrowanree flows in a generally south-easterly direction, flowing through Campile town, eventually feeding the Barrow, Suir, and Nore Estuary, which forms part of the River Barrow and River Nore SAC 3.5km downstream. Applying the Precautionary Principle, in a worst-case scenario and in the absence of mitigation, an accidental pollution event of sufficient magnitude during construction, either

alone or in combination with other pollution sources, could potentially affect the water quality within the drainage ditches onsite to an extent that impacts water quality within the River Barrow and River Nore SAC and Lower River Suir SAC. A reduction in water quality within the estuary has the potential to affect the aquatic habitats and prey abundance that are required to maintain or achieve the specific attributes and targets of the qualifying interests and the conservation objectives that have been defined for the qualifying interests of these designated sites.

2.2 Qualify Interests of European Sites and Potential for Impacts

In general, all European sites aim to maintain or restore the favourable conservation status of all qualifying interests within European sites.

The favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

2.2.1 River Barrow and River Nore SAC (002162)

Excerpts from the NPWS Site Synopsis of the River Barrow and River Nore SAC are provided as follows:

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as

Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlinton, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graigueenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore.

Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow, it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also run through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when sea levels were lower than they are today. The coast shelves quite rapidly along much of the shore.

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

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1170] Reefs
- [1310] Salicornia Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [3260] Floating River Vegetation
- [4030] Dry Heath
- [6430] Hydrophilous Tall Herb Communities
- [7220] Petrifying Springs*
- [91A0] Old Oak Woodlands
- [91E0] Alluvial Forests*

- [1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*)
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1103] Twaite Shad (*Alosa fallax*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)
- [1421] Killarney Fern (*Trichomanes speciosum*)

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Table 1 below outlines the qualifying interests (QIs) of the River Barrow and River Nore SAC at risk of impact during the construction or operational phases of the proposed development.

Table 1: Qualifying Interests of the River Barrow and River Nore SAC and the potential for impacts upon its conservation objectives

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
[1130] Estuaries	Main threats and pressures include F20 Residential or recreational activities and structures generating marine pollution (excl. marine macro--- and micro--- particular pollution (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H) XU Unknown pressure (M)	The estuarine habitat is highly sensitive to alterations in water quality, sediment regime, and hydrology. A source–pathway–receptor link exists via the Carrowanree River, which discharges into the SAC. Construction Phase Construction-related activities such as vegetation clearance, groundworks, and machinery operation could lead to the mobilisation of suspended solids, nutrients, or other contaminants. Surface water run-off or accidental spillages during site preparation and construction may therefore cause increased turbidity, nutrient enrichment, or chemical pollution within the estuary, potentially disrupting estuarine communities and ecological processes. Localised changes to drainage	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		patterns during works could also influence sediment transport dynamics. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could present similar risks to those identified during construction, with a potential for renewed sediment release or contamination unless effective mitigation measures are	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
[1140] Tidal Mudflats and Sandflats	Main threats and pressures include K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) I02 Other invasive alien species (other than species of Union concern) (M)	implemented.	
		Tidal mudflats and sandflats are highly sensitive to changes in water quality, sediment load, and hydrodynamic conditions. This habitat extends into the upper reaches of the estuary where the Carrowanree River discharges, creating a direct source–pathway–receptor link to the proposed development site. Construction Phase During construction, vegetation clearance, ground disturbance, and machinery use have the potential to mobilise suspended solids, nutrients, and other contaminants, which could be transported via the river and deposited onto intertidal substrates. Such inputs may increase turbidity, alter sediment composition, or encourage opportunistic algal growth, thereby	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		affecting benthic invertebrate communities and the species they support. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could present similar risks to those identified during construction, with a potential for renewed sediment release or contamination unless effective mitigation measures are implemented.	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
[1170] Reefs	Main threats and pressures; Marine fishing and shellfish harvesting, both professional and recreational, are significant pressures on the marine environment. These activities can lead to a reduction in species and prey populations, as well as disturbance of marine species (G01). Additionally, they are associated with physical loss and disturbance of seafloor habitats (G03). Both pressures are considered to have a high (H) impact on marine biodiversity and ecosystem structure.	Reef habitats are sensitive to changes in water quality, particularly increases in suspended solids, nutrient enrichment, and chemical contamination. Although this habitat is located further downstream within the SAC from the Carrowanree River discharge point, a source–pathway–receptor link remains. Construction Phase Potential for construction-related pollutants to be transported and dispersed into reef areas. During construction, ground disturbance, vegetation clearance, and machinery operation could mobilise sediments or contaminants that, if carried via the river, may increase turbidity or promote algal overgrowth on reef surfaces, potentially smothering sessile species and altering community composition.	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities may pose similar risks to those during construction, with potential for renewed sediment or contaminant mobilisation, albeit with effects likely reduced by the habitat's distance from the source.	
[1310] Salicornia		Salicornia mud habitats occur on sheltered	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
Mud	Main threats and pressures include: I02 Other invasive alien species (other than species of Union concern) (M). A09 Intensive grazing or overgrazing by livestock (M).	intertidal mudflats and are highly sensitive to changes in sediment quality, stability, and salinity regimes. As these habitats are located within the estuary influenced by the Carrowanree River, a direct source–pathway–receptor link exists with the proposed development site. Construction Phase During the construction phase, vegetation clearance, ground disturbance, and machinery operation could result in the mobilisation of fine sediments, nutrients, or contaminants that may be transported via the river and deposited onto these mud surfaces. Such inputs could alter sediment structure, encourage algal overgrowth, or reduce habitat suitability for pioneer vegetation communities.	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could present similar risks to those identified during construction, with a potential for renewed sediment release or contamination unless effective mitigation measures are implemented.	
[1330] Atlantic Salt Meadows	Main threats and pressures include; A09 Intensive grazing or	Atlantic salt meadows are a terrestrial habitat occurring in the upper reaches of	Not Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	overgrazing by livestock (H), F07 Sports, tourism and leisure activities (H), A33 Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M), A36 Agriculture activities not referred to above (M), F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) I02 Other invasive alien species (other than species of Union concern) (M)	the intertidal zone and are not hydrologically connected to the Carrowanree River. Given their distance from the works area and the absence of direct or indirect pathways for significant effects, no adverse impacts on this habitat are anticipated during the construction, operational, or decommissioning phases.	
[1410] Mediterranean Salt Meadows	Main threats and pressures include; A09 Intensive grazing or overgrazing by livestock (H) A33 Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) A36 Agriculture activities not referred to above (M) A10 Extensive grazing or undergrazing by livestock (M)	Mediterranean salt meadows are a terrestrial upper intertidal habitat and are not hydrologically connected to the Carrowanree River. Due to their location and the absence of any direct or indirect impact pathways, no adverse effects on this habitat are anticipated during the construction, operational, or	Not Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		decommissioning phases.	
[3260] Floating River Vegetation	Main threats and pressures include; A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological	Floating river vegetation habitat is not present downstream of the proposed development site, and therefore, no direct or indirect hydrological pathways exist to this qualifying interest. Consequently, no adverse impacts are anticipated on this habitat during the construction, operational, or decommissioning phases.	Not Required
[4030] Dry Heath	Main threats and pressures include; A09 Intensive grazing or overgrazing by livestock (H), A11 Burning for agriculture (H), B01 Conversion to forest from other land uses, or afforestation (excluding drainage) (M), 564, 4030 Dry heath, D01 Wind, wave and tidal power, including infrastructure (M), D01 Wind, wave and tidal power, including infrastructure (M), N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M), N02 Droughts and decreases in precipitation due to climate change (M)	Dry Heath is a strictly terrestrial habitat located away from any hydrological pathways linked to the proposed development site. Given the absence of direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	Not Required
[6430]	Main threats and pressures include; A09 (Intensive grazing or	Hydrophilous Tall Herb Communities are	Not Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
Hydrophilous Tall Herb Communities	overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	not present downstream of the proposed development site, and therefore, no direct or indirect hydrological pathways exist to this qualifying interest. Consequently, no adverse impacts are anticipated on this habitat during the construction, operational, or decommissioning phases.	
[7220] Petrifying Springs*	Main threats and pressures include; A06 Abandonment of grassland management (e.g cessation of grazing or mowing) (M) A10 Extensive grazing or undergrazing by livestock (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (H) F07 Sports, tourism and leisure activities (M) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) K02 Drainage (H) K04 Modification of hydrological flow (H)	Petrifying Springs* is not present downstream of the proposed development site, and therefore, no direct or indirect hydrological pathways exist to this qualifying interest. Consequently, no adverse impacts are anticipated on this habitat during the construction, operational, or decommissioning phases.	Not Required
[91A0] Old Oak Woodlands	Main threats and pressures include; I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) M07	Old Oak Woodlands is a strictly terrestrial habitat located away from any hydrological pathways linked to the proposed development site. Given the absence of	Not Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	Storm, cyclone (M)	direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	
[91E0] Alluvial Forests*	Main threats and pressures include I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I05 Plant and animal diseases, pathogens and pests (M)	Alluvial Forests* is a terrestrial habitat with strong hydrological influence that in this instance is located away from any hydrological pathways linked to the proposed development site. Given the absence of direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	Not Required
[1016] Desmoulin's Whorl Snail (Vertigo moulinsiana)	Main threats and pressures include; L02 Natural succession resulting in species composition change in species composition change (other than by direct changes of (other than by direct changes of agricultural or forestry practices) agricultural or forestry practices) (H) (H) L01 Abiotic natural processes L01 Abiotic natural processes (e.g. erosion, silting up, drying (e.g. erosion, silting up, drying out, submersion, salinization) (H)	Desmoulin's whorl snail inhabits wetland habitats such as calcareous fens, swampy wet grasslands, and marshes, and is highly sensitive to changes in hydrology and water quality. No suitable habitat for this species occurs within the proposed development site; however, where hydrological	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	out, submersion, salinization) (H) A07 Abandonment of A07 Abandonment of management/use of other management/use of other agricultural and agroforestry agricultural and agroforestry systems (all except grassland) systems (all except grassland) (M) (M) A10 Extensive grazing or A10 Extensive grazing or undergrazing by livestock (M) undergrazing by livestock (M)	connections exist, alterations in water quality or flow regime can indirectly affect populations. Construction Phase A source–pathway–receptor link via the Carrowanree River could allow pollutants mobilised during construction—such as fine sediments, nutrients, or contaminants—to enter downstream wetlands supporting this species, potentially reducing habitat suitability and plant community structure. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works may present similar risks to construction unless effective mitigation measures are implemented. Given the species' strict habitat requirements and sensitivity, precautionary mitigation will be necessary to prevent significant negative effects.	
[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)	Main threats and pressures include; A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm	Freshwater Pearl Mussel is a freshwater species highly sensitive to changes in water quality, siltation, and habitat structure. A source–pathway–receptor link exists via the Carrowanree River, which discharges into the SAC, creating potential for pollutants generated during construction to be transported into suitable Freshwater Pearl Mussel habitat.	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	overflows and/or urban run---offs) 229 generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run---off---the---river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run---off---the---river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	Construction Phase Activities such as ground disturbance, vegetation clearance, and machinery operation may mobilise fine sediments, nutrients, or contaminants, reducing water clarity, smothering substrates, and impairing foraging or refuge availability. Accidental spillages could introduce toxic substances, to which the species is particularly vulnerable. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could produce similar risks to those in the construction phase. Given the species' conservation status and sensitivity, robust mitigation measures will be required to avoid significant negative effects.	
[1092] White-clawed Crayfish (Austropotamobius pallipes)	Main threats and pressures include 05 Plant and animal diseases, pathogens and pests (M) I05 Plant and animal diseases, pathogens and pests (H) I01 Invasive alien species of Union concern (H)	White-clawed crayfish is a freshwater species highly sensitive to changes in water quality, siltation, and habitat structure. A source–pathway–receptor link exists via the Carrowanree River, which discharges into the SAC, creating potential for pollutants generated during construction to be transported into suitable crayfish habitat.	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		Construction Phase Activities such as ground disturbance, vegetation clearance, and machinery operation may mobilise fine sediments, nutrients, or contaminants, reducing water clarity, smothering substrates, and impairing foraging or refuge availability. Accidental spillages could introduce toxic substances, to which the species is particularly vulnerable. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		the solar farm. Decommissioning Phase Decommissioning works could produce similar risks to those in the construction phase. Given the species' conservation status and sensitivity, robust mitigation measures will be required to avoid significant negative effects.	
[1095] Sea Lamprey (Petromyzon marinus)	Main threats and pressures include; D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) X0 Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and	Sea lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	decreases in precipitation due to climate change (M)	vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm.	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1096] Brook Lamprey (Lampetra planeri)	Main threats and pressures include; A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) B09 Clear---cutting, removal of all trees (M) D02 Hydropower (dams, weirs, run---off---the---river), including infrastructure (M) F11 Pollution to surface or ground water due to urban run--- offs (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run---offs) generating pollution to surface or 306 ground water (M) ground water (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to	Brook Lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source---pathway---receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance,	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	climate change (M)	and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1099] River Lamprey (Lampetra fluviatilis)	Main threats and pressures include; D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) 323 1099 River Lamprey (Lampetra fluviatilis) N02 Droughts and decreases in precipitation due to climate change (M)	River Lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1103] Twaite Shad (Alosa fallax)	Main threats and pressures include; A19 Application of natural fertilisers on agricultural land (H) A20 Application of synthetic (mineral) fertilisers on agricultural land (H) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (H) I02 Other invasive alien species (other than species of Union concern) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N03 Increases or changes in precipitation due to climate	Twaite Shad is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	change (H)	contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1106] Atlantic Salmon (<i>Salmo salar</i>)	Main threats and pressures include; A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M) pollution to surface or ground waters (M) F12 Discharge of	Atlantic Salmon is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
	urban waste water (excluding storm overflows and/or urban run---offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1355] Otter (<i>Lutra lutra</i>)	Main threats and pressures include Xxp No pressures Xxt No threats	Otter is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such	Mitigation Required

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on	

Annexed Habitat or Species	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
		the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1421] Killarney Fern (Trichomanes speciosum)	Main threats and pressures include Xxp No pressures Xxt No threats	Killarney fern is a strictly terrestrial species occurring in shaded, humid habitats such as ravines, gorges, and damp woodland. There are no direct or indirect hydrological or disturbance pathways linking the proposed development site to known populations of this species. Consequently, no adverse impacts are anticipated during the construction, operational, or decommissioning phases.	Not Required

2.2.2 Lower River Suir SAC (002137)

Excerpts from the NPWS Site Synopsis of the Lower River Suir are provided as follows:

The site is a Special Area of Conservation (SAC) under the E.U. Habitats Directive, of special conservation interest for habitats and species listed on Annex I/II of the E.U. Habitats Directive. Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co.

Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford. Upstream of Waterford city, the swinging meanders of the Suir criss-cross the Devonian sandstone rim of hard rocks no less than three times as they leave the limestone-floored downfold below Carrick-on-Suir. In the vicinity of Carrick-on-Suir the river follows the limestone floor of the Carrick Syncline. Upstream of Clonmel the river and its tributaries traverse Upper Palaeozoic Rocks, mainly the Lower Carboniferous Visean and Tournaisian. The freshwater stretches of the Clodiagh River in Co. Waterford traverse Silurian rocks, through narrow bands of Old Red Sandstone and Lower Avonian Shales, before reaching the Carboniferous limestone close to its confluence with the Suir. The Aherlow River flows through a Carboniferous limestone valley, with outcrops of Old Red Sandstone forming the Galtee Mountains to the south and the Slievenamuck range to the north. Glacial deposits of sands and gravels are common along the valley bottom, flanking the present-day river course.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U:

- [1330] Atlantic Salt Meadows
- [3260] Floating River Vegetation
- [6430] Hydrophilous Tall Herb Communities
- [91A0] Old Oak Woodlands [91E0] Alluvial Forests*
- [91J0] Yew Woodlands*
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1103] Twait Shad (*Alosa fallax*)
- [1106] Atlantic Salmon (*Salmo salar*)

- [1355] Otter (*Lutra lutra*)

Table 2 below outlines the qualifying interest (QIs) of the at risk of impact during the construction or operational phase of the proposed development.

Table 2: Qualifying Interests of and the potential for impacts upon its conservation objectives

Annexed Species:	Habitat or	Main Threats and Pressures and Ecology	Potential impacts	Is Mitigation Required
Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]		Main threats and pressures include; A09 Intensive grazing or overgrazing by livestock (H) F07 Sports, tourism and leisure activities (H) A33 Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) A36 Agriculture activities not referred to above (M) F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) I02 Other invasive alien species (other than species of Union concern) (M)	Atlantic salt meadows are a terrestrial habitat occurring in the upper reaches of the intertidal zone and are not hydrologically connected to the Carrowanree River discharge point in a way that would facilitate impact from the proposed development. Given their distance from the works area and the absence of direct or indirect pathways for significant effects, no adverse impacts on this habitat are anticipated during the construction, operational, or decommissioning phases.	Not Required

Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]	Main threats and pressures include; A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters 490 water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	This habitat comprises well-vegetated, flowing freshwater systems that support submerged and emergent plant communities, which are highly sensitive to changes in water quality, sediment load, and hydrology. A source–pathway–receptor link exists via the Carrowanree River, which could transport suspended sediments, nutrients, or contaminants from the proposed development site into downstream watercourses. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and machinery operation could therefore reduce water clarity, alter nutrient regimes, or cause localized smothering of aquatic plants, potentially impacting habitat structure and species composition. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to	Mitigation Required
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		permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities may recreate construction-like disturbances unless mitigation measures are applied. Due to the sensitivity of these aquatic plant communities, appropriate mitigation is required to avoid significant negative effects.	
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Main threats and pressures include; A09 (Intensive grazing or overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	Hydrophilous Tall Herb Communities is not present downstream of the proposed development site, and therefore no direct or indirect hydrological pathways exist to this qualifying interest. Consequently, no adverse impacts are anticipated on this habitat during the construction, operational, or decommissioning phases.	Not Required

Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Main threats and pressures include; I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) M07 Storm, cyclone (M)	Old Oak Woodlands is a strictly terrestrial habitat located away from any hydrological pathways linked to the proposed development site. Given the absence of direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	Not Required
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	Main threats and pressures include I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I05 Plant and animal diseases, pathogens and pests (M)	Alluvial Forests* is a strictly terrestrial habitat located away from any hydrological pathways linked to the proposed development site. Given the absence of direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	Not Required
Taxus baccata woods of the British Isles [91J0]	Main threats and pressures include; I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H) I05 Plant and animal diseases, pathogens and pests (M)	Taxus baccata woods of the British Isles is a strictly terrestrial habitat located away from any hydrological pathways linked to the proposed development site. Given the absence of direct or indirect connections, no adverse impacts are anticipated on this habitat during construction, operational, or decommissioning phases.	Not Required

[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)	Main threats and pressures include; A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run---offs) 229 generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run---off---the---river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02	Freshwater Pearl Mussel is a freshwater species highly sensitive to changes in water quality, siltation, and habitat structure. A source–pathway–receptor link exists via the Carrowanree River, which discharges into the SAC, creating potential for pollutants generated during construction to be transported into suitable crayfish habitat. Construction Phase Activities such as ground disturbance, vegetation clearance, and machinery operation may mobilise fine sediments, nutrients, or contaminants, reducing water clarity, smothering substrates, and impairing foraging or refuge availability. Accidental spillages could introduce toxic substances, to which the species is particularly vulnerable. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the	Mitigation Required
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	Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could produce similar risks to those in the construction phase. Given the species' conservation status and sensitivity, robust mitigation measures will be required to avoid significant negative effects.	
[1092] White-clawed Crayfish (Austropotamobius pallipes)	Main threats and pressures include; 05 Plant and animal diseases, pathogens and pests (M) I05 Plant and animal diseases, pathogens and pests (H) I01 Invasive alien species of Union concern (H)	White-clawed crayfish is a freshwater species highly sensitive to changes in water quality, siltation, and habitat structure. A source–pathway–receptor link exists via the Carrowanree River, which discharges into the SAC, creating potential for pollutants generated during construction to be transported into suitable crayfish habitat. Construction Phase	Mitigation Required

		Activities such as ground disturbance, vegetation clearance, and machinery operation may mobilise fine sediments, nutrients, or contaminants, reducing water clarity, smothering substrates, and impairing foraging or refuge availability. Accidental spillages could introduce toxic substances, to which the species is particularly vulnerable. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning works could produce similar risks to those in the construction phase. Given the species' conservation status and sensitivity,	
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		robust mitigation measures will be required to avoid significant negative effects.	
[1095] Sea Lamprey (Petromyzon marinus)	Main threats and pressures include; D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) X0 Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	Sea lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source-pathway-receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once	Mitigation Required

		operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1096] Brook Lamprey (Lampetra planeri)	Main threats and pressures include; A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) B09 Clear---cutting, removal of all trees (M) D02 Hydropower (dams, weirs, run---off-	Brook Lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source---pathway---receptor link exists via the Carrowanree River,	Mitigation Required

	--the---river), including infrastructure (M) F11 Pollution to surface or ground water due to urban run--- offs (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run---offs) generating pollution to surface or 306 ground water (M) ground water (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	which discharges into the estuary Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm.	
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		Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1099] River Lamprey (Lampetra fluviatilis)	Main threats and pressures include; D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) 323 1099 River Lamprey (Lampetra fluviatilis) N02 Droughts and decreases in precipitation due to climate change (M)	River Lamprey is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source-pathway-receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase	Mitigation Required

		turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
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[1103] Twaite Shad (<i>Alosa fallax</i>)	Main threats and pressures include; A19 Application of natural fertilisers on agricultural land (H) A20 Application of synthetic (mineral) fertilisers on agricultural land (H) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (H) I02 Other invasive alien species (other than species of Union concern) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N03 Increases or changes in precipitation due to climate change (H)	Twaite Shad is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source-pathway-receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface	Mitigation Required
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		water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
Salmo salar (Salmon) [1106]	Main threats and pressures include; A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating	Atlantic Salmon is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary.	Mitigation Required

	pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M) pollution to surface or ground waters (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	Construction Phase Construction-phase activities such as vegetation clearance, ground disturbance, and in-stream works have the potential to mobilise sediments, nutrients, and contaminants that may reduce water quality and increase turbidity. Such conditions can impair migration routes, clog gill structures, and reduce spawning habitat quality. Operational Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment	
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		release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
[1355] Otter (<i>Lutra lutra</i>)	Main threats and pressures include; Xxp No pressures Xxt No threats	Otter is a highly mobile anadromous species that utilises the entire estuary and associated river systems, not just the designated SAC area, for migration, feeding, and spawning. A direct source–pathway–receptor link exists via the Carrowanree River, which discharges into the estuary. Construction Phase No operational impacts are anticipated. Once operational, the site will be returned to permanent pasture beneath and around the solar arrays, which is not susceptible to surface water runoff. Machinery movements will be infrequent, and the risk of accidental spillages is negligible given the limited maintenance activities required for the solar farm.	Mitigation Required

		Operational Phase Although operational phase impacts are likely to be of lower magnitude, changes in land management and surface water run-off patterns could continue to introduce pollutants into the system. Decommissioning Phase Decommissioning activities could recreate construction-like disturbance and sediment release. Given the species' sensitivity to water quality changes and its reliance on the entire estuarine system, robust mitigation measures will be required to avoid significant negative effects.	
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3 Consideration of Effects on European Sites

3.1 Construction Phase

3.1.1 Direct Effects

There are no annexed habitats located under the footprint of the Proposed Development. Local habitats are predominantly agricultural, consisting mainly of improved grasslands and arable croplands. Having determined that no direct impact from habitat loss or fragmentation will occur, this assessment will then focus on indirect effects.

3.1.2 Indirect Effects

The potential for adverse effects is considered, whereby the proposed development would result in a significant detrimental change in water quality either alone or in combination with other project plans due to indirect surface water pollution. The deterioration of water quality could result from siltation, nutrient release, or contamination by hazardous substances such as hydrocarbons, cement products, or other pollutants. The effect would have to be considered in terms of changes in water quality that would affect the habitats or species for which the River Barrow and River Nore SAC and Lower River Suir SAC are designated.

The site is intersected by numerous drainage ditches that provide hydrological connectivity to the Carrowanree River along its western boundary. The Carrowanree flows generally south-easterly, passing through Campile town before discharging into the Barrow, Suir, and Nore Estuary approximately 3.5 km downstream, which forms part of the River Barrow and River Nore SAC and the Lower River Suir SAC. Applying the Precautionary Principle, in a worst-case scenario and without mitigation, an accidental pollution event during construction could reduce water quality in the onsite drainage network. This impact could be transported via the Carrowanree River to the estuary, potentially affecting the conservation objectives of these designated sites. High levels of sedimentation may smother aquatic habitats or reduce oxygen availability, affecting sensitive aquatic QI species such as the freshwater pearl mussel. Fish species, including salmonids, may be impacted by clogged gills, reduced visibility for foraging, and degradation of spawning gravels. The release of toxic substances such as hydrocarbons or cement residues may also result in fish kills, indirectly impacting otters, a QI of the SACs identified in this NIS, through a reduction in available prey biomass. Reduced water quality in the estuary could alter aquatic habitats and prey availability, thereby influencing the attributes and targets necessary to maintain or achieve the conservation

objectives for the qualifying interests of these SACs.

3.2 Operational Phase

No operational phase impacts are predicted. Impacts on water quality due to excavation works and the movement of machinery, including the potential for pollution events, were the only identified source of impacts confined to the construction phase and decommissioning phase as detailed below. Once operational, machinery on site will be limited to maintenance teams. Any soil disturbed will quickly revegetate, further reducing the risk of silt runoff.

3.3 Decommissioning Phase

Decommissioning phase impacts will be similar to those of the construction phase and the same mitigation measures are required for both phases of the development.

3.4 Cumulative and In Combination Effects

A search of the planning websites of Wexford County Council was carried out as part of the desktop study. Limited overall developments were identified within the ZOI of the Proposed Development. These are listed in the table below.

Table 2: Developments assessed for possible cumulative impacts

Planning Reference	Description of the Development	Likelihood of Significant Effects	Cumulative and In combination Effects
20241230	Permission for works to uprate the existing Great Island - Kellis 220kV	None	An EIAR was developed for this application that concluded that no significant environmental effects are likely to occur during the construction or operational phases. Additionally, an NIS was developed for this application which concluded that there will no adverse effects on the integrity of European sites

			as a result of the proposed development, either alone, or in combination with other plans or projects
20180488	Permission for the erection of a fully serviced dwelling house along with all associated site works to facilitate same	None	An AASR was developed for this application which concluded that; No element of the proposed development is likely to give rise to impacts on the Natura 2000 network.
20240076	Permission for the completion of the construction of a domestic garage (foundations and floor already constructed under approved planning register 20050939) and all associated site works.	None	An AASR was developed for this application which concluded that; No element of the proposed development is likely to give rise to impacts on the Natura 2000 network.

The Wexford County Development Plan in complying with the requirements of the Habitats Directive, requires that all Projects and Plans that could affect the Natura 2000 sites in the same zone of impact of the Project site would be initially screened for Appropriate Assessment and if requiring Stage 2 AA, that appropriate employable mitigation measures would be put in place to avoid, reduce or ameliorate negative impacts. In this way, any in-combination impacts with Plans or Projects for the development area and surrounding townlands in which the development site is located would be avoided.

4 Mitigation Measures

Mitigation is prescribed in accordance with the EPA draft guidance on EIAR (EPA, 2017) which requires mitigation by avoidance as a first approach. Where this is not feasible, measures to prevent impacts from giving rise to adverse effects should be adopted (e.g., design of bunded storage for chemicals). Where impacts cannot be avoided, e.g., noise generation, mitigation by reduction of impact is required to limit the exposure of the receptor

to an acceptable level (often achieved by interrupting the pathway between the source and receptor).

In order to prevent any deteriorations in water quality in The Carrowanree River, a number of mitigation measures must be implemented and followed. Measures have also been suggested that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife. The primary parties responsible for the implementation of these measures include the applicant and the construction team (site manager, and site workers).

Mitigation is prescribed to address the impacts such that adverse effects on site integrity of the European site do not occur. Mitigation measures are set out in accordance with the European Commission guidance on the 'Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, (2001).

4.1 General Mitigation Measures and Construction Environmental Management Planning (CEMP)

A CEMP should be developed that outlines the approach that will be adopted for environmental management throughout the project works at the site, with the primary aim of reducing and avoiding any adverse effects from construction stages on the environment with particular regard to water quality within local water bodies. The CEMP works best as a live document and should be developed in conjunction with the main contractor, considering the recommendations of this EclA and all other relevant environmental protection documentation.

4.1.1 CEMP Objectives

The objectives of this CEMP and any subsequent Contractor CEMP are, therefore, to:

- Act as a continuous link and reference document for environmental issues between the design, construction, testing and commissioning stages of the Project;
- Demonstrate how construction activities and supporting design shall properly integrate the requirements of environmental legislation, planning consent conditions, policy, good practice, and those of the environmental regulatory authorities and third parties;
- Record environmental risks and identify how they will be managed during the construction period;
- Record the objectives, commitments and mitigation measures to be implemented together with the

programme of works and date of achievement.

- Identify key staff structures and responsibilities associated with the delivery of the Project and environmental control and communication and training requirements as necessary.
- Describe the Contractor's proposals for ensuring that the requirements of the environmental design are achieved, or are in the process of being achieved, during the Contract Period.
- Act as a vehicle for transferring key environmental information at handover to the body responsible for the operational management of the proposed development site. This shall include details of the asset, short and long-term management requirements, and any monitoring or other environmental commitments (where required); and
- Provide a review, monitoring and audit mechanism to determine the effectiveness of and compliance with, environmental control measures and how any necessary corrective action shall take place (where required).

4.1.2 These CEMP Areas

The following areas should be addressed as part of the project CEMP

- Environmental Management.
- Roles and Responsibilities
- Biodiversity
- Water Quality
- Noise and Vibration
- Dust
- Rubbish, Litter and Waste; and
- Potentially Hazardous Wastes arising

4.1.3 Severe Weather Events

Works should be suspended if severe weather events, including any of the following weather conditions, are forecast or occur:

- 10 mm/hr (i.e. high-intensity local rainfall events);
- >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or
- >half monthly average rainfall in any 7 days.

Prior to works being suspended the following control measures shall be completed:

- Secure all open excavations.
- Provide temporary or emergency drainage to prevent back-up of surface runoff; and
- Avoid working during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded.

4.2 Water Quality –Aquatic Habitats and Species

The potential impacts on water quality associated with the construction phase of the proposed development have been identified for the following QI habitats and species, and SCI species related to these European Designated Sites.

River Barrow and River Nore SAC (002162)

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1170] Reefs
- [1310] Salicornia Mud
- [7220] Petrifying Springs*
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1103] Twaite Shad (*Alosa fallax*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)

Lower River Suir SAC (002137)

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation [3260]

- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Alosa fallax fallax* (Twaite Shad) [1103]
- *Salmo salar* (Salmon) [1106]
- *Lutra lutra* (Otter) [1355]

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A potential for adverse effects via surface water deterioration was identified, which could potentially affect downstream aquatic QI habitats and species. In a worst-case scenario and in the absence of mitigation, an accidental pollution event of a sufficient magnitude during construction could potentially affect the water in the Carrowanree River which discharges into the Barrow, Suir, and Nore Estuary approximately 3.5 km downstream.

4.2.1 Mitigation

Preconstruction Surveys

- No evidence of Otter or any other protected species was found during surveys of the site and surrounding area in June 2025. Pre-construction surveys should be carried out across all watercourses within the site and within 150m of the site boundary prior to enabling works taking place.

Groundworks Measures

- Construction works will not be carried out during periods of heavy rainfall to minimise runoff risk as detailed in the description of severe weather events above.
- All water quality control measures will be implemented before any enabling works are carried out on site.
- The Carrowanree and Ballykeerogemore Rivers are the primary hydrological receptors with potential sensitivity to water quality impacts. A 50-metre buffer will be maintained between the rivers and the nearest solar panel or access route. This area will remain uncut and unmown prior to project commencement, allowing it to function as a natural vegetative buffer to capture and attenuate any surface water generated during construction works. Throughout the construction phase, this measure will ensure a robust vegetative strip that slows and mitigates potential runoff.
- A minimum 10m buffer will be established along all drainage ditches to prevent direct disturbance and to slow

and attenuate flow. All vegetation within this buffer zone will be retained to minimise the impact on the site's capacity to hold any possible runoff generated during the works.

- Stockpiling of excavated material will be temporarily located in a clearly defined and demarcated area, away from any watercourse. Stockpiles will be removed regularly to prevent potential sediment-laden runoff from escaping the site, or they will be surrounded by silt fencing to prevent pathways to sensitive receptors.
- Plant will travel slowly across bare ground at a maximum of 5 kilometres per hour (km/hr).
- Signage that clearly states that works are occurring adjacent to an ecologically sensitive area should be erected along the banks of the Carrowanree and Ballykerrogemore River.
- No 2 culverts over drainage ditches will be needed to be created to facilitate access to the site and access between fields within the site. Both drains provide hydrological connectivity to the Carrowanree River. In both instances, culverts will be created using a 600mm – 900mm twin-wall pipe covered with clean stone. Silt fencing will be installed on either side of the culvert that loops back to cover the ditch to a distance of at least 15m from the culvert on both sides of both banks
- The silt fences will have the following design features: – the geotextile fabric must be entrenched at least 100mm into the ground with the ends upturned inward towards the works; – the fence posts will have a maximum spacing of 2m to prevent sag on the fence; and – the geotextile fabric will be anchored to the fence posts as opposed to wrapped.
- The site management will inspect silt fences daily to assess the effectiveness of the measures, perform maintenance, and determine if there has been any damage/breach to the control measures. The silt fences will also be inspected immediately following heavy rainfall or strong winds (equating to a yellow weather warning). Where repair is necessary, this will be carried out immediately and may require the replacement of any damaged/degraded material.
- Any accumulated silt will be removed regularly from the base of silt fences and will be removed off-site. Silt will not be permitted to build up such that it reaches half the height of the fence or exceeds 15cm in height (whichever is the lesser value).
- Silt fences must remain in place until the disturbed areas within the sites have been reinstated and revegetated.

Management of potentially polluting materials

- Materials and equipment to implement the Spill Response & Control Plan must be available adjacent to all watercourses (for example, spill kits and booms). These should be clearly marked response points that all staff can access.

- Drip trays will be utilised on-site for pumps and stationary equipment situated on-site, and spill kits will be available at these locations for the duration of the contract. Any used spill kits will be disposed of using a hazardous waste disposal contractor and in accordance with all relevant EU and Irish waste management legislation.
- All hazardous substances on-site shall be controlled within an enclosed storage compound that shall be fenced off and locked when not in use to prevent theft and vandalism.
- Minimal refuelling or maintenance of vehicles or plant will not take place within 25m of any drain or watercourse.. Off-site refuelling will occur at a controlled fuelling station. Vehicles will never be left unattended during refuelling. Only dedicated, trained, and competent personnel will carry out refuelling operations. Plant refuelling procedures, including the measures listed below, shall be detailed in the contractor's method statements.
- Mobile storage tanks such as fuel bowsters will be bunded to 110% capacity to prevent spills. Tanks for bowsters and generators shall be double-skinned. When not in use, all valves and fuel trigger guns from fuel storage containers will be locked
- No batching of wet-cement products will occur on site out side of the sites dedicated washout area. No washing out of any plant used in concrete transport or concreting operations will be allowed on site. Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible, in an area within the compound at least 30m away from any drain within the site. No discharge of cement-contaminated waters to any drain or watercourse will be allowed. This will be contained within the site compound area, which will be bunded to ensure that there is no escape of cement-laden water from works areas.
- Only concrete delivery truck chutes may be washed out in this location.

4.3 Emergency Response Procedure

Emergency environmental incidents are defined as any events that have the potential to cause harm to the environment. These may include, but are not limited to:

- Failure or malfunction of environmental protection systems or mitigation measures.
- Any emission or discharge that is not in compliance with relevant contract conditions, licences, or environmental standards.
- Situations that present a risk of environmental pollution.

- Emergency events that could cause environmental damage, such as large-scale spillages or fires.

During the construction phase of the proposed development, every effort will be made to prevent pollution incidents, particularly those resulting from accidental spills of fuel or oil. The presence of machinery and equipment on-site introduces the possibility of such incidents occurring. Therefore, a clear emergency response procedure must be followed in the event of a spill.

4.3.1 Spill Response Procedure

1. Identify and halt the source of the spill immediately. Alert any personnel working nearby.
2. Inform the Environmental Manager without delay, providing details on the location, nature, and estimated extent of the spill.
3. Eliminate ignition sources in the immediate vicinity, if relevant and safe to do so.
4. Contain the spill using appropriate spill response materials such as absorbents, booms, or track mats. Do not attempt to wash the spill away or allow it to spread.
5. Protect sensitive areas, including nearby drains, streams, or wetland habitats, by bunding or covering them to prevent contamination.
6. Carry out initial clean-up, using spill control materials to recover as much of the pollutant as possible.
7. Secure and properly dispose of all contaminated materials using a licensed waste contractor with appropriate authorisations to prevent secondary contamination.
8. The Environmental Manager will inspect the affected area as soon as practicable to ensure the spill has been contained and remediated, and that measures are in place to prevent recurrence.
9. The Environmental Manager will also notify relevant authorities, which may include Wexford County Council, the National Parks and Wildlife Service, the Department of Environment, Climate and Communications, the Department of Housing, Local Government and Heritage, and/or the Environmental Protection Agency (EPA) as necessary.

Environmental incidents are not limited to fuel or oil spills. Any environmental-related incident must be reported, recorded, and investigated immediately.

In the case of such an incident, the appointed contractor must complete a detailed report, which should include at a minimum:

- A description of the event, including location, type and volume of the contaminant, and likely environmental receptors;
- Identification of contributing factors;
- Any observed or potential negative impacts;
- Actions taken to mitigate the impacts; and
- Recommendations for preventing similar events in the future.

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5 Residual Impacts

Residual impacts are those that persist after mitigation measures have been implemented. If the general and project-specific measures that are listed above are employed during the construction and operational phases of the proposed works, there will be no residual impacts on the habitats or species identified within this report.

6 Natura Impact Statement & Conclusion

This NIS has reviewed the impacts arising from the proposed project and found, following a Stage 1 Screening Assessment, that without the implementation of mitigation measures, significant effects on the integrity of the River Barrow and River Nore SAC and Lower River Suir SAC could not be definitively ruled out.

Based on the assessment of the proposed development alone and in combination with other projects and plans, including the implementation of mitigation measures, it can be concluded that no residual adverse effects on the site's integrity will arise, in view of the site's conservation objectives.



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Appropriate Assessment Screening Report

Shelbourne Solar Project

***Ballykeerogemore, Ballykeerogebeg,
Knockea, and Garryduff, Co. Wexford***

1 Introduction

ID Environmental Consultants were appointed by Shelbourne Solar Limited to produce an Appropriate Assessment Screening Report for a proposed solar farm development and associated infrastructure on lands at Garryduff and Knockea, Co. Wexford. The Proposed Development will consist of a 10-year permission for a 142.6ha Solar Photovoltaic (PV) development with Battery Energy Storage Facility, providing for a 40-year operational life from the date of commissioning.

The following report has been completed to provide information regarding the ecological status of the proposed site of works. The report includes a general ecological assessment of the site, including designated sites. This report has been completed to provide the information necessary to allow the competent authority to conduct an Article 6[3] Appropriate Assessment (AA) Screening of the proposed development.

1.1 Relevant Legislation and Overall Screening Methodology

The methodology for this screening statement is set out in a document prepared for the Environment DG of the European Commission entitled 'Assessment of plans and projects significantly affecting Natura2000 sites: Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC' (European Commission, 2019). This report and any contributory fieldwork were carried out in accordance with guidelines given by the Department of Environment, Heritage, and Local Government (2009, amended 2010).

The process is given in Articles 6(3) and 6(4) of the Habitats Directive and is commonly referred to as 'Appropriate Assessments' (which in fact refers to Stage 2 in the sequence under the Habitats Directive Article 6 assessment). Article 6 of the Habitats Directive sets out provisions which govern the conservation and management of Natura 2000 sites. Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the (Natura2000) site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after

having obtained the opinion of the general public.”

Article 6(4) of the same directive states:

“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of the Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

It is the responsibility of the proponent of the plan or project to provide the relevant information (ecological surveys, research, analysis etc.) for submission to the ‘competent national authority’. Having satisfied itself that the information is complete and objective, the competent authority will use this information to screen the project, i.e., to determine if an AA is required and to carry out the AA, if one is deemed necessary. The competent authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned. The appropriate assessment process has four stages. Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there will be no significant impacts on the Natura 2000 site, there is no requirement to proceed further. The four stages are:

1. Screening to determine if an appropriate assessment is required.
2. Appropriate assessment
3. Consideration of alternative solutions
4. Imperative Reasons of Overriding Public Interest/Derogation

Stage 1: Screening

This is to determine if an appropriate assessment is required. Screening is the technique applied to determine whether a particular plan would likely have significant effects on a Natura 2000 site and would thus warrant an Appropriate Assessment. The key indicator that will determine if an Appropriate Assessment is required is the determination of whether the development is likely to have significant environmental effects on a Natura 2000 site or not.

Stage 2: Appropriate Assessment

This step is required if the screening report indicates that the development is likely to have a significant impact on a Natura 2000 site. Stage 2 assesses the impact of a plan or project on the integrity of the Natura 2000 site, either alone or in combination with other plans or projects, with respect to the site's structure, function and conservation objectives. Where there are adverse impacts, an assessment of the potential mitigation of these impacts is also required.

Stage 3: Assessment of Alternative Solutions

If it is concluded that, subsequent to the implementation of measures, a plan or project will have an adverse impact on the integrity of a Natura 2000 site, it must be objectively concluded that no alternative solutions exist before the plan or project can proceed.

Stage 4: Imperative Reasons of Overriding Public Interest/Derogation

Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project, an assessment of compensatory measures that will effectively offset the damage to the Natura 2000 site will be necessary.

1.2 Case law

The European Court of Justice has made a number of relevant rulings in relation to when an Appropriate Assessment is required and its purpose: *"Any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects"* and that the plan or project may only be authorised *"where no reasonable scientific doubt remains as to the absence of such effects"*. A list of relevant rulings to the proposed project is provided below:

Table 1: Case law relevant to this AA Screening for the Proposed Development

Case	Ruling
People Over Wind and Sweetman v	The ruling of the CJEU in this case requires that any conclusion of 'no Likely Significant Effect' on a European site must be made prior to any consideration of measures to avoid or reduce harm to the European site. The determination of Likely Significant

Case	Ruling
Coillte Teoranta (C-323/17)	Effects should not, in the opinion of the CJEU, constitute an attempt at detailed technical analyses. This should be conducted as part of the AA.
Waddenzee (C-127/02)	The ruling in this case clarified that AA must be conducted using best scientific knowledge and that there must be no reasonable scientific doubt in the conclusions drawn. The Waddenzee ruling also provided clarity on the definition of ‘significant effect’, which would be any effect from a plan or project which is likely to undermine the conservation objectives of any European site.
Holohan and Others v An Bord Pleanála (C-461/17)	The conclusions of the Court in this case were that consideration must be given during AA to: effects on qualifying habitats and/or species of a SAC or SPA, even when occurring outside of the boundary of a European site, if these are relevant to the site meeting its conservation objectives; and, effects on non-qualifying habitats and/or species on which the qualifying habitats and/or species depend, and which could result in adverse effects on the integrity of the European site.
T.C Briels and Others v Minister van Infrastructuur en Milieu (C-521/12)	The ruling of the CJEU in this case determined that compensatory measures cannot be used to support a conclusion of no adverse effect on site integrity.

1.3 Guidance Documents

This report has been prepared with regard to the following guidance documents on Appropriate Assessment, where relevant:

Table 2: List of relevant guidance documents

Name	Description
Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities	National guidance on Appropriate Assessment for planning authorities. Department of Environment, Heritage and Local Government, (2010 revision)

Name	Description
Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities	Circulars issued by the Department of Environment, Heritage and Local Government with guidance relating to Appropriate Assessment. Circular NPWS 1/10 & PSSP 2/10 (2010)
Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC	The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Articles 6(3) and (4) of the Habitats Directive European Commission Environment Directorate-General, (2001 and updates April 2015 and September 2021).
Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC	Publication to the Member States with an interpretation of certain concepts in Article 6 of the Habitats Directive. EC Environment Directorate-General (2018)
Communication from the Commission on the precautionary principle.	Publication relating to the use of the precautionary principle. European Commission (2000)
Appropriate Assessment Screening for Development Management. Practice Note PN01.	Publication from the Office of the Planning Regulator relating to screening for Appropriate Assessment. OPR (March 2021)

2 Methodologies

This screening report was informed by a desk study of all relevant environmental information and also included a review of the ecological field survey data collected across surveys conducted in June 2025. The screening then incorporated the following steps (broadly based on EC [2000]):

- Determine if the proposed works are directly connected with or necessary to the management of the site;
- Describe the proposed works;
- Describe the baseline environment;
- List 'Relevant' European sites which are those sites potentially connected to the proposed works by source-pathway-receptor linkages; and
- Conclude if linkages to 'Relevant' sites have the potential to give rise to Likely Significant Effects (LSE).

2.1 The Source-Pathway-Receptor Model

The standard 'source-pathway-receptor' conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no likelihood for the effect to occur. An example of this model is provided below:

- Source (s); – e.g. Piling;
- Pathway (s); e.g. Vibration; and
- Receptor (s); e.g. Underground otter resting site at risk of collapse

The model evaluates the receptors as the qualifying interests (QIs) for which individual European sites are designated, with reference to the latest conservation objectives from the National Parks and Wildlife Service (NPWS) website, or substitute detailed objectives from other European sites where only generic objectives are available.

European sites are at risk of significant effects as a result of the proposed works where a source-pathway-receptor link exists between any elements of the proposed works and the European site. In order for an impact to occur there must be a risk enabled by having a 'source' (e.g. proposed works), a 'receptor' (e.g. a SAC/SPA or their QI habitats/species), and a pathway between the source and the receptor (e.g. a watercourse which connects the impact source at a site of proposed works to a SAC/SPA). The risk of the impact does not automatically mean it will occur, nor that it will be significant. However, identifying the risk does not necessarily mean that an ecological or environmental impact will occur, with the level and significance of the impact depending on the nature and extent of exposure to the risk, as well as the characteristics of the receptor.

2.2 The Precautionary Principle

The Precautionary Principle has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis". Reasoned application of the 'Precautionary Principle' is fundamental to the Screening Stage (and AA). The precautionary principle is referenced in Article 191 of the Treaty on the Functioning of the European Union (TFEU). It relates to an approach to risk management whereby if there is the possibility that a given policy or action might cause harm to the public or the environment and if there is still no scientific consensus on the issue, the policy or action

in question should not be pursued.

The precautionary principle prevails where 'reasonable scientific doubt' cannot be ruled out. Known threats to QIs of relevant sites are analysed to avoid overlooking subtle or far-field effect pathways. The duration of potential effects is a key consideration, in particular, because the European Court of Justice has recently ruled—albeit in specific reference to priority habitats—that those effects on site integrity must be “lasting”.

2.3 Likely Significant Effect

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

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

In this assessment, therefore, ‘relevant’ European sites are those within the potential ZOI of activities associated with the construction and operation of the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

3 Sources of Potential Impacts

The potential ecological hazards associated with the construction, operation, and decommissioning phases of this development are evaluated in Table 4 below.

Table 3: Potential impacts from the construction phase of the proposed development

Construction Phase Impacts
Impact sources exist during the construction phase that have the potential to interact with ecological features within and connected to the proposed development site: • Vegetation clearance, including the removal of hedgerows and scrub within the works area and associated fragmentary impacts. • The removal of grassland habitats of varying quality within the footprint of the Proposed Development.

- Deterioration of water quality within local water courses arising from surface water run-off during site preparation and construction.
- Disturbance or displacement of protected species during construction works caused by noise, vibration or increased anthropogenic presence.

Table 4: Potential impacts from the operational phase of the proposed development**Operational Phase Impacts**

The following elements of the operational phase of the proposed development have the potential to interact with ecological features within and adjacent to the subject lands:

- The installation of artificial lighting in a previously unlit area;
- Changes in land use within the development site, changing the landscape character and navigation (Bats and Mammals).
- Disturbance and displacement of habitat for birds, bats and mammals

Table 5: Potential impacts from the decommissioning phase of the proposed development**Decommissioning Phase Impacts**

The following elements of the decommissioning phase of the proposed development have the potential to interact with ecological features within and adjacent to the subject lands:

- Disturbance and displacement of species during the decommissioning of the solar arrays.
- Deterioration of water quality within local water courses arising from surface water run-off during site preparation and decommissioning.

Table 6: Predicted impacts from the cumulative impact with other plans and projects**Cumulative Impacts**

- Cumulative impacts with other proposed/existing plans and projects locally.

3.1 Potential Habitat Loss and Fragmentation

Land take from the construction of the access road, fencing, cabling installation, and PV arrays has the potential to lead to habitat loss and fragmentation. Solar panels will be set on piles with minimal disturbance to the ground. The proposed panels also have no moving parts, and the overall ground-level development footprint will generally occupy less than 5% of the site, with piles accounting for less than 1% of the overall developable area. As the panels will be raised off the ground. The habitat present under the proposed development footprint is generally a form of grassland. A moderate amount of habitat removal will be required to facilitate the Proposed Development. Approximately 1160 m² of hedgerow, treeline, and scrub habitat

will be removed to facilitate access and site infrastructure around the subject site. The total areas of each habitat to be removed are provided in a table within the footprint of the development that will be affected. A section of hedgerow and improved agricultural grassland will be removed to facilitate the proposed access route from the R246 to the site.

Table 7: Habitat areas removed as a result of the proposed development

Habitat Types	M ²
Buildings and artificial surfaces	702
Cropland	12729
Drain	19
Drain/Treeline	25
Grassy verge	779
Hedgerow	261
Hedgerow/Scrub	11
Improved grasslands	10413
Treeline	863
Buildings and artificial surfaces	702

Habitat fragmentation may also occur for a number of highly mobile species, including bats and badgers. Linear landscape features are of key importance for a number of bat species. Features such as hedges, treelines and waterways are used regularly and repeatedly by bats to navigate between roosts and feeding areas, and the continuity of such features is important to them. Fencing can have similar effects on mammals that also move through the landscape using repeated regular tracks and trails. Harrison et al (2017) indicated that impacts on mammals from solar development are generally associated with groundworks during the construction phase and potential impacts on territory due to a lack of appropriate fences and mammal gates within site fencing.

3.2 Noise and Disturbance

Increased noise levels and anthropogenic disturbance will occur during construction and decommissioning works within the subject site through the movement of machinery during works and an increased human presence. No excessively loud works (e.g. sheet piling or blasting) are proposed. Disturbance may also occur as a result of storing material or equipment on the site during the construction and decommissioning phase. No permanent noise-making infrastructure or lighting is proposed as part of this development. Noise and disturbance will also occur during routine maintenance and cleaning, which will take place throughout the project's lifetime. The disturbance effects of maintenance are not considered significant and would not exceed

those associated with agricultural machinery on the site.

3.3 Surface Water Run-off

Surface water runoff is considered a potential source of environmental impact that may arise from the Proposed Development, particularly during the project's construction phase. This includes potential impacts to habitats and species found within drainage ditches and the Carrowanree and the Ballykerrogmore Rivers within the footprint of the proposed development and downstream. The Carrowanree River, which runs adjacent to the site's western boundary, also provides hydrological connectivity with the River Barrow and River Nore SAC, located 3.5km and 6.5km downstream from the site, respectively. Potential risks to the Sacs via surface water runoff exist particularly during the construction of the proposed access route and the movement of construction vehicles during the construction phase, which may cause dust deposition to enter adjacent drains. The decommissioning phase could also produce similar risks to those during the construction phase. Discussion of these potential effects has also been covered in detail in the project NIS.

3.4 Zones of Influence and Potential Impacts of Effects

The proposed works have the potential to result in a number of direct and indirect effects. These are set out in Table 3, which identifies the "Zones of Influence" for each possible effect (i.e., the area over which effects may occur).

Table 8: Possible ecological Impacts and effects and their Zone of Influence (ZOI)

Potential Impact and Effect	Description	Zone of Influence
Land-take resulting in habitat loss or degradation.	The permanent loss of the habitat present in the footprint of the development and access route.	Lands within the proposed footprint of the proposed development and access routes.
Changes in water quality and quantity/distribution resulting in habitat loss or degradation.	Reduction in the quality of retained habitat or loss of habitat from surrounding areas as a result of surface water pollution.	As a result of works, changes in surface water quality are associated with the proposed development within the local water courses adjacent to and downstream of the proposed development site.

Noise or vibration resulting in disturbance.	Direct impact on feature species, reducing their ability to forage or breed.	Assessment is based on the nature of the sensitive receptors found. Assessed within 150m of Otter holding sites. Assessed within 10m for breeding birds during construction. Assessed within 500m for wintering birds
Spread of Invasive Species	Spread of Invasive Species caused by the movement of material from the site to other areas, including potentially designated sites.	Assessed based on the presence of invasive species found on the site.
Cumulative Impacts and Effects	Impacts and effects in combination with other current and upcoming plans and projects locally	Other plans and projects surrounding the proposed development site.

3.5 Statement of Authority

ID Environmental Consultants was founded by Ian Douglas (MSc, BSc, H Cert. Ag) in 2022. With over a decade of experience as an Ecologist and Environmental Consultant, Ian has developed expertise in Appropriate Assessments, Ecological Impact Assessments, habitat assessments, GIS, and habitat creation, as well as ornithological surveys. Ian has experience with a wide range of projects, including major road developments, energy infrastructure, and residential and other infrastructure planning across Ireland. Ian has worked on several wind farm projects, including those in Roscommon, Donegal, and Cork, as well as solar projects and utility-scale developments in Roscommon, Cork, and Kildare. Prior to establishing ID Environmental Consultants, Ian worked in Ecology and Agriculture in England and Australia. He joined Flynn, Furney Environmental Consultants in 2018, where he currently serves as Associate Director.

Ellen Irwin contributed to the reports for this project. Ellen is a former UCD student who graduated with a degree in Agri-Environmental Science (BAgrSc, Level 8). Through this degree, Ellen has developed practical field and lab-based skills necessary for field/habitat surveying, as well as soil sampling, and has also gained knowledge of GIS software. Since finishing her degree in May 2023, Ellen has worked with ID Environmental Consultants and Flynn Furney Environmental Consultants. During this time, Ellen has gained extensive experience in ecological surveying, including mammal, bat, and bird surveys, and has contributed to reports, such as Appropriate Assessments and Ecological Impact Assessments.

Tommy Szlaga also aided the completion of this project. Tommy is a graduate of Munster Technological

University, where he completed a BSc (Hons) in Wildlife Biology (Level 8). Throughout his degree, Tommy developed strong practical skills in habitat and species surveying, with a particular focus on bat ecology, having completed his undergraduate thesis on the conservation of bat species. He has also gained experience using GIS software and completed modules in Species Identification, Habitat Studies, and Ecology, providing him with the necessary context for assessing habitats and interpreting ecological survey results. Tommy also completed a 6 month internship with ID Environmental Consultants where he gained ample experience in both ecological surveying and compiling environmental reports.

Bird surveys were carried out by ID Environmental Consultants and Paul Connaughton.

With over 35 years of experience in birdwatching, Paul Connaughton has established himself as a leading expert in seabirds, marine mammals, and the broader marine environment. Based in West Cork, Paul developed his passion for wildlife at an early age and has since gone on to identify and record numerous rare and scarce bird species in Ireland, including new additions to the national list. In 2018, he gained national recognition after identifying Ireland's third-ever record of Bearded Seal, which attracted extensive media coverage.

In 2014, Paul founded Shearwater Wildlife Tours, specialising in offshore pelagic trips and bespoke tours for international clients. Having led over 80 pelagic trips for more than 700 participants, he has developed an exceptional knowledge of seabird and cetacean identification in the North Atlantic, particularly in Irish waters. His expertise has led to ongoing contracts as a JNCC-accredited ESAS Surveyor, conducting seabird and marine mammal surveys for offshore wind farms and research expeditions aboard Ireland's state vessel, RV Celtic Explorer.

Beyond survey work, Paul contributes to conservation projects, including Bermuda's Cahow recovery program, and has served as Chairman of the West Cork Branch of Birdwatch Ireland. Since 2021, he has also been a voting member of the Irish Rare Bird Committee. Alongside his wildlife career, he works with the Irish Marine Institute as a Bluefin Tuna observer and catch sampler on commercial fisheries.

4 Project Description

4.1 Site of Works

The study site is located within the townlands of Ballykeerogemore, Ballykeerogebeg, Knockea, and Garryduff in County Wexford, approximately 2.5km northeast of Campile Town. The site is approximately 187 hectares

in size, of which 142.6 hectares will be utilised for solar infrastructure. The area is predominantly composed of fields of improved agricultural grassland and tillage land—hedgerows, drainage ditches, and sections of scrub typically separate the fields within the site. Improved agricultural grassland and croplands are also the predominant land use of the lands surrounding the proposed development. Several private residential dwellings and farmyards are situated adjacent to and in close proximity to the works area.

The most significant semi-natural features locally include hedgerows and treelines within and surrounding the subject site, as well as grasslands of varying quality and a series of drains and ditches. A freshwater pond, located in the north-western corner of the site, represents a significant habitat feature, supporting a diversity of species and contributing to local biodiversity. The Carrowanree River runs along the western boundary of the site, providing connectivity with the River Barrow and River Nore SAC, located 3.5km downstream. A site location map can be seen in Figure 1.

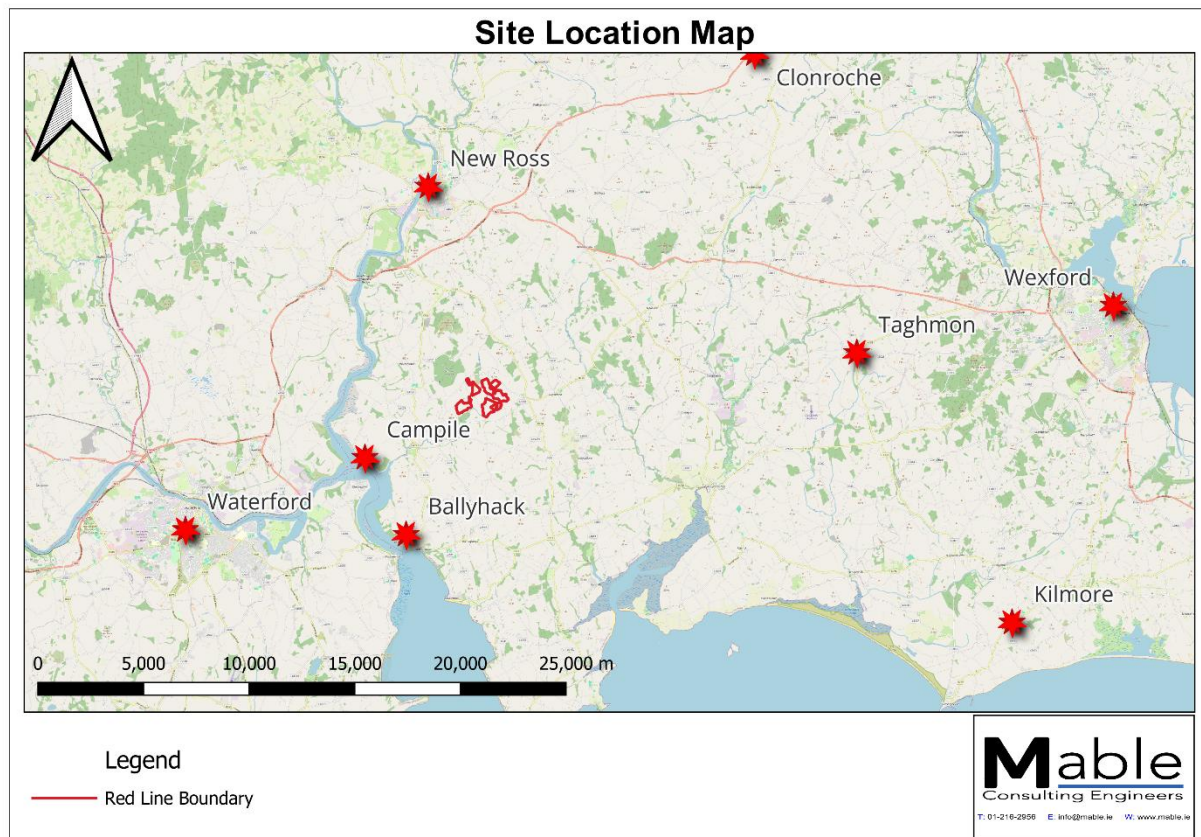


Figure 1: Site Location Map

4.2 Description of the Works

The Proposed Development will consist of a 10-year permission for a solar photovoltaic (PV) development, with a 40-year operational life from the date of commissioning and all associated works, within the townlands

of Ballykeerogemore, Ballykeerogebeg, Knockea, and Garryduff, County Wexford.

4.2.1 Solar Farm

The main components of the Solar Farm will comprise of:-

- XIV. Installation of ground-mounted Solar PV Panel arrays on fixed frames with string inverters.
- XV. Installation of 36 No. Electrical Skid Units (approx. 12.2m x 2.4m each) on a 14.2m x 11.8m stoned hardstand area.
- XVI. Construction of 5 No. temporary construction compounds, including fencing, site offices, parking, material laydown and storage areas.
- XVII. Erection of 2.4m high security fencing around the site.
- XVIII. Installation of pole-mounted security cameras.
- XIX. Upgrade of 4 No. existing site entrances.
- XX. Extinguishing of 3 No. existing site entrances
- XXI. Construction of 4 new permanent site entrances.
- XXII. Construction of 2 No. temporary construction site entrances.
- XXIII. Upgrading and widening of existing access tracks, and construction of new access tracks.
- XXIV. Construction of upgraded and new drainage/watercourse crossings to facilitate access tracks and underground cabling.
- XXV. Installation of electrical cabling.
- XXVI. All associated ancillary development, landscaping and reinstatement works.

Detail of the location of the infrastructure is detailed on **Error! Reference source not found..**

4.2.2 BESS Compound

The main components of the BESS will comprise of:-

- VII. Construction of a Battery Energy Storage System (BESS) Compound Consisting of 32 No. BESS Modules (approx. 2.6m x 1.7m each), 4 No. MV Skid Units (approx. 8.3m x 2.1m each), 1 No. Transformer Unit, 1 No. Control Unit (approx. 12.2m x 2.4m), and 1 No. Spares Container (approx. 12.2m x 2.4m).
- VIII. Erection of 2.6m high security fencing around the BESS Compound.
- IX. Installation of pole-mounted security cameras.

4.2.3 Landscaping and Biodiversity Enhancement

A landscaping plan has been developed by Marcoworks (2025) and has been submitted as part of this planning application. This outlines the location and distribution of a range of ecological enhancement measures, including planting and enhancing existing hedgerows and the establishment of large areas of wildflower meadow.

4.2.4 Operational Management

Once operational, the site will require only occasional visits by personnel to maintain the site infrastructure and to clean the panels. The site's grasslands will be managed through annual cutting.

4.2.5 Decommissioning

Unless planning permission is granted to extend the duration of operation. At the end of the life of the project, the Solar Panels, Electrical Skids, BESS Units, MVS Units, and all their associated above ground components will be dismantled and removed from the site using appropriate decommissioning and reinstatement practices in place at that time.

Prior to commencement, a decommissioning plan will be prepared for agreement with Wexford County Council. The plan will include a material recycling / disposal plan, traffic management plan, and other similar mitigation measures to those implemented during the construction phase.

In terms of traffic effects, the decommissioning stage will generally mirror that of the construction stage, although the effects will be significantly reduced as the volumes of materials removed from the site will be less than delivered.

The site Access Track will serve functions beyond operation of the proposed development, such as agricultural access. Therefore, subject to agreement with Wexford County Council it is proposed to keep the site Access Track in place for future use.

After completion of decommissioning works the affected areas will be reinstated to their former agricultural use.

4.2.6 Construction Time and Phasing

The construction period for this development is likely to be between 18 months. This is inclusive of all site works, mounting frames, cabling, and the installation and commissioning of the PV panels and inverters. The first phase of the works will comprise the preparation of the construction compound and the set-down area. The parameter fencing will be installed next, followed by the underground cabling and finally the panels. Commissioning of the substation within the factory grounds and the Solar array will be the final stage in the construction phase. Groundworks will be carried out between April and October to take advantage of

favourable ground conditions.

- IV. Construction of a Battery Energy Storage System (BESS) Compound Consisting of 32 No. BESS Modules (approx. 2.6m x 1.7m each), 4 No. MV Skid Units (approx. 8.3m x 2.1m each), 1 No. Transformer Unit, 1 No. Control Unit (approx. 12.2m x 2.4m), and 1 No. Spares Container (approx. 12.2m x 2.4m).
- V. Erection of 2.6m high security fencing around the BESS Compound.
- VI. Installation of pole-mounted security cameras.

5 Survey Methodology

5.1 Desktop Study

Prior to the main fieldwork contributing to this assessment, a desktop survey of available information sources was carried out. These included:

- The National Biodiversity Data Centre Online Database
- The NPWS Protected Species Database and Online Mapping (Updated July 2023)
- Spatial information relevant to the planning process, including land zoning and planning applications from the Department of Housing, Planning, Community and Local Government web map portal (Department of Housing, Planning, Community and Local Government, 2018);
- Data on waterbodies, available for download and interrogation from the Environmental Protection Agency (EPA) web map service (Environmental Protection Agency, 2018);
- Information on the location, nature and design of the proposed development supplied by the applicant's design team;
- Review of previous and current planning applications for the subject site and local area via Wexford County Council's Planning portal and Myplan.ie
- Desk research included a review of records available through the National Biodiversity Data Centre mapping system. These included rare and protected species. Records were requested for all species appearing within the study area or immediately surrounding the study area (2km). The results of which can be seen in Appendix 2.
- Data on semi-natural Irish grasslands from the Irish Semi-Natural Grassland Surveys (ISGS) 2007 – 2012
- Data contained in the National Survey of Native Woodland (NSNW) and Ancient Woodlands inventory (2011 – 2012).

5.2 Field Surveys

5.2.1 Habitats

Multiple multidisciplinary walkover surveys were conducted in May, June, July, and September 2025. Habitats were identified, mapped, and classified and dominant plant species were noted in accordance with the guidelines given by the JNCC (2007) and The Heritage Council (2010). Habitats were classified as per Fossitt (2000). Plant nomenclature follows the BSBI's List of Accepted Plant Names (BSBI, 2007).

5.2.2 Fauna

Fauna surveys were carried out during this multidisciplinary walkover survey for the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. Mammal surveys followed the guidance as per NRA (2009).

5.2.3 Bats

Signs of bats and potential roosting surveys were carried out following Bat surveys in accordance with the Bat Conservation Trust (BCT) Guidelines (2023). An inspection of the external areas, including trees within and surrounding the subject lands, was conducted. Bat activity was evidenced by signs including dead specimens, bat droppings, urine splashes, fur-oil staining, squeaking noises, feeding remains (moth wings), bat-fly (Nycteribiid) pupal cases, and odour.

Static bat detectors were deployed on site, monitoring the area over 10 nights in June 2025. The collected data enabled us to identify the bat species present and provide an overview of how bat activity is distributed across the site. Bat survey results are presented in Section 6.5.

5.2.4 Birds

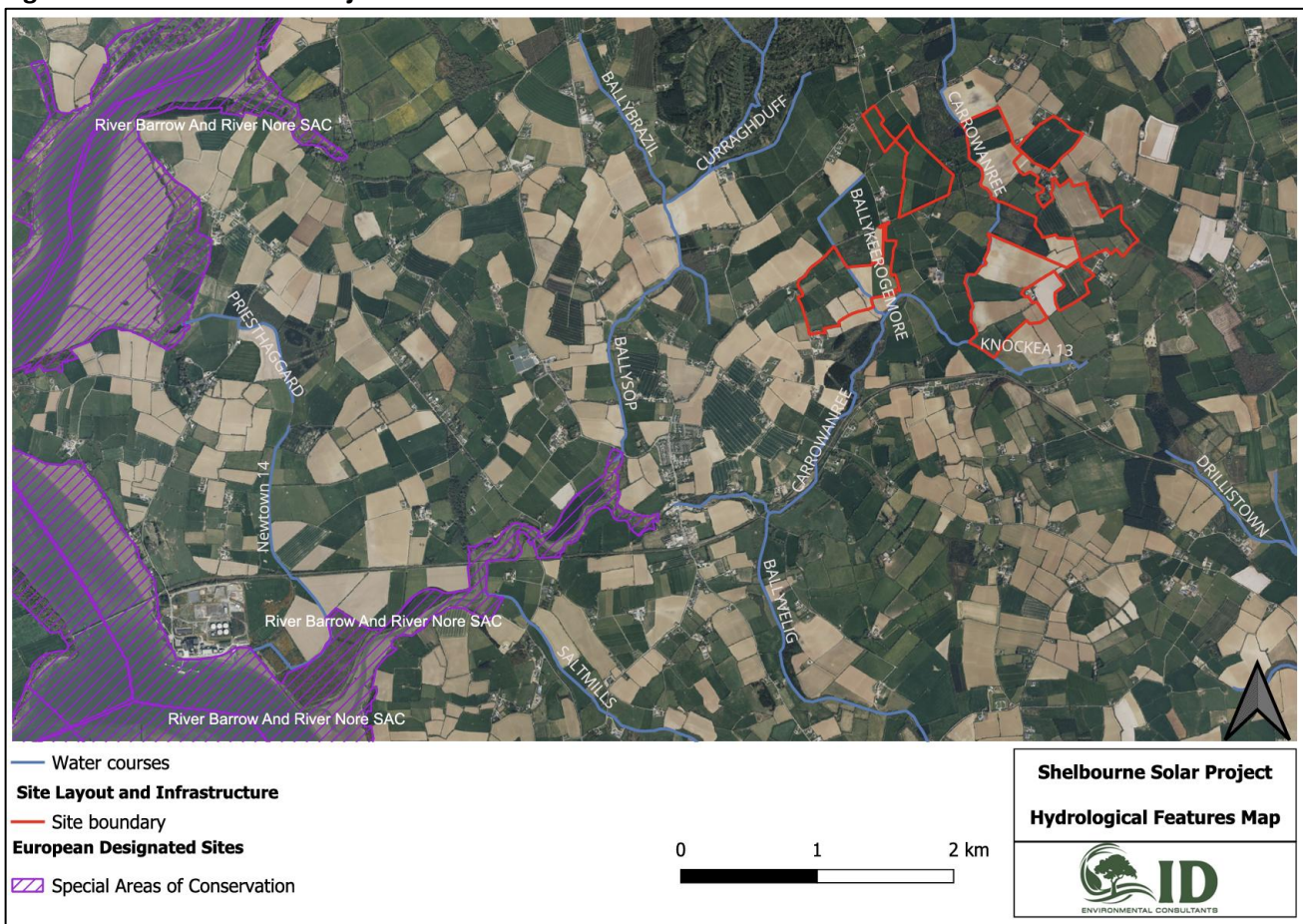
Walkover surveys of the site were conducted from June to July 2025 to determine the presence of bird species of high conservation concern within the study area. The methodology was broadly based on methods described in Hardey (2006) and Gilbert et al (1998). Target species were raptors, waterbirds, gulls, and ground birds of conservation interest. Along with the target species, all additional species observed were recorded to inform the evaluation of the supporting habitat.

6 Existing Environment

6.1 Surface Water Bodies

The site is dissected by several drainage ditches, which provide hydrological connectivity to the Carrowanree River, which flows along the site's western border. The Ballykerrogemore River is a tributary of the Carrowanree and flows through the site's most western block. The Carrowanree flows in a generally south-westerly direction, flowing through Campile town before eventually feeding the Barrow Suir Nore Estuary, which forms part of the River Barrow and River Nore SAC 3.5km downstream. The Carrowanree and the Ballykerrogemore Rivers were recorded as having a "Poor" water quality status during monitoring under the Water Framework Directive Period 2016-2021.

Figure 2: River Routes in conjunction with the site



6.2 Groundwater

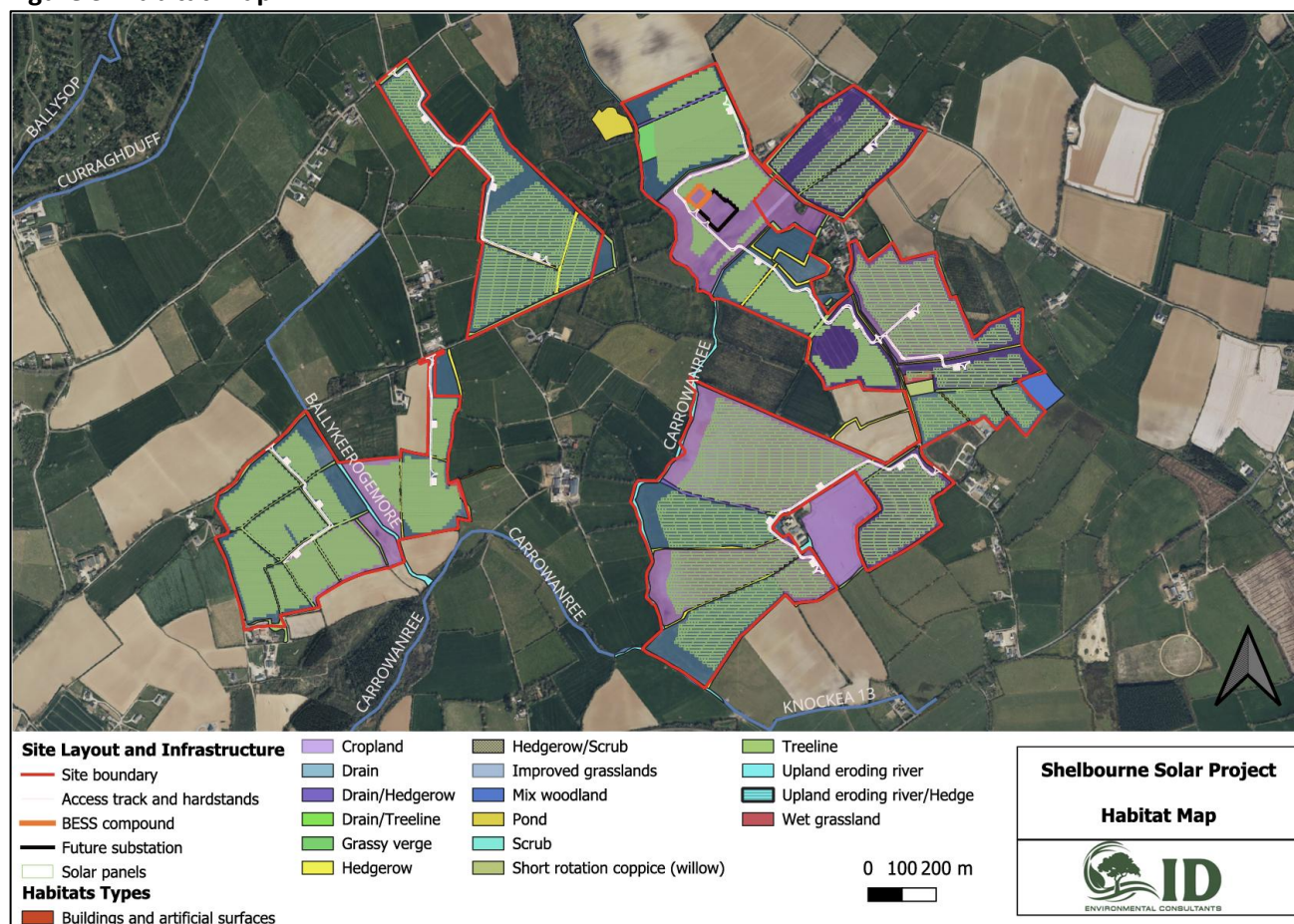
Groundwater vulnerability is a term used to represent the natural ground characteristics that determine the ease with which infiltrating water and potential contaminants may reach groundwater in a vertical or sub-vertical direction. Subsoil permeability indicates how readily water from the surface can permeate through to the groundwater below. Groundwater vulnerability was assessed using publicly available data sets from the

Geological Survey of Ireland GIS web viewer¹. Groundwater vulnerability is moderate within and surrounding the proposed development site. Soil permeability is moderate. No groundwater dependent habitats or species are found within or surrounding the subject site. No groundwater dependent QI habitat or species occur within close proximity to the subject site.

6.3 Habitats and Flora

The desktop assessment of recorded flora via the NBDC² returned no records of protected or rare flora within 2km of the subject lands. Field surveys were carried out on 19th of June 2025 and again on the 30th of June 2025. During fieldwork, the following habitat types were recorded within or surrounding the proposed development site.

Figure 3: Habitat Map



¹ <https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef>

² <https://maps.biodiversityireland.ie/Map>

6.3.1 Arable crops (BC1)

The majority of the site consists of arable lands under wheat cultivation. Field margins are largely characterised by bramble (*Rubus fruticosus* agg.), willowherb (*Chamaenerion angustifolium*), nettle (*Urtica dioica*), cow parsley (*Anthriscus sylvestris*), and thistle (*Cirsium vulgare*) with large areas of bracken (*Pteridium aquilinum*) recorded in some parts. In drier regions with larger margins, a more diverse herb layer was recorded, including scarlet pimpernel (*Anagallis arvensis*), buttercups (*Ranunculus* spp.) and speedwell (*Veronica persica*).



Figure 4: Field of barley typical of those throughout much of the proposed development site.

6.3.2 Improved Agricultural Grassland (GA1)

This habitat is the predominant land use of the eastern and western stretches of the site. Most of this grassland has been grazed by cattle, with some fields cut for silage. Common agricultural grasses dominate, with Perennial Rye Grass (*Lolium perenne*) and Yorkshire Fog (*Holcus lanatus*) being abundant. Red Clover (*Trifolium pratense*) and White Clover (*Trifolium repens*) were frequent.



Figure 5: Field of Improved Agricultural Grassland

6.3.3 Dry Meadows and Grassy Verges (GS2)

Grassy verges around the edges of croplands varied in width, ranging from 1 meter to over 15 meters in some fields, and in these areas, they contained good species diversity. Including bents (*Agrostis spp.*), meadow-grasses (*Poa spp.*), Meadow Foxtail (*Alopecurus pratensis*) and occasional fescues (*Festuca spp.*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's-tail (*Cynosurus cristatus*) and Yorkshire-fog (*Holcus lanatus*).

Broadleaved herbs included clovers (*Trifolium spp.*), yarrow (*Achillea millefolium*), common knapweed (*Centaurea nigra*), selfheal (*Prunella vulgaris*), Cat's-ear (*Hypochoeris radicata*), tufted vetch (*Vicia cracca*), hogweed (*Heracleum sphondylium*), rape (*Brassica napus*), redshank (*Persicaria maculosa*), field speedwell (*Veronica persica*), willowherb (*Epilobium spp.*), giant plantain (*Plantago major subsp. intermedia*), and woundwort (*Stachys spp.*). Rushes (*Juncus spp.*) and creeping thistle (*Cirsium arvense*) were occasional, along with marsh thistle (*Cirsium*

palustre).



Figure 6: Species rich grassy verge bordering hedgerows and treelines

6.3.4 Wet Grassland (GS4)

Pockets of Wet Grassland were recorded across the site. An area of wet grassland is located adjacent to the short-rotation coppice (WS4), which is dominated by rushes but also includes a noticeable herbal and grassy component along the margins and in scattered open patches. Willow (*Salix spp.*), Yorkshire fog (*Holcus lanatus*) and creeping buttercup (*Ranunculus repens*) were frequent within the area.



Figure 7: Area of Wet Grassland

6.3.5 Oak–Birch–Holly Woodland (WN1)

This woodland on the north-west of the site is outside the boundary of the proposed development. It comprises of a mature woodland planted on a decommissioned quarry site with an artificial pond situated on the south-eastern corner of the woodland.

6.3.6 Coniferous Plantation (WD4)

Two plots of conifer plantation of Sitka Spruce (*Picea sitchensis*) are found within the redline boundary of the proposed development. Ground flora within the plantation is limited with bramble, nettles (*Urtica dioica*) and ferns the most frequent.



Figure 8: Coniferous Plantation

6.3.7 Mixed Broadleaved Woodland (WD1)

An area of mixed broadleaved woodland encompasses derelict farm buildings on the eastern border of the site, mostly dominated by sycamore with dense bramble in the understorey. Wild growing cherry laurel (*Prunus laurocerasus*), a medium impact invasive species, was recorded in this patch of woodland.

6.3.8 Short rotation coppice (WS4)

A small, overgrown plot of a basket willow (*Salix viminalis*), most likely established as a short-rotation coppice, is located in the centre of the site. The stand appears to have been abandoned, with tall, unmanaged growth forming a dense thicket. Ground vegetation persists in open areas, where light reaches the floor, supporting a limited diversity of grassy and weedy flora. Creeping buttercup, dock and yarrow (*Achillea millefolium*) being the dominant species.



Figure 9: Willow Crop

6.3.9 Hedgerows (WL1)

Hedgerows form the majority of field boundaries on and surrounding the site. These were usually on a bank with a small **Drain (FW4)** at their base. Hedgerows dominated by Gorse (*Ulex europaeus*) were frequent in the south and west of the proposed development area within fields of wet grassland. Elsewhere across the site trees and shrubs were dominated by Ash (*Fraxinus excelsior*), Willows (*Salix Spp*), and Gorse (*Ulex europaeus*) along with Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Bramble. Holly (*Ilex aquifolium*), and Dog-rose (*Rosa canina*) were occasional.

6.3.10 Treelines (WL2)

Treelines are present in places, either representing unmanaged hedgerows where ash has matured, or as purposefully planted roadside lines dominated by sycamore (*Acer pseudoplatanus*), beech (*Fagus sylvatica*), and

ash.



Figure 10: Treeline around the site boundary

6.3.11 Drainage Ditches (FW4)

Drainage ditches were frequent across the development site varying in depth and water levels. Many channels were dry at the time of survey, while those holding water typically exhibited only a sluggish or stagnant flow. Vegetation recorded within the drains included fool's watercress (*Apium nodiflorum*), bramble (*Rubus fruticosus* agg.), creeping buttercup (*Ranunculus repens*) and duckweed (*Lemna minor*) with some Common Reed (*Phragmites australis*) in deeper stretches.



Figure 11: Flooded drainage ditch running along the site boundary

6.3.12 Artificial Ponds (FL8)

A single pond is found on the northwest of the site within the Mixed Broadleaved Woodland (WD1) with species including water mint (*Mentha aquatica*), flag iris (*Iris pseudacorus*), horsetail (*Equisetum* spp.), willow herb (*Epilobium* spp.), pond weed (*Potamogeton* spp.), willow (*Salix* spp.), alder (*Alnus glutinosa*) and bindweed (*Calystegia sepium*). This pond is outside the proposed site boundary. This pond deposits into the Carrowanree River, which flows in a generally southeastern direction, flowing through Campile town, eventually feeding the Barrow Suir Nore Estuary, which makes part of the River Barrow and River Nore SAC 3.5 km downstream.



Figure 12: Pond found northwest of the Proposed Development site

6.3.13 Eroding/Upland Rivers (FL1)

The Carrowanree River flows along the site's western boundary. The Carrowanree is a small sized watercourse that flows in a generally south-westerly direction, flowing through Campile town before eventually feeding the Barrow Suir Nore Estuary which forms part of the River Barrow and River Nore SAC 3.5km downstream. The Carrowanree river was recorded as having “Poor” water quality status from monitoring under the Water Framework Directive Period 2016-2021. The riparian zone is composed mostly of Common Reed (*Phragmites australis*), Willow (*Salix* spp.) and Alder (*Alnus glutinosa*). In addition to Cock's-foot Grass (*Dactylis glomerata*) and False Oat-grass (*Arrhenatherum elatius*). Aquatic plants were limited to small amounts of Fool's Water-cress (*Apium nodiflorum*). Bramble (*Rubus fruticosus* agg.) and other hedgerow species were found growing along its banks.



Figure 13: Carrowanree river on the site boundary.

6.3.14 Buildings and Artificial Surfaces (BL3)

This habitat is found dotted around the site in the form of private dwellings and farmyards containing cattle housing, farm buildings and concrete yards. A number of small derelict farm buildings are found around the site with possible bat roosting potential.

6.4 Otters

Otters, along with their breeding and resting places, are protected under the provisions of the Wildlife Act, 1976, as amended by the Wildlife (Amendment) Act, 2000. Otters have additional protection because of their inclusion in Annex II and Annex IV of the Habitats Directive, which is transposed into Irish law in the European Communities (Natural Habitats) Regulations (S.I. 94 of 1997), as amended. Otters are also listed as requiring strict protection in Appendix II of the Berne Convention on the Conservation of European Wildlife and Natural Habitats and are included in the Convention on International Trade of Endangered Species (CITES).

The NDBC database contained no record of Otter within 2km, of the site.. A dedicated otter survey was carried

out in June 2025. The survey was carried out in accordance with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) and NRA (2009) Guidelines for the Treatment of Otter During Construction of National Road Schemes. Otters are a QI species of the River Barrow and River Nore SAC and the Lower River Suir SAC. No evidence of Otter, including holts, slides or couches, was found during surveys of nearby watercourses.

6.5 Birds

Birds seen and heard during summer breeding bird surveys in June and July 2025 were recorded. The majority of the birds recorded were typical species seen and heard in agricultural and semi-natural settings. The results of the bird survey can be seen in Appendix 1.

The bird survey recorded a total of 296 individuals across 39 species during June and July. Of these, two species are currently Red-listed under BoCCI 2020–2026, namely Stock Dove (*Columba oenas*) and Yellowhammer (*Emberiza citrinella*), while fifteen species are Amber-listed, including Skylark (*Alauda arvensis*), Song Thrush (*Turdus philomelos*), Spotted Flycatcher (*Muscicapa striata*), Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), and Linnet (*Linaria cannabina*). The remaining species recorded are Green-listed, representing common and widespread birds such as Blackbird (*Turdus merula*), Wren (*Troglodytes troglodytes*), and Wood Pigeon (*Columba palumbus*). The presence of multiple Red- and Amber-listed species highlights the ecological value of the survey area, particularly for species of higher conservation concern.

In addition to this, Spotted Woodpecker (*Dendrocopos major*) was recorded, which is steadily making a recovery in Ireland.

6.6 Significance of Habitats and Species

Ecological evaluation follows a methodology that is set out in Chapter 3 of the ‘Guidelines for Assessment of Ecological Impacts of National Roads Schemes’ (NRA, 2009). The habitats within and adjacent to the development site were evaluated in accordance with the criteria developed by the NRA (2009b), which classifies sites in terms of their ecological importance, i.e. ‘international importance’, ‘national importance’, ‘county importance’, ‘local importance (higher value)’ or ‘local importance (lower value)’. Habitats within the development site did not correspond to any Annex I habitats listed on the EU Habitats Directive.

There are no annexed habitats on or adjacent to the proposed development site. There were no rare or

protected species recorded on the site, and no third-schedule invasive species were present under the footprint of the Proposed Development. There are no habitats of local importance (higher value) recorded within the study area.

No evidence of the site's usage by Otter was identified; however, they are likely to occur in connected downstream rivers and Loughs. The site itself is considered to be of negligible significance for Otters.

Rivers on the site were generally small and in poor condition, showing evidence of historical straightening and deepening. It is extremely unlikely that they would provide suitable spawning habitat for any QI species.

Bird surveys did not identify any site usage by any SCI or Annex species on the site.

7 Designated Sites Ecological Assessment

A desktop study was carried out as part of the screening process. This included a review of available literature on the site and its immediate environs. Sources of information included the NPWS and National Biodiversity Data Centre databases on protected sites and species.

7.1 Designated Sites

Sites designated for the conservation of nature in Ireland include:

- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- Natural Heritage Areas (NHA); and
- proposed Natural Heritage Areas (pNHA)

SACs and SPAs form the European/Natura 2000 network of sites. It is these sites that are of relevance to the screening process for the Appropriate Assessment. SPAs and SACs are prime wildlife conservation areas in the country, considered to be important on a European as well as an Irish level. SPAs and SACs are designated under the EU Habitats Directive, transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), as amended. The following was considered when reviewing European

sites:

1. Whether the proposed development site was located within or adjacent to any European sites;
2. Any European sites located within 15km of the proposed development site; and
3. Any European sites that are more than 15km from the proposed development site but may potentially be impacted, i.e. through a hydrological or bird foraging connection.

This stage in the process is used to determine whether any of the designated sites may be 'screened out'. That is, they can be regarded as not being relevant to the process, having no potential to be significantly affected or impacted upon.

Table 4: Source – Pathway – Receptor Assessment

Site Name Designation Site Code	Distance	Qualifying Interests	Rationale (where the European site is excluded)
River Barrow and River Nore SAC 002162	2.5km	• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Reefs [1170] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • European dry heaths [4030] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	The proposed development is located outside the boundary of this SAC, and there is no potential for direct effects. A source-pathway receptor link is present via the Carrowanree River, which deposits into the SAC. Mitigation measures are necessary to minimise significant negative effects during the construction phase. Mitigation measures are necessary to minimise significant negative effects during the construction phase.

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		• Petrifying springs with tufa formation (Cratoneurion) [7220] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Austropotamobius pallipes (White-clawed Crayfish) [1092] • Petromyzon marinus (Sea Lamprey) [1095] • Lampetra planeri (Brook Lamprey) [1096] • Lampetra fluviatilis (River Lamprey) [1099] • Alosa fallax fallax (Twaite Shad) [1103] • Salmo salar (Salmon) [1106]	
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		• <i>Lutra lutra</i> (Otter) [1355] • <i>Vandenboschia speciosa</i> (Killarney Fern) [6985]	
Lower River Suir SAC 002137	6.5km	• Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330] • Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • 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>Taxus baccata</i> woods of the British Isles [91J0] • <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029] • <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	The proposed development is located outside the boundary of this SAC, and there is no potential for direct effects. The Lower River Suir SAC boundary is located on the western side of the Barrow Suir Nore Estuary, upstream from where the Carrowanree deposits are found; therefore, a source-pathway-receptor link between the site and the QI habitats of the Lower River Suir does not exist. However, potential water quality deterioration impacts during the construction phase of this project on the Barrow Suir Nore Estuary have the potential to have significant negative effects on the QI species of this SAC, which includes Lamprey, Salmon and Otter; therefore, mitigation measures to avoid significant negative effects during the construction phase are required. Mitigation measures are necessary to minimise significant negative effects during the construction phase.

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		• Petromyzon marinus (Sea Lamprey) [1095] • Lampetra planeri (Brook Lamprey) [1096] • Lampetra fluviatilis (River Lamprey) [1099] • Alosa fallax fallax (Twaiite Shad) [1103] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355]	
Bannow Bay SAC 000697	8.4km	• Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Perennial vegetation of stony banks [1220] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410]	The proposed development is located outside the boundary of this SAC, and there is no potential for direct effects. The potential for indirect effects on the QIs of this SAC can be ruled out due to the intervening distance between the development site and the SAC, as well as the absence of a source-pathway-receptor chain for likely significant effects. No source-pathway-receptor links and no risk of likely significant effects were identified, either alone or in combination with other plans or projects.

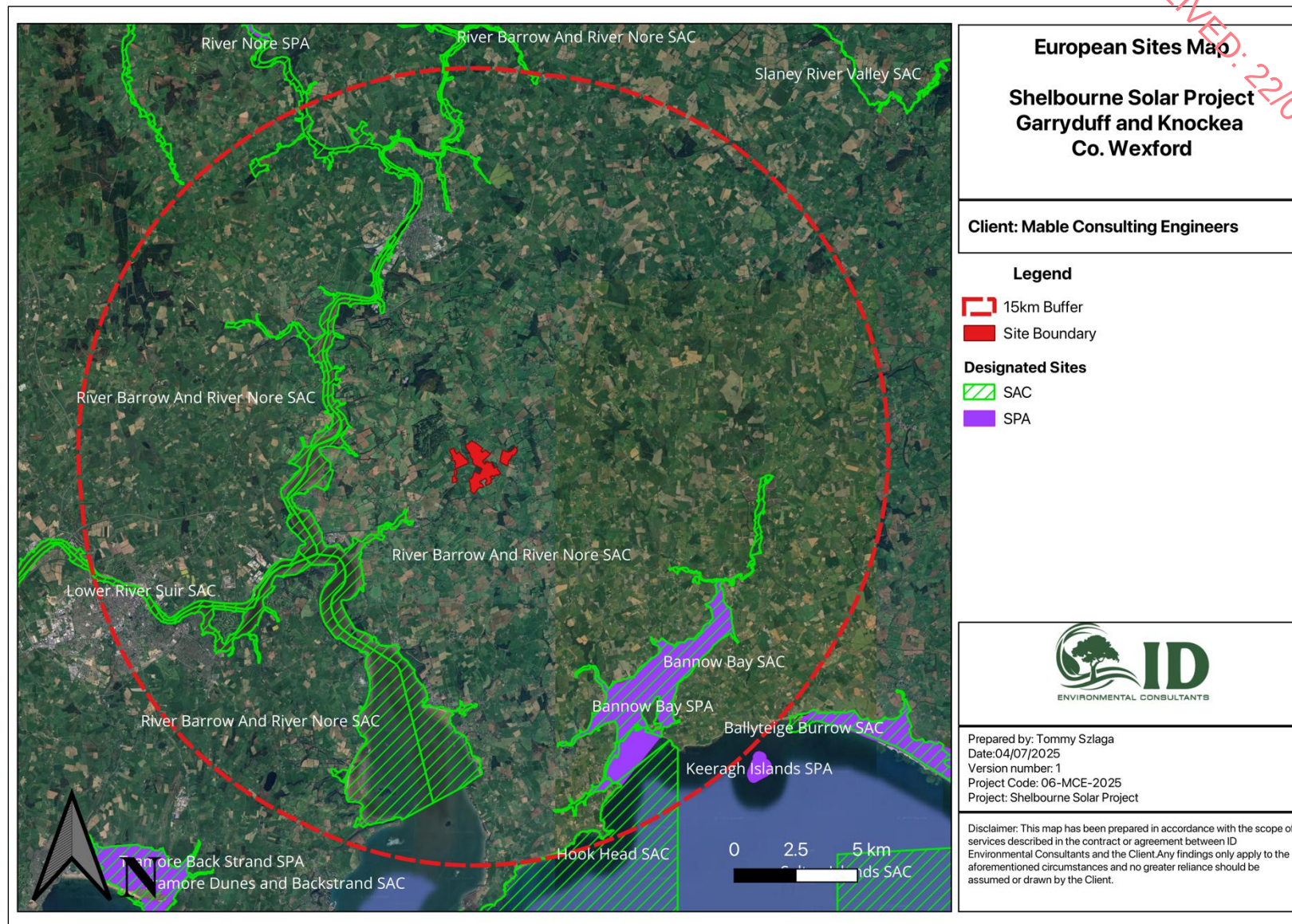
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		• Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) [1420] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	
Bannow Bay SPA 004033	8.5km	• Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Pintail (<i>Anas acuta</i>) [A054] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Lapwing (<i>Vanellus vanellus</i>) [A142] • Knot (<i>Calidris canutus</i>) [A143] • Dunlin (<i>Calidris alpina</i>) [A149]	The proposed development is located outside the boundary of this SPA, and there is no potential for direct effects. The potential for indirect effects on the QIs of this SPA can be ruled out due to the intervening distance between the development site and the SPA, as well as the absence of a source-pathway-receptor chain for likely significant effects. No source-pathway-receptor links and no risk of likely significant effects were identified, either alone or in combination with other plans or projects.

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		• Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Curlew (<i>Numenius arquata</i>) [A160] • Redshank (<i>Tringa totanus</i>) [A162] • Wetland and Waterbirds [A999]	
Hook Head SAC 000764	12.6km	• Large shallow inlets and bays [1160] • Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • <i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] • <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	The proposed development is located outside the boundary of this SAC, and there is no potential for direct effects. The potential for indirect effects on the QIs of this SAC can be ruled out due to the intervening distance between the development site and the SAC, as well as the absence of a source-pathway-receptor chain for likely significant effects. No source-pathway-receptor links and no risk of likely significant effects were identified, either alone or in combination with other plans or projects.

Figure 12: Local European Designated Sites



The site of the Proposed Development is not located within any European Designated site, and so there is no potential for direct effects. However, there is potential for indirect, likely significant effects on the conservation objectives of the River Barrow and River Nore SAC, as well as the Lower River Suir SAC, through impacts on water quality via the Carrowanree River. These potential impacts are considered further in this assessment.

The remaining 3 sites listed in Table 4 are deemed outside the zone of influence of the Proposed Development as no source-pathway-receptor link exists between the designated site and the Proposed Development. Accordingly, these will be discussed no further as part of this assessment.

1.4 Screening Assessment of Likely Significant Effects

The potential for impact on the features of interest and conservation objectives of the River Barrow and River Nore SAC are considered below. The potential for significant impacts resulting from the proposed development on the relevant designated sites was determined based on a range of indicators, including:

- Habitat loss or alteration
- Disturbance and/or displacement of species
- Changes in water quality
- The presence and spread of invasive species

1.4.1 Habitat Loss/Alteration

The Proposed Development site is located outside the boundary of any Designated Site and therefore, no direct impacts on habitats within any of the designated sites are predicted.

1.4.2 Disturbance and/or Displacement of Species

Otter is a qualifying interest of the River Barrow and River Nore SAC and the Lower River Suir SAC. Although no evidence of otter was recorded during field surveys of the site, potential impacts to this species and its potential commuting and foraging areas exist. Possible impacts cannot be ruled out at this stage.

1.4.3 Changes in Water Quality

There is a potential water quality risk during the construction phase of the Proposed Development. During the construction phase, possible contamination of the drainage channels onsite exists as silt and other harmful substances such as hydrocarbons and cement may enter the drains and subsequently the Carrowanree river,

which feeds the Barrow, Nore, and Suir estuary, designated as part of the River Barrow and River Nore SAC and the Lower River Suir SAC.

8 Article 6(3) Appropriate Assessment Screening Statement and Conclusion

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

8.1 Summary of Assessment of Possible LSE to European Sites

A total of five European designated sites were identified with possible source-pathway receptor connectivity to the proposed development. For two of which the potential for LSE could not be ruled out at the screening stage, including the River Barrow and River Nore SAC, and the Lower River Suir SAC. LSE could be ruled out for all other sites due to one or more of the following considerations:

- Lack of connectivity between the works areas and the designated area
- Significant buffer distance between the works area to the European site
- Size, scale and location of the proposed development
- The nature of the site's conservation objectives
- No potential changes to the chemical or physiological condition of the designated site as a result of the proposed works.

9 Article 6(3) Screening Assessment Conclusion

9.1 Overall Conclusions

In our professional opinion and in view of the best scientific knowledge and in view of the conservation

objectives of the European sites reviewed in this screening exercise, LSE, upon the conservation objectives of the River Barrow and River Nore SAC and the Lower River Suir SAC, could not be definitively ruled out at the screening stage. **Therefore, progression to Stage 2 Appropriate Assessment is required.**

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Appendix 1: Bird Survey Data

Season	Date	Observer	Survey Period	Start time	Finish time	Survey Duration (hrs)	Wind speed	Wind Direction	Rain	Cloud Cover	Visibility	Frost	Snow	Field Notes	Other Significant Observations (e.g. Passerines)
Breeding	19/06/2025	ID, TS	Day	08.00	17.30	8	3	NW	0	0	5	0	0		Warm, clear, sunny day
Breeding	02/07/2025	PC	Day	08.30	18.00	10	0		0	0	5	0	0		None

Species	19–25 Jun	02–25 Jul	Grand Total	BoCCI 2020–26 Status
Blackbird	15	9	24	Green
Blackcap	7	3	10	Green
Blue Tit	5	4	9	Green
Bullfinch	5	–	5	Amber
Chaffinch	12	9	21	Amber
Chiffchaff	13	7	20	Green
Collared Dove	–	1	1	Green
Crossbill	6	14	20	Green
Dunnock	6	10	16	Amber

Goldcrest	3	1	4	Amber
Goldfinch	3	1	4	Green
Great Spotted Woodpecker	1	–	1	Green
Great Tit	2	5	7	Green
Greenfinch	–	1	1	Amber
House Sparrow	2	2	4	Amber
Jackdaw	–	1	1	Green
Jay	–	2	2	Green
Lesser Black-backed Gull	–	1	1	Amber
Linnet	–	2	2	Amber
Magpie	1	–	1	Green
Mistle Thrush	–	13	13	Amber
Pheasant	2	1	3	Green
Pied Wagtail	1	1	2	Green
Redpoll (Lesser/Mealy)	–	1	1	Amber
Reed Bunting	–	2	2	Amber
Robin	14	9	23	Green
Skylark	1	–	1	Amber
Song Thrush	11	6	17	Amber
Spotted Flycatcher	1	–	1	Amber
Starling	–	–	–	Amber
Stock Dove	–	1	1	Red
Swallow	1	–	1	Amber
Whitethroat	–	2	2	Amber

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Wood Pigeon	17	12	29	Green
Wren	20	14	34	Green
Yellowhammer	7	5	12	Red
Grand Total	156	140	296	

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