18 INTERACTIONS OF THE FOREGOING AND A SUMMARY OF MITIGATION MEASURES

18.1 INTERACTIONS OF THE FOREGOING

18.1.1 Introduction

The purpose of this Chapter is to identify significant interactions and interdependencies in the existing environment and set out the likely interactions of, and between effects predicted as a result of the Project. Impact interactions and inter-relationships have been considered throughout the EIA process. The foregoing topics in earlier chapters do not exist in isolation from each other and consequently, any impact on one element of the environment may also affect another.

The requirement for the identification of interactions between the various aspects of the environment as detailed throughout the EIAR is set out in Article 3(1) of the amended EIA Directive 2011/92/EU as amended by the Directive 2014/52/EU, which states:
The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: a) population and human health; b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; c) land, soil, water, air and climate; d) material assets, cultural heritage and the landscape and e) the interaction between the factors referred to in points (a) to (d)."

18.1.2 Effect Interactions

Where any potential adverse effects have been identified during the assessment process, these effects have been avoided by embedded design mitigation or at a minimum, reduced by the proposed mitigation measures.

18.2 SUMMARY OF MITIGATION MEASURES

This Chapter summarises mitigation measures proposed elsewhere in the EIAR. Chapter 4 to 17 of the EIAR outlines the findings of the assessment of the predicted effects of the Development on a topic-by-topic basis. The significance of these effects has been assessed using criteria defined in the topic chapters. In the context of The EPA Guidelines (2022), the significance of effects is categorised from imperceptible through to not significant, significant and profound with varying sub-categories.

18.2.1 Embedded Mitigation

Embedded mitigation includes design changes that were made to reduce or eliminate adverse effects, as well as normal good practice measures; these have avoided the majority of potentially significant effects. **Appendix 18.1** summarises mitigation measures for all technical assessment chapters.

The embedded mitigation measures applied to the Project, as outlined in **Chapter 2: Project Description** focus on integrating key design aspects to minimise environmental effects. These measures include:

- Distance to watercourses of at least 50m.
- Distance to land drains of at least 10m, where possible.
- Distance to recorded archaeological monuments and structures of at least 20m from the outer edges of all known and potential archaeological sites within the Site (professional judgement based on experience)
- Distance from turbines to inhabited houses of at least 500m for involved landowners and 680m for non-involved houses.
- Existing high voltage overhead powerlines on the south of the site where 2 x fall over distance buffer to wind turbines is applied.
- Avoidance of more sensitive habitats, e.g., hedgerows and watercourses.
- Consideration of the mapped flood event extents on Site.
- Minimising interaction with the existing industrial outflow pipeline passing through the Site from south to north.
- Setback distance of blade tip height plus 10% from turbines to the national road (N20).

18.2.2 Specific Mitigation Measures

In addition to mitigation proposed to address significant adverse effects (**Appendix 18.1**), certain chapters have also proposed further measures to reduce effects that were assessed as 'Not Significant' before mitigation.

Table 18.2 outlines interactions between environmental aspects. Technical assessments have assessed pathways, both direct and indirect that can magnify effects through the interaction or accumulation of effects. Effects have been cross-referenced between chapter topics. An outline of potential interactions between chapters/topics is presented in **Table 18.1**.

Table 18.1: Summary matrix of Interactions of Effects during Construction, Operational and Decommissioning Phases (Source: Adapted from EIAR Guidelines, 2022)

	Population & Human Health		Planning Policy		Biodiversity		Aquatic Ecology		Ornithology		Soils & Geology		Hydrology and Hydrogeology		Noise		Landscape & Visual		Material Assets		Cultural Heritage		Traffic & Transportation		Shadow Flicker		Air And Climate	
	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper	Const & Decom	Oper
Population & Human Health																												
Planning Policy																												
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Noise																												
Landscape & Visual																												
Material Assets																												
Cultural Heritage																												
Traffic & Transportation																												
Shadow Flicker																												
Air & Climate																												

Note: Const. = Construction phase; Oper = Operational phase Decom. = Decommissioning

Interaction or inter-relationship

No interaction or inter-relationship

Table 18.2: Interactions & Inter-relationships between Environmental Aspects of the Development

Interaction	Description
Population and Human Health & Hydrology and Hydrogeology	Potential effects on water supply and recreational fisheries, particularly from flood risk and contamination, have been assessed in **Chapter 10: Hydrology and Hydrogeology**. These risks are considered to be Not Significant, in line with mitigation measures. The Project will implement measures to avoid pollution of surface water and groundwater, ensuring that no adverse impacts occur on population and human health. The Construction Environmental Management Plan **(Appendix 2.1)** outlines the specific procedures and controls that will be in place to manage potential contamination during construction. From a cumulative perspective, no significant effects have been identified when the Project is considered alongside existing or proposed developments in the study area. Potential cumulative impacts, such as a reduction in water resources, are also assessed as Not Significant. Sediment and other potential contaminants from construction activities have the potential to affect downstream waterbodies and aquatic ecology. However, these risks will be minimised through a drainage design that incorporates water quality protection, using assimilative capacity in receiving waterbodies as a final safeguard. Additionally, any contaminants will be removed during the abstraction and treatment of drinking water, ensuring public safety. An assessment of private wells within 1km of the Site was completed, in which a number of private dwelling houses were identified along the local roads in the lands surrounding the Site. However, given the significant distances which exist between local dwellings and proposed infrastructure locations, local topography and prevailing groundwater flow directions, there is no potential for effects on groundwater well supplies. Furthermore, there are no dwellings within 500m of any proposed turbine locations. Further details on the hydrological and hydrogeological assessments, along with proposed mitigation measures, are provided in **Chapter 9: Soils and Geology and Chapter 10: Hydrology and Hydrogeology**, and in **Appendix 2.1** of this EIAR.
Population and Human Health & Noise and Vibration	No Significant noise effects on population and human health receptors are anticipated during the construction, operation, or decommissioning phases of the project. As a result, no specific noise mitigation measures are required. However, general good practice for construction noise control, as set out in BS 5228, will be followed. Construction and decommissioning activities will be limited to the working hours defined in BS 5228 and any additional conditions specified in the relevant planning permissions. The cumulative effects assessment confirms that the project, when considered in combination with other existing or proposed developments in the study area, will not result in significant cumulative noise effects on population and human health receptors.
Population and Human Health & Landscape and Visual Assessment	The construction phase of the Project will see a temporary introduction of machinery and the erection of nine turbines into a natural but already modified landscape. **Chapter 12: Landscape and Visual Assessment** assessed the landscape effects, the visual effects and the cumulative effects of the Project, including assessment from recreational scenic viewpoints, and was also informed by the findings of the Assessment. The interactions between the environmental aspects were carefully considered in the EIAR, particularly in the design of the turbine layout. Detailed zone

Interaction	Description
	of theoretical visibility maps (ZTVs), route screening analysis and photomontages were prepared to assess the level of impact. Based on the findings of the collective assessments it is considered that the Project will not give rise to any significant effects, either singly or in combination. Tourists to Ireland have become accustomed to the vision of turbines on the landscape and given the scenario where more windfarms will be built in Ireland in the future, the most widely held view is that this will not impact their likelihood to visit the area again, as discussed in **Chapter 5: Population and Human Health**.
Population and Human Health & Material Assets and Other Issues: 1. Shadow Flicker 2. Air Navigation 3. Telecommunications 4. Socio-economic	The Project is expected to provide opportunities for local suppliers during the construction phase, representing a minor beneficial effect. The Developer is committed to securing positive outcomes for the local and regional economy by prioritising the engagement of local labour, manufacturers, and suppliers wherever feasible. Operating wind farms can pose potential risks to aviation, particularly where turbine blade movement may interfere with radar operations, or where the physical height of turbines could obstruct flight paths or affect the performance of communications, navigation, and surveillance equipment. Structures over 150m in height are required to have aviation warning lighting. The Project has been designed in compliance with Irish Aviation Authority (IAA) Safety Regulations and ICAO Annex 15. The following measures will be implemented: Installation of aeronautical obstacle warning lights as specified by the IAA. Provision of precise ground and tip height coordinates for each turbine location. Notification to the IAA of the intention to commence crane operations at least 30 days in advance of erection. Pre-construction consultation with both the IAA and Irish Air Corps (IAC) to agree on lighting specifications. As a result of these measures, no significant impacts on human beings or air navigation are predicted. Wind turbines may interfere with electromagnetic signals both above and below ground. During the operational phase, overground signals such as microwave and telecommunication links could potentially be affected due to the scale and movement of turbines. During construction and decommissioning, underground infrastructure, including business radio, fibre cables, and communication lines, may be temporarily affected. To mitigate these risks, potential electromagnetic and telecommunication effects were addressed during the design phase through: Avoidance of known telecommunication link routes, with buffer zones applied. Consultation with stakeholders during the EIA scoping stage. Scoping Feedback: RTÉ (2rn) confirmed that there are no fixed links in the area that would be affected. However, they identified a risk of interference to broadcast services and requested a Protocol Agreement with the Developer should the project proceed. Virgin Media noted the presence of critical fibre cabling in the area and requested follow-up once final drawings are completed. The Developer has committed to engaging with both stakeholders and will enter into the required protocol agreements to mitigate any residual risks. All electrical systems and components will comply with the EMC Directive 2014/30/EU, ensuring that electromagnetic emissions do not interfere with other equipment.

Interaction	Description
	Electromagnetic fields (EMFs) generated by construction tools, the Grid Connection Route (GCR), and substation infrastructure will be highly localised. EMF-related effects are considered imperceptible, adverse, and short-term during construction and decommissioning phases. During operation, effects are considered imperceptible, adverse, and long-term. Given that only effects of "Significant" or greater are considered significant under the EIA Directive, the potential effects of the Development as a result of EMFs are considered Not Significant. The Shadow Flicker assessment, found in **Chapter 14: Shadow Flicker**, has identified the potential for shadow flicker to affect 73 out of 113 sensitive receptors within the shadow flicker Study Area. Of these, 40 sensitive receptors exceed 30 minutes within 24 hours according to the Worst-Case Scenario under the 2006 Guidelines, with 5 sensitive receptors also surpassing 30 hours of shadow flicker per year in the 'real case' scenario. It is proposed that a shadow control system be installed to mitigate the potential for adverse shadow flicker from the Project. This assessment has identified that by installing a blade shadow control system on the proposed turbines, there will be no significant direct or indirect effects. Given that only effects of significant impact or greater are considered "significant" in terms of the EIA Directive the potential effects of the Project as a result of shadow flicker, when mitigated, are considered to be **not significant**. The Project has been assessed as having the potential to result in **adverse, imperceptible, long-term effects** overall with regards to shadow flicker. There are no predicted cumulative effects. No significant impacts are anticipated in relation to human health, telecommunications, or air navigation due to the Project.
Population and Human Health & Cultural Heritage	Potential impacts on cultural heritage assets and tourism have been carefully assessed in **Chapter 15: Archaeology and Cultural Heritage**. The assessment concludes that no significant effects are anticipated, ensuring that the Project will not result in substantial impacts on tourism or the cultural heritage of the area. Within a 2km radius of the Site, there are: • 53 recorded archaeological sites • 7 potential archaeological sites • 2 protected structures • 5 structures listed in the National Inventory of Architectural Heritage (NIAH) In addition, there are six National Monuments in State Care located within 10km of the Site. None of these are within 3.9km of the Site boundary, and four are situated in Kilmallock town, approximately 6.4km to the East. To protect archaeological features during construction, buffer zones of 20m will be established around all known and potential archaeological sites within the Site boundary. These areas will be securely cordoned off with fencing and clearly marked as 'No Entry Areas' for the duration of construction. Archaeological mitigation will follow established licensing protocols overseen by the National Monuments Service (NMS). These include: • Submission of detailed method statements outlining proposed strategies for all site investigations, subject to approval by the NMS as part of the licence application process. • Compilation of detailed reports on all archaeological investigations, including written descriptions, drawings, and photographic records. These reports will be submitted to the National Monuments Service, the Planning Authority, and the National Museum of Ireland, ensuring full transparency and compliance with regulatory requirements.

Interaction	Description
Population and Human Health & Air Quality and Climate	Potential effects on air quality during the construction and decommissioning phases of the Project may arise from dust emissions associated with onsite activities and increased traffic-related exhaust emissions. These interactions were assessed as part of the Environmental Impact Assessment Report (EIAR), and no significant effects were predicted. Appropriate mitigation measures will be implemented to further reduce potential impacts. While there may be small, localised increases in emissions during construction, particularly during peak activity periods from months 2 to 10, when up to 45 daily HGV deliveries and 120 additional concrete pour deliveries (on nine separate days) are expected, these will result in Slight, Adverse, and Short-term effects only. Traffic-related impacts, as outlined in **Chapter 17: Traffic and Transport,** include approximately 7,965 HGV delivery and removal loads over the construction period, mainly concentrated in the first six months for the construction of access tracks, turbine foundations, and associated infrastructure. With mitigation in place, no significant direct or indirect effects on air quality are anticipated during the construction or decommissioning phases. Ambient air quality in the region is currently within acceptable limits. The nearest National Ambient Air Quality Monitoring Station is located in Mallow, Co. Cork, approximately 27.8 km south-east of the Site. Monitoring data from 2023 indicate that while WHO guideline values for PM2.5 were exceeded on eight occasions, and the annual mean slightly exceeded the WHO guideline (6.1 µg/m³ vs. 5 µg/m³), all parameters remain below the limit values set out in Directive 2008/50/EC. During the operational phase, the Development will contribute to offsetting greenhouse gas emissions by replacing fossil fuel-based electricity generation with renewable energy. This will have a net positive effect on climate and, in turn, will likely reduce adverse effects of climate change on human health and wellbeing. The cumulative effect of the Development, in combination with other renewable energy developments in Ireland, represents a fundamental shift in the climate impacts of the national energy supply. This is considered a **Significant positive effect** under the EIA Regulations and contributes meaningfully to Ireland's binding greenhouse gas emission reduction targets. In summary, the Project is not expected to give rise to any significant adverse effects on air quality during its construction, operation, or decommissioning phases. On the contrary, it will have a **Significant** beneficial impact on climate over its operational lifetime.
Population and Human Health & Traffic and Transport	The construction and decommissioning phases of the Project will involve the movement of abnormal loads, which may result in short-term inconvenience for road users. To minimise disruption and ensure safe, efficient coordination of transport activities, a comprehensive Traffic Management Plan (TMP) will be implemented. As detailed in **Chapter 17: Traffic and Transport**, approximately 7,965 HGV deliveries and removals are expected over the course of Construction, with the majority occurring in the first six months during the development of access tracks, turbine foundations, and associated infrastructure. With mitigation measures in place, no significant direct or indirect effects on air quality are anticipated during either the construction or decommissioning phases. Measures to manage dust emissions and other potential nuisances—including road safety protocols, are also outlined in **Chapter 17,** and **Appendix 18.1**, ensuring impacts on nearby communities and the environment remain minimal. From a cumulative impact perspective, no significant effects are anticipated from construction traffic associated with the Project in combination with other regional developments, such as Garrane Green Energy Project.

Interaction	Description
	Overall, the potential impacts on population and human health related to traffic and transport are assessed as **short-term**, of **low magnitude**, and therefore **Not Significant.**
Biodiversity	All interactions for any habitat or species including those associated with Special Protection Areas (SPA) or Special Areas of Conservation (SAC) are considered in the Natura Impact Statement and not considered further here.
Biodiversity & Soils and Geology	Potential impacts on biodiversity during the construction and decommissioning phases may include disturbance to birds and mammals resulting from habitat loss or alteration. Several sensitive habitat types could be affected, none of which are Annex I. These include: • Treelines (WL2) • Hedgerows – largely intact (WL1) • Wet Grassland (GS4) • Neutral Grassland (GS1) • Improved (Agricultural) Grassland (GA1) • Hedgerows- intermittent (WL1) • Bareground Unpaved Tracks (ED2) • Main Drainage Channels (FW4) • Depositing / Lowland Rivers (FW2) Wherever possible, impacts will be avoided or minimised through careful planning and construction practices. In addition, habitat restoration and enhancement measures will be implemented in line with the Biodiversity Enhancement Management Plan (**Appendix 6.2**), supporting the long-term protection and recovery of affected areas.
Biodiversity & Hydrology and Hydrogeology	Potential contamination of surface water and groundwater could arise from various elements of the Project, including wastewater sanitation, hydrocarbon spills, construction of watercourse crossings, and the entrainment of suspended solids during earthworks. Other sources of contamination may include increased pollutant transport due to local stability issues. Such contamination could adversely affect water quality, impacting flora and fauna, including fisheries, otters, lizards, amphibians (e.g., loss of breeding ponds), and other sensitive species. The mitigation proposed to maintain water quality in the watercourses which drain the area of the Project are detailed in **Chapter 6: Biodiversity**, **Chapter 7: Aquatic Ecology,** in **Chapter 10: Hydrology and Hydrogeology**, and in **Appendix 2.1**: **CEMP**. These interactions have been thoroughly considered in the Environmental Impact Assessment Report (EIAR). Mitigation measures outlined in **Chapter 10: Hydrology and Hydrogeology** will be implemented to reduce potential effects on biodiversity receptors. With these measures in place, the significance of impacts on water quality and associated ecosystems will be minimised to a **low** or **negligible** level.
Aquatic Ecology & Hydrology and Hydrogeology	There is a potential for fisheries to be affected by a disturbance or contamination of watercourses during the construction period if the stated mitigation measures are not adhered to. However, the mitigation measures to protect watercourses outlined in **Chapter 7: Aquatic Ecology**, **Chapter 9: Soils and Geology** and **Chapter 10: Hydrology and Hydrogeology** will be strictly adhered to which includes monitoring of Site water run-off during all phases of the Project.
Soils and Geology & Hydrology and Hydrogeology	During the design phase, the EIA team adopted a "mitigation by avoidance" strategy to minimise potential impacts on the site's hydrogeological balance. This approach focused on optimising the layout of turbines and associated infrastructure to reduce the volume of earth materials requiring excavation. To further limit disturbance, best practice measures will be applied throughout construction, including proactive planning and real-time monitoring in sensitive areas,

Interaction	Description
	particularly those with peat depths exceeding 1 metre. These efforts aim to mitigate ground disturbance during excavation and maintain site stability. Direct impacts on geological attributes and soil properties are expected to be localised, mainly limited to soil excavation, storage, and reuse as backfill. However, indirect impacts, such as the mobilisation of contaminants via water runoff—have the potential to affect ecological and hydrological receptors. These potential effects were carefully assessed in the Environmental Impact Assessment Report (EIAR). Appropriate mitigation measures, as outlined in **Chapter 9: Soils and Geology**, have been developed to: • Minimise the risk of ground instability • Prevent contamination spread • Protect local hydrology and hydrogeology Through the implementation of these measures, any impacts on hydrological and hydrogeological receptors are expected to be negligible. The final project layout reflects a careful balance between engineering requirements and the need to preserve the site's geotechnical and hydrological integrity, while also avoiding other environmental and ecological sensitivities.
Soils and Geology & Landscape and Visual Assessment	The primary mitigation strategy has been the careful siting of wind turbines, access tracks, material storage areas, and other infrastructure on agriculturally improved lands, where soils are already extensively worked and drained. These areas are also remote from residential and sensitive commercial properties, minimising potential conflicts and environmental effects. The total land-take of the Project is as follows: • 11.256Ha (7.1% of total Site 158.75Ha) – Construction Phase (all infrastructure excluding cabling) • 5.095Ha (3.2% of total Site 158.75Ha) – Operational phase (new Access Tracks, reduced hardstands, Substation, Met Mast, Permanent Spoil Area and Met Mast) • 1.598 Ha (1.0% of total Site 158.75Ha) – Decommissioning Phase (new Access Tracks and Substation) Given the total landholding, the vast majority of the site will remain unaffected or be reinstated post-construction. To minimise soil disturbance, exposed ground and soil stockpiles will be kept to a minimum, and any stockpiles left for an extended period will be allowed to revegetate naturally as part of the landscaping and erosion control strategy. While the construction of the Wind Farm represents a long-term alteration to the current agricultural use, the Project has a finite lifespan of approximately 35 years. Following decommissioning, the land will be restored to agricultural use with the exception of the substation and Grid Connection. Although there will be a temporary commercial impact due to the loss of farmable land during construction, much of this area will be reinstated for grazing or low-impact agricultural use during the operational phase. Some small areas beyond the primary infrastructure footprint may be temporarily affected for drainage, storage, or levelling, but these will also be restored post-construction. Overall, the interrelationship between Soils and Geology and Landscape and Visual impacts has been assessed, and no likely significant effects are anticipated.
Soils and Geology	The construction and decommissioning phases of the Project will involve significant ground disturbance and topsoil removal across the project footprint. While no direct

Interaction	Description
& Archaeology and Cultural Heritage & Landscape and Visual Assessment	adverse impacts are anticipated on known archaeological sites, protected structures, or undesignated cultural heritage features, there remains the potential for the discovery of previously unrecorded sub-surface archaeological remains during earthworks. These potential interactions have been thoroughly assessed in **Chapter 15: Archaeology and Cultural Heritage** of the Environmental Impact Assessment Report (EIAR), which informed the turbine layout design and the development of appropriate mitigation measures. Within a 2km radius of the site, the following heritage assets have been identified: • 53 recorded archaeological sites • 7 potential archaeological sites • 2 protected structures • 5 structures listed on the National Inventory of Architectural Heritage (NIAH) In addition, six National Monuments in State Care are located within 10km of the site boundary, including: • Four medieval buildings in Kilmallock town (6.4km east) • A 19th-century cottage (childhood home of Éamon de Valera) in Knockmore (3.9km north) • A medieval church in Ardskeagh townland (6.5km south) Although no recorded Mesolithic or Neolithic sites are present within the 2km Study Area, several later prehistoric features are found in the vicinity, contributing to the region's archaeological landscape. These include: • 5 ringforts • 3 barrows • 2 fulachtaí fia (one excavated) • 1 hillfort • 6 ring-ditches There are no UNESCO World Heritage Sites or sites on Ireland's 2022 Tentative List located within 20km of the Site. The nearest such sites are: • Brú na Bóinne, Co. Meath • Sceilg Mhichíl, Co. Kerry Given this distance, no significant visual or landscape impacts on internationally designated heritage assets are anticipated. In terms of regional visual sensitivities, a review of the Cork County Development Plan identified one scenic route within the 20km Study Area: • S13 'Kilfinnan - Shanballymore Road', noted for views of the Ballyhoura Mountains and the Awbeg Valley. This route lies entirely outside the Zone of Theoretical Visibility (ZTV) for the Project and is therefore not considered relevant in visual impact terms. Although no direct impacts on known archaeological features are expected, the possibility of encountering unknown sub-surface remains. To manage this: Archaeological monitoring, including a watching brief, will be carried out in previously undisturbed areas. If archaeological material is uncovered, it will be cleaned, recorded, and preserved in situ within clearly demarcated 'no-go' zones. The National Monuments Service will be notified, and mitigation strategies, such as preservation by record (excavation) or preservation in situ (avoidance),will be implemented as appropriate.

Interaction	Description
	All findings will be fully documented and reported to the National Monuments Service, the National Museum of Ireland, and the Planning Authority. During the operational phase, no significant or likely direct impacts on cultural heritage are anticipated. Additionally, the interrelationships between Soils and Geology, Cultural Heritage, and Landscape and Visual receptors have been assessed and found to result in no likely significant effects.
Noise and Vibration & Traffic and Transportation	Traffic and Transportation will create noise onsite and along the site Access Tracks. Site contractors will be required to employ the best practicable means of reducing noise emissions from plant, machinery and activities, as advocated in BS 5228. Such potential effects are considered to be not significant.
Landscape and Visual Assessment & Material Assets and Other Issues	**Land Use** Implementation of the mitigation measures, outlined at the design stage will ensure that residual effects on agricultural land use will be **slight adverse** and **temporary** for the duration of the construction and **negligible** for the operational lifespan of the Project. For decommissioning phase, the residual effect will be slight adverse and temporary for the duration of the phase. All existing access points (i.e., to domestic premises, business, farms) are accessible during temporary road closures and diversions. This is to maintain local access and avoid effects on other various land uses. **Chapter 17: Traffic and Transportation** refers to all proposed temporary works and deliveries along the TDR to avoid undue effect to adjacent land uses. This is also considered for the decommissioning phase for which traffic will be required along the Construction Haul Route. During the operational phase of the Project, the TDR will no longer be needed except in such cases where a blade or other component may be required to be replaced. The turbine delivery and maintenance requirements process are further detailed in **Chapter 2: Project Description**. For the decommissioning phase, the TDR will no longer be needed. This is further detailed in **Chapter 2: Project Description**. Thus, the residual effect on surrounding agricultural land uses is slight during construction and decommissioning and negligible during the operational phase and will therefore not be significant. Due to the localised nature of the proposed construction, decommissioning works, there is no potential for significant cumulative effects in-combination with other local developments on the agricultural land use as all effects are directly within the Site. Other projects outside the Site do not have the potential to reduce or increase the magnitude of effects of the Project on agricultural land use within the Site. Therefore, this will not contribute to any significant cumulative effects during the construction, decommissioning or operational phases. Land management practices in the wider area which are considered to have potential for cumulative effects with the Project are primarily agriculture. All existing and approved projects in **Table 2.2**, **Chapter 2: Project Description** were considered. There are numerous developments within 10km which are of considerable size, such as the proposed M20 Motorway, roundabout at O' Rourke's Cross, two solar farm developments, located 3.8km north, 8.7km southwest respectively and a 56 - unit residential development located 3.9km south. Other developments in the area are generally for change of use of existing buildings and the construction of a recreational 'Astro Turf' football pitch. On the TDR, the most significant proposed development is the proposed Foynes to Limerick Road (which includes the Adare bypass). The closest wind farm is the operational Rathnacally Wind Farm located to the south of the Site. The distance between the Redline Boundary and the closest Rathnacally turbine is 5.9km.

Interaction	Description
	The distance between the closest proposed turbines at each site (the Site and Annagh Wind Farm) is 8.6km South. Surrounding agricultural activities can and will continue during the construction, operational and decommissioning phases of the Project when fencing around the Site has been fully established. No significant effects are predicted on agricultural land use within or outside of the Site. **Telecommunications** There is no likely significant effect associated with the interaction of telecommunications and the landscape. **Electricity Network** There are no likely significant effects associated with the interaction of the electricity network and the landscape. **Air Navigation** The Irish Aviation Authority (IAA) has outlined criteria regarding tall structures and the installation of an aeronautical obstacle warning light scheme for the Development. This has been addressed in **Chapter 16: Material Assets and Other Issues.** No significant effects are predicted in terms of air navigation. In adherence to IAA Safety Regulations and International Civil Aviation Organisation, ICAO Annex 15, aeronautical obstacle warning light schemes will be installed as requested by IAA. Co-ordinates of ground and tip height elevations at each wind turbine location as constructed will be provided to the IAA. IAA will be notified of the provision of the intention to commence crane operations within a minimum of 30 days prior to erection. The potential effects of the Project on air navigation are considered not significant. There are no likely significant effects associated with the interaction of air navigation and the landscape. **Quarries** No significant adverse effects on local quarries are anticipated. There will be a slight, permanent, adverse residual effect on natural resources in the area from the construction phase. There will be no impacts during either the operational or decommissioning phases. This effect is considered to be imperceptible in the long-term and therefore not significant. The quarries used will be well established and therefore, there are no likely significant effects associated with the interaction of the use of quarries as a source for raw materials and the landscape. **Utilities** There are no likely significant effects associated with the interaction of water infrastructure; or waste and the landscape.
Traffic and Transport & Biodiversity (Fisheries)	Traffic and transportation activities associated with the Construction phase will result in increased noise levels both onsite and along site Access Toads. However, Site contractors will be required to implement best practicable means to reduce noise emissions from plant, machinery, and construction activities, in accordance with BS 5228 guidelines. With these controls in place, potential noise effects are assessed as Not Significant. Additionally, increased vehicle movements during construction could cause disturbance to soil and lead to sedimentation or pollution of nearby watercourses. These potential interactions were thoroughly assessed in the Environmental Impact Assessment Report (EIAR). Mitigation measures have been incorporated into the Project design, including sediment control measures and appropriate drainage systems.

Interaction	Description
	Following this assessment, no significant residual effects on fisheries or water quality arising from traffic and transport activities have been identified.