21. SUMMARY OF EFFECTS

The following section summarises the significant effects for the proposed project.

21.1 POPULATION AND HUMAN HEALTH

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Construction Phase				
Construction Traffic	Local residents, road users, community facilities	Moderate (Not Significant in EIA Terms)	- Implementation of a Traffic Management Plan and Construction Traffic Management Plan (see Section 5.8.2); Delivery scheduling and traffic control measures (see Section 5.8.2); Communication with local communities regarding abnormal load deliveries (see Section 5.8.2).	Slight (Not Significant in EIA Terms)
Construction Noise	Nearby residential properties	Moderate (Not Significant in EIA Terms)	- Best practice construction techniques and adherence to permitted working hours (see Section 5.8.2); Use of appropriately maintained plant and equipment (see Section 5.8.2); Noise management measures incorporated within the CEMP (see Section 5.8.2).	Slight (Not Significant in EIA Terms)
Dust and Air Quality Effects	Local residents and road users	Slight (Not Significant in EIA Terms)	- Dust suppression measures including water spraying, road cleaning and stockpile management (see Section 5.8.2);	Imperceptible (Not Significant in EIA Terms)

			Air quality and dust controls incorporated within the CEMP (see Section 5.8.2).	
Temporary Disturbance to Residential Amenity	Local residents	Moderate (Not Significant in EIA Terms)	- Application of all environmental management measures identified within the CEMP (see Section 5.8.2); Community liaison procedures during construction (see Section 5.8.2).	Slight (Not Significant in EIA Terms)
Employment and Local Expenditure	Local economy, businesses and workforce	Moderate Beneficial	No additional mitigation required.	Moderate Beneficial
Operational Phase				
Operational Noise	Nearby residential properties	Moderate (Not Significant in EIA Terms)	- Wind farm layout designed to comply with applicable noise limits (see Section 5.8.3); Operational noise monitoring and management procedures where required (see Section 5.8.3).	Slight (Not Significant in EIA Terms)
Shadow Flicker	Nearby residential properties	Moderate (Not Significant in EIA Terms)	- Turbine siting and setback distances incorporated into project design (see Section 5.8.3); Shadow flicker management measures where required (see Section 5.8.3).	Imperceptible (Not Significant in EIA Terms)
Effects on Residential Amenity	Local residents	Slight (Not Significant in EIA Terms)	- Compliance with design standards, setback distances and operational controls (see Section 5.8.3).	Slight (Not Significant in EIA Terms)
Community Benefit Fund and Near Neighbour Scheme	Local communities	Significant Beneficial	No additional mitigation required.	Significant Beneficial

Renewable Energy Generation and Climate Change Benefits	Local, regional and national population	Significant Beneficial	No additional mitigation required.	Significant Beneficial
Operation and Maintenance Employment	Local economy and workforce	Slight Beneficial	No additional mitigation required.	Slight Beneficial
Decommissioning Phase				
Traffic, Noise, Dust and Temporary Amenity Effects	Local residents and road users	Moderate (Not Significant in EIA Terms)	-Decommissioning Environmental Management Plan incorporating measures applied during construction (see Section 5.8.4); Traffic, noise and dust control measures (see Section 5.8.4).	Slight (Not Significant in EIA Terms)

21.2 BIODIVERSITY

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Habitat Loss and Degradation	Habitats	Significant	• Habitats of Local (Higher) Importance, including hedgerows and treelines will be replaced (see Appendix 6-6); • Measures to reinstate Annex I habitat and/or improve the condition of retained areas (see Appendix 6-6);	Short-term Significant effect at local or county/regional scale; Long-term beneficial effect, likely significant following habitat reinstatement and restoration of habitat condition

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
			• Pre-construction arboricultural assessment and tree protection measures for retained trees and shrubs (see Section 6.7.1.2)	
	Badger	Minor (Not Significant)	• Pre-construction surveys to identify /resolve any new breeding or resting habitat within defined disturbance distances (see Section 6.7.1.3)	Minor (Not Significant)
	Other Mammals (Irish hare, hedgehog, pygmy shrew)	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
	Amphibians & Reptiles	Significant	• Pre-construction surveys to confirm habitat use and inform appropriate buffers and timing restrictions are applied (see Section 6.7.1.4)	Negligible (Not Significant)
	Invertebrates (Lepidoptera)	Minor (Not Significant)	• Measures to reinstate and restore habitat condition will benefit invertebrate communities;	Negligible (Not Significant)
	Bats	Minor (Not Significant)	• Retention and protection of commuting and foraging features. • In-situ protection of confirmed roost and associated habitat. • Construction-phase exclusion buffers around sensitive bat features. • Construction management measures secured through the CEMP. (see Section 6.7.1.5, Appendix 2-3 and Appendix 6-6)	Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Spread of Invasive Species	Habitats (incl. Designated Sites)	Significant	• Implementation of invasive species prevention and management measures in accordance with the HMP (see Appendix 6-6) and CEMP (see Appendix 2-3); • All material supply sources will be subject to appropriate checks so that they do not act as a source of invasive non-native species; • All footwear, waders, plant and equipment entering watercourses or other hydrologically connected habitats will be subject to appropriate biosecurity measures before and after use to prevent the introduction and spread of invasive species (see Section 6.7.1.6)	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
Dust Deposition	Designated Sites	Significant	• Implementation of dust control measures in accordance with Chapter 14, including dust suppression, covered stockpiles, wheel washing, vehicle speed restrictions and ongoing site inspections, to minimise dust deposition (see Sections 6.7.1.1 and 6.7.1.2)	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
	Habitats	Significant		
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Significant	• Best practice measures will be in place to minimise any pollution or contamination risk to surface water and groundwater (see Section 6.7.1.1, Appendix 2-3 and Appendix 2-6)	Refer to the NIS for conclusions relating to European Sites; Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Habitats	Negligible (Not Significant)	• Best practice measures will be in place to avoid any pollution or contamination risk to surface water and groundwater (see Section 6.7.1.1, Appendix 2-3 and Appendix 2-6)	Negligible (Not Significant)
	Otter	Significant	• Best practice measures will be in place to avoid any pollution or contamination risk to surface water and groundwater (see Section 6.7.1.1, Appendix 2-3 and Appendix 2-6)	Minor (Not Significant)
	Amphibians	Significant	• Best practice measures will be in place to avoid any pollution or contamination risk to surface water and groundwater (see Section 6.7.1.1, Appendix 2-3 and Appendix 2-6)	Negligible (Not Significant)
	Aquatic Ecology	Significant	• Best practice measures will be in place to avoid any pollution or contamination risk to surface water and groundwater (see Section 6.7.1.1, Appendix 2-3 and Appendix 2-6)	Minor (Not Significant)
Disturbance and Displacement	Badger	Significant	• Pre-construction badger surveys and monitoring, with appropriate buffers maintained around active setts and additional controls applied where blasting is required, including seasonal restrictions, daylight-only blasting and sett activity monitoring; • Restriction of works to daylight hours where practicable, sensitive lighting design during any night works, and provision of escape ramps in	Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
			open excavations to minimise disturbance and prevent accidental entrapment of badger (see Section 6.7.1.3)	
	Otter	Significant	• Pre-construction otter surveys at watercourse crossings, with avoidance measures implemented where required; • Restriction of night-time works and directional, low-spill lighting to minimise disturbance to commuting and foraging otter (see Section 6.7.1.3)	Minor (Not Significant)
	Pine Marten	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
	Other Mammals (Irish hare, hedgehog, pygmy shrew)	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
	Common Lizard	Significant	• Pre-construction checks of suitable reptile habitat, retention of refugia and timing of vegetation clearance to minimise disturbance and accidental mortality of common lizard (see Section 6.7.1.4).	Negligible (Not Significant)
	Bats	Minor (Not Significant)	• Retention and protection of confirmed roost, including implementation of exclusion buffers and avoidance of construction encroachment; • Use of sensitive lighting design, timing restrictions and ecological supervision, where required, to	Negligible (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
			minimise disturbance to roosting bats and associated commuting features (see Section 6.7.1.5)	
Risk of Death	Other Mammals (Irish hare, hedgehog, pygmy shrew)	Significant	• Provision of escape ramps, regular inspection of excavations and minimisation of open excavation durations to prevent accidental entrapment of mammals (see Section 6.7.1.3)	Minor (Not Significant)
	Common Lizard	Significant	• Pre-construction checks of suitable reptile habitat, retention of refugia, where practicable, and timing of vegetation clearance to minimise disturbance and accidental mortality of common lizard (see Section 6.7.1.4)	Negligible (Not Significant)
Operational Phase				
Dust Deposition	Habitats	Imperceptible (Not Significant)	• No specific mitigation required	Imperceptible (Not Significant)
Disturbance and Displacement	Badger	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
	Otter	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
	Other Mammals (Irish hare, hedgehog, pygmy shrew)	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Common Lizard	Minor (Not Significant)	• No specific mitigation required	Minor (Not Significant)
Collision Risk and Barotrauma	Leisler's Bat	Significant	• Targeted, turbine-specific operational curtailment informed by baseline activity data (see Section 6.7.2.4); • Sensitive operational lighting design; • Implementation of HMP (see Appendix 6-6). Maintenance of bat commuting and foraging connectivity through retained and enhanced linear features.	Minor (Not Significant)
	Other Bat Species	Minor to Moderate (Not Significant)	• No mitigation required. However, operational curtailment and sensitive lighting measures will provide additional protection for other bat species by reducing collision risk and disturbance.	Minor (Not Significant)
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Minor (Not Significant)	• In addition to embedded mitigation, standard operational procedures will be implemented to manage day-to-day activities	Refer to the NIS for conclusions relating to European Sites; Minor (Not Significant)
	Otter	Minor (Not Significant)	• In addition to embedded mitigation, standard operational procedures will be implemented to manage day-to-day activities	Minor (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Amphibians	Minor (Not Significant)	• In addition to embedded mitigation, standard operational procedures will be implemented to manage day-to-day activities	Minor (Not Significant in EIA Terms)
	Aquatic Ecology	Minor (Not Significant)	• In addition to embedded mitigation, standard operational procedures will be implemented to manage day-to-day activities	Minor (Not Significant in EIA Terms)
Decommissioning Phase				
Habitat Loss and Degradation	Habitats	Significant	• As per construction phase	Negligible (Not Significant)
	Badger	Minor (Not Significant)	• As per construction phase	Minor (Not Significant)
Dust Deposition	Designated Sites	Significant	• As per construction phase	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
	Habitats	**Significant**		
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Significant	• Decommissioning water quality protection and pollution prevention measures, as per construction phase, where relevant.	Refer to the NIS for conclusions relating to European Sites; Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Otter	Significant	• Decommissioning water quality protection and pollution prevention measures, as per construction phase, where relevant.	Minor (Not Significant)
	Amphibians	Significant	• Decommissioning water quality protection and pollution prevention measures, as per construction phase, where relevant.	Negligible (Not Significant)
	Aquatic Ecology	Significant	• Decommissioning water quality protection and pollution prevention measures, as per construction phase, where relevant.	Minor (Not Significant)
Disturbance and Displacement	Badger	Significant	• As per construction phase	Minor (Not Significant)
	Otter	Significant	• As per construction phase	Minor (Not Significant)
	Pine Marten	Minor (Not Significant)	• No mitigation required	Minor (Not Significant)
	Other Mammals (Irish hare, hedgehog, pygmy shrew)	Minor (Not Significant)	• No mitigation required	Minor (Not Significant)
	Common Lizard	Significant	• As per construction phase	Negligible (Not Significant)
	Bats	Minor (Not Significant)	• As per construction phase including, timing of works to avoid sensitive periods where practicable and use of sensitive lighting design.	Negligible (Not Significant); Long-term beneficial effect once restoration complete.

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
			• Reinstatement of affected areas in accordance with the agreed restoration strategy	

21.3 ORNITHOLOGY

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Negligible (Not Significant)	• Construction water quality protection and runoff control measures as set out in Chapter 6, as well as Appendix 2-3 and Appendix 2-6; • Avoidance of direct works within SPA	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
Disturbance and Displacement	Designated Sites (e.g., Rostaff pNHA)	Negligible to Minor (Not Significant)	• Construction phasing, defined working areas and habitat reinstatement (see Section 7.7.1)	Negligible to Minor (Not Significant)
	Waterbirds (geese, swans and ducks)	Negligible to Minor (Not Significant)	• Construction phasing, defined working areas and habitat reinstatement (see Section 7.7.1)	Negligible to Minor (Not Significant)
	Waders (e.g., curlew, lapwing, golden plover, snipe)	Negligible to Minor (Not Significant)	• Timing controls, construction phasing, defined working areas and habitat reinstatement (see Section 7.7.1)	Negligible to Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Gulls (black-headed, common, lesser and great black-backed)	Negligible (Not Significant)	• No specific mitigation required.	Negligible (Not Significant)
	Raptors (buzzard, kestrel, peregrine, hen harrier, sparrowhawk)	Negligible to Minor (Not Significant)	• Pre-construction breeding raptor surveys, species-specific nest protection buffers, construction phasing, and restrictions on blasting and other high-disturbance activities where required, following ECoW advice	Negligible to Minor (Not Significant)
	Other species (incl. swift)	Negligible (Not Significant)	• No specific mitigation required	Negligible (Not Significant)
Operational Phase				
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Negligible (Not Significant)	• In addition to embedded mitigation, standard operational procedures will be implemented to manage day-to-day activities	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
Avoidance and Collision Risk	Waterbirds (geese, swans and ducks)	Negligible (Not Significant)	• No specific mitigation required in addition to embedded design measures	Negligible (Not Significant)
	Waders (e.g., curlew, lapwing, golden plover, snipe)	Negligible (Not Significant)	• No specific mitigation required in addition to embedded design measures	Negligible (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Gulls (black-headed, common, lesser and great black-backed)	Negligible (Not Significant)	• No specific mitigation required in addition to embedded design measures	Negligible (Not Significant)
	Raptors (buzzard, kestrel, peregrine, hen harrier, sparrowhawk)	Negligible (Not Significant)	• No specific mitigation required in addition to embedded design measures	Negligible (Not Significant)
	Other species (incl. swift)	Negligible (Not Significant)	• No specific mitigation required	Negligible (Not Significant)
Decommissioning Phase				
Water Quality Deterioration and Hydrological Impacts	Designated Sites	Negligible (Not Significant)	• As per the decommissioning mitigation measures set out in Section 7.7.3 and, where relevant, the water quality protection measures described for the construction phase (see Chapter 6 and Chapter 9)	Refer to the NIS for conclusions relating to European Sites; Negligible (Not Significant)
Disturbance and Displacement	Designated Sites (e.g., Rostaff pNHA)	Negligible to Minor (Not Significant)	• As per the construction phase, where relevant, and the decommissioning mitigation measures set out in Section 7.7.3	Negligible to Minor (Not Significant)
	Waterbirds (geese, swans and ducks)	Negligible to Minor (Not Significant)	• As per the construction phase, where relevant, and the decommissioning mitigation measures set out in Section 7.7.3	Negligible to Minor (Not Significant)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Waders (e.g., curlew, lapwing, golden plover, snipe)	Negligible to Minor (Not Significant)	• As per the construction phase, where relevant, and the decommissioning mitigation measures set out in Section 7.7.3	Negligible to Minor (Not Significant)
	Gulls (black-headed, common, lesser and great black-backed)	Negligible (Not Significant)	• As per the construction phase, where relevant, and the decommissioning mitigation measures set out in Section 7.7.3	Negligible (Not Significant)
	Raptors (buzzard, kestrel, peregrine, hen harrier, sparrowhawk)	Negligible to Minor (Not Significant)	• As per the construction phase, where relevant, and the decommissioning mitigation measures set out in Section 7.7.3	Negligible to Minor (Not Significant)
	Other species (incl. swift)	Negligible (Not Significant)	• No specific mitigation required	Negligible (Not Significant)

21.4 LAND SOILS AND GEOLOGY

Construction Phase

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Land use change associated with turbines, hardstands, access tracks, compounds and borrow pit	Agricultural land	Adverse, Not Significant, Temporary and Permanent	Vegetation clearance limited to demarcated areas; disturbed ground reinstated following construction. (see Section 8.6.1.2).	Adverse, Not Significant, Long-term.

Potential contamination from fuels, oils, concrete and construction activities	Soils, subsoils and bedrock	Slight Adverse, Not Significant	Measures set out in the CEMP including bunded storage, spill management, oil interceptors and waste management. (see Section 8.6.1.3).	Slight Adverse, Not Significant, Short-term.
Excavation and reuse of material, including borrow pit development	Mineral/Aggregate Resources	Adverse, Not Significant	No additional mitigation required. (See Section 8.6.1.4).	Adverse, Not Significant, Permanent.
Soil stripping, excavation, compaction and erosion during construction	Soils and subsoils	Adverse, Not Significant	Soil management, reinstatement, reuse of excavated materials, borrow pit restoration and implementation of CEMP. (see Section 8.6.1.5).	Adverse, Not Significant, Permanent.
Encountering weathered limestone, karstified bedrock or localised geohazards	Geology, karst features and ground stability receptors	Slight Adverse, Not Significant	Karst Protocol, geotechnical supervision, grouting/stabilisation where required and piling protocol if required. (see Section 8.6.1.7).	Adverse, Not Significant, Long-term.
Effects on geological heritage features	Geological heritage sites	No Effect	No mitigation required. (see Section 8.6.1.1).	Not Significant.

Operational Phase

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Continued land take associated with operational infrastructure	Agricultural land	Imperceptible, Not Significant	No additional mitigation required. (see Section 8.6.2.2).	Imperceptible, Not Significant.
Potential contamination from turbine oils, transformer oils and maintenance activities	Soils, subsoils and bedrock	Imperceptible, Not Significant	Bunded storage, inspections and wastewater management. (see Section 8.6.2.3).	Imperceptible, Not Significant.

Demand for aggregate maintenance materials	Mineral/Aggregate Resources	Imperceptible, Not Significant	No additional mitigation required. (see Section 8.6.2.4).	Imperceptible, Not Significant.
Minor soil compaction and erosion from maintenance traffic	Soils and subsoils	Not Significant	No additional mitigation required. (see Section 8.6.2.5).	Not Significant.
Effects on karst, peat stability and ground stability	Geohazards	Imperceptible, Not Significant	Drainage inspection and monitoring. (see Section 8.6.2.6).	Imperceptible, Not Significant.
Effects on geological heritage	Geological heritage sites	No Effect	No mitigation required. (see Section 8.6.2.1).	Not Significant.

Decommissioning Phase

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Decommissioning-related land disturbance	Agricultural land	Adverse, Not Significant	Construction-phase mitigation measures and reinstatement measures applied. (see Section 8.6.3).	Imperceptible, Not Significant.
Potential contamination from decommissioning plant and fuel storage	Soils, subsoils and bedrock	Slight Adverse, Not Significant	Fuel management plan and construction-phase contamination controls. (see Section 8.6.3).	Slight, Not Significant, Short-term.
Effects on mineral and aggregate resources	Mineral/Aggregate Resources	Imperceptible, Not Significant	No additional mitigation required. (see Section 8.6.3).	Imperceptible, Not Significant.
Soil compaction and erosion during decommissioning works	Soils and subsoils	Not Significant	Construction-phase mitigation measures applied. (see Section 8.6.3).	Imperceptible, Not Significant.

Ground stability and geohazards	Geohazards	Imperceptible, Not Significant	Construction-phase mitigation measures applied. (see Section 8.6.3).	Imperceptible, Not Significant.
Effects on geological heritage	Geological heritage sites	No Effect	No mitigation required. (see Section 8.6.3).	Imperceptible, Not Significant.

21.5 HYDROLOGY AND HYDROGEOLOGY

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Construction Phase				
Alteration of Surface Water Flow	Surface waters, drainage network and downstream receptors	Slight Adverse (Not Significant)	• Surface Water Management Plan and SuDS measures (see Section 9.5.1); • Construction phase drainage controls and runoff management (see Section 9.6.1); Karst Management Protocol where required (see Section 9.6.1).	Imperceptible to Slight Adverse (Not Significant)
Alteration of Surface Water Quality through sediment release	Surface watercourses including the Black (Shrule) River, Shancloon and downstream receptors (L. Corrib)	Slight Adverse (Not Significant)	• Settlement ponds, interceptor drains and swales (see Section 9.5.1); • Pollution prevention measures and emergency response procedures (see Section 9.6.1); • Water quality monitoring (see Section 9.6.4).	Imperceptible (Not Significant)

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Accidental fuel, oil or concrete contamination	Surface water and groundwater receptors	Slight Adverse (Not Significant)	• Bunded storage, spill kits and designated refuelling areas (see Section 9.5.1); • Construction environmental controls (see Section 9.6.1).	Imperceptible (Not Significant)
Alteration of Groundwater Flow due to excavation and dewatering	Regionally Important Aquifer and groundwater receptors	Slight Adverse (Not Significant)	• Controlled dewatering and infiltration measures (see Section 9.6.1); • Groundwater monitoring (see Section 9.6.4).	Imperceptible (Not Significant)
Alteration of Groundwater Quality	Groundwater body, wells and groundwater-dependent receptors	Slight Adverse (Not Significant)	• Groundwater protection measures and treatment of dewatering discharges (see Section 9.6.1); • Silt control measures and SuDS (see Section 9.5.1).	Imperceptible (Not Significant)
Watercourse Crossing Works (GCR)	Shancloon Stream, Black River and downstream receptors	Slight Adverse (Not Significant)	• HDD crossing of Black River and controlled culvert crossing of Shancloon Stream (see Section 9.6.1); • Instream protection measures and fisheries timing restrictions Shancloon stream (see Section 9.6.1).	Imperceptible to Slight Adverse (Not Significant)
Operational Phase				
Alteration of Surface Water Flow	Surface water receptors and drainage network	Not Significant Adverse	• Long-term operation of SuDS and drainage infrastructure (see Section 9.5.1 and Section 9.6.2).	Imperceptible (Not Significant)

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Alteration of Surface Water Quality	Surface water receptors	Not Significant Adverse	• Ongoing maintenance of drainage and interceptor systems (see Section 9.6.2).	Imperceptible (Not Significant)
Alteration of Groundwater Flow	Groundwater body and aquifer	Not Significant	• Infiltration-based drainage design and SuDS measures (see Section 9.5.1 and Section 9.6.2).	Imperceptible (Not Significant)
Alteration of Groundwater Quality	Groundwater receptors	Not Significant Adverse	• Bunded transformer and oil storage infrastructure (see Section 9.6.2); • Maintenance and inspection procedures (see Section 9.6.2).	Imperceptible (Not Significant)
Flood Risk	Site and downstream receptors	Not Significant	• Embedded drainage design and attenuation measures (see Section 9.5.1).	Imperceptible
Decommissioning Phase				
Temporary effects on Surface Water Flow and Quality	Surface water receptors	Slight Adverse (Not Significant)	• Application of decommissioning mitigation measures equivalent to construction controls (see Section 9.6.3).	Imperceptible (Not Significant)
Temporary effects on Groundwater Flow and Quality	Groundwater receptors	Slight Adverse (Not Significant)	• Application of decommissioning mitigation measures equivalent to construction controls (see Section 9.6.3).	Imperceptible (Not Significant)

21.6 SHADOW FLICKER

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Shadow Flicker	Residential properties and other sensitive receptors within the study area	Imperceptible (Not Significant in EIA Terms)	No mitigation required. Shadow flicker cannot occur during construction as turbine blades are not operational.	Imperceptible (Not Significant in EIA Terms)
Operational Phase				
Shadow Flicker	Residential properties and other sensitive receptors within 10 rotor diameters of a proposed turbine	Moderate Adverse	A Shadow Flicker Control System will be installed on all turbines. The system will monitor sun position, turbine operation, wind conditions and solar irradiance and will automatically shut down affected turbines where shadow flicker could occur (see Section 15.7.1).	Slight (Not Significant in EIA Terms)
Cumulative Shadow Flicker	Residential properties and other sensitive receptors within the study area	Imperceptible (Not Significant in EIA Terms)	No mitigation required as no cumulative shadow flicker effects are predicted.	Imperceptible (Not Significant in EIA Terms)
Decommissioning Phase				

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Residential properties and other sensitive receptors within the study area	Imperceptible (Not Significant in EIA Terms)	No mitigation required. Shadow flicker cannot occur during decommissioning as turbines will not be operating.	Imperceptible (Not Significant in EIA Terms)

21.7 MATERIAL ASSETS

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Construction Phase				
Temporary interference with aviation activity during turbine erection and crane operations	Aviation receptors and airspace users	Brief to Temporary, Slight Adverse (Not Significant in EIA Terms)	• Aeronautical warning lighting scheme (see Section 11.6.1.1); • Notification to IAA prior to crane operations (see Section 11.6.1.1); • Provision of final turbine coordinates and dimensions to aviation authorities (see Section 11.6.1.1).	Imperceptible Adverse (Not Significant)
Temporary interference with telecommunications links during turbine erection	Telecommunications infrastructure and network operators	Brief to Temporary, Slight Adverse (Not Significant in EIA Terms)	• Liaison with telecommunications operators before construction (see Section 11.6.1.2); • Ground Penetrating Radar surveys and confirmation of existing infrastructure (see Section 11.6.1.2);	Imperceptible Adverse (Not Significant)

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
			• Restoration of services if disruption occurs (see Section 11.6.1.2).	
Damage to unknown underground utility infrastructure during excavations	Electricity, water, gas and telecommunications services	Temporary, Slight Adverse (Not Significant in EIA Terms)	• Confirmatory utility surveys prior to construction (see Section 11.6.1.3); • Engagement with utility providers (see Section 11.6.1.3); • Compliance with HSA and utility provider requirements (see Section 11.6.1.3).	Brief, Adverse, Not Significant
Temporary disruption to ESB infrastructure during grid connection works	Electricity network and customers	Temporary, Slight Adverse (Not Significant in EIA Terms)	• Consultation with ESB Networks and adherence to exclusion distances (see Section 11.6.1.3).	Brief, Adverse, Not Significant
Temporary disruption to water infrastructure along the GCR	Uisce Éireann and Group Water Scheme infrastructure	Temporary, Slight Adverse (Not Significant in EIA Terms)	• Utility mapping and surveys prior to excavation (see Section 11.6.1.3); • Liaison with infrastructure owners (see Section 11.6.1.3).	Brief, Adverse, Not Significant
Temporary disruption to gas infrastructure at TDR works areas	Gas Networks Ireland infrastructure	Temporary, Slight Adverse (Not Significant in EIA Terms)	• Identification and marking of existing gas infrastructure (see Section 11.6.1.3); • Adherence to best practice excavation procedures (see Section 11.6.1.3).	Brief, Adverse, Not Significant

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Generation of construction and municipal waste	Waste management infrastructure and services	Short-Term Adverse, Not Significant	• Waste segregation and recycling procedures (see Section 11.6.1.3); • Removal by authorised waste contractors (see Section 11.6.1.3); • Implementation of CEMP waste measures (see Section 11.6.1.3).	Imperceptible Neutral (Not Significant in EIA Terms)
Operational Phase				
Presence of turbines within aviation environment	Aviation receptors and airspace users	Long-Term Slight Adverse (Not Significant in EIA Terms)	• Aviation safeguarding measures and obstacle lighting requirements (see Section 11.6.2.1); • Inclusion of turbines in aviation databases and charts (see Section 11.6.2.1).	Long-Term Imperceptible Adverse (Not Significant in EIA Terms)
Potential interference with licensed telecommunications links and services	Telecommunications networks and end users	Significant Long-Term Adverse (without mitigation)	• Telecommunications operator agreements (see Section 11.6.2.2); • Protocol arrangements and infrastructure modifications where required (see Section 11.6.2.2); • 2RN service restoration agreement (see Section 11.6.2.2).	Long-Term Imperceptible Adverse (Not Significant in EIA Terms)
Effects on electrical, gas and water infrastructure	Utility infrastructure and service providers	No Significant Effect	Embedded design measures and operational procedures (see Section 11.6.2.3).	No Residual Effect

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Generation of operational waste and wastewater	Waste management services	Long-Term Imperceptible Adverse (Not Significant in EIA Terms)	• Waste collection by authorised contractors (see Section 11.6.2.3); • Compliance with statutory waste management requirements (see Section 11.6.2.3).	Long-Term Imperceptible Neutral (Not Significant in EIA Terms)
Demand for mineral and aggregate resources	Natural resources	Neutral, Not Significant	No additional mitigation required.	Neutral, Not Significant (Not Significant in EIA Terms)
Decommissioning Phase				
Temporary effects on aviation during turbine removal	Aviation receptors and airspace users	Short-Term Slight Adverse (Not Significant in EIA Terms)	• Application of aviation measures used during construction (see Section 11.6.3).	Short-Term Slight Adverse (Not Significant in EIA Terms)
Temporary effects on telecommunications during turbine removal	Telecommunications infrastructure and users	Short-Term Slight Adverse (Not Significant in EIA Terms)	• Liaison with telecommunications operators (see Section 11.6.3); • Identification of any new telecommunications links prior to decommissioning (see Section 11.6.3).	Short-Term Slight Adverse (Not Significant in EIA Terms)
Temporary disturbance to utility infrastructure during removal works	Utility infrastructure and service providers	Slight Adverse (Not Significant in EIA Terms)	• Application of construction-phase utility protection measures (see Section 11.6.3).	Imperceptible Neutral(Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Generation of decommissioning waste	Waste management services	Adverse, Not Significant	• Best practice waste management and recycling measures (see Section 11.6.3).	Imperceptible Neutral (Not Significant in EIA Terms)

21.8 NOISE AND VIBRATION

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Turbines and hardstands	Nearest noise-sensitive locations (NSLs)	Adverse, Not Significant, Short-Term	No specific mitigation is required. Best-practice noise and vibration controls in BS 5228-1 and BS 5228-2 will be implemented through the CEMP and contract documents.	Adverse, Not Significant, Short-Term
Lidar unit, onsite control building, offsite 110 kV substation, temporary compound, and deposition areas	Nearest NSLs to each work area	Adverse, Not Significant, Short-Term	No specific mitigation is required. Best-practice construction noise and vibration controls will be implemented through the CEMP and contract documents.	Adverse, Not Significant, Short-Term
Habitat Management Plan	Nearest NSLs to each applicable area	Adverse, Not Significant, Short-Term	No specific mitigation is required. Best-practice construction noise and vibration controls will be implemented through the CEMP and contract documents.	Adverse, Not Significant, Short-Term
Internal site access tracks	NSLs adjoining proposed internal access tracks	Adverse, Not Significant, Temporary	No specific mitigation is required. Best-practice construction noise and vibration controls will be implemented.	Adverse, Not Significant, Temporary

Borrow-pit operation, including rock breaking or blasting	Nearest NSLs	Adverse, Not Significant, Short-Term	Best-practice controls will be implemented. Blasting will be designed by a specialist blast design engineer in accordance with BS 5228-2 and TII guidance. As a good practice measure, the Developer will liaise with the neighbouring quarry operator to coordinate activities and minimise the impacts.	Adverse, Not Significant, Short-Term
Grid connection and underground cabling works	NSLs along the grid connection route, including properties close to the works	Adverse, Slight, Temporary (Not Significant in EIA Terms)	No specific mitigation is required due to the short-duration, progressive nature of the works. Best-practice controls will be implemented through the CEMP.	Adverse, Slight, Temporary (Not Significant)
Operational Phase				
Operational wind turbine noise	Noise-sensitive locations within the operational study area; potential exceedances at NSLs 26, 163 and 381	Adverse, Significant, Long-Term at NSLs 26, 163 and 381; Adverse, Not Significant, Long-Term at all other NSLs	A directional, wind-speed-dependent turbine curtailment strategy will be implemented. Relevant turbines will operate in reduced modes under the identified conditions to achieve the applicable turbine noise criteria.	Adverse, Not Significant, Long-Term
Offsite 110 kV substation and other fixed plant	Nearest noise-sensitive locations to the offsite substation	Adverse, Not Significant, Permanent	No specific mitigation is required. Fixed plant will be designed and selected to comply with the applicable fixed-plant noise criteria, with acoustic characteristics controlled where necessary.	Adverse, Not Significant, Permanent
Decommissioning Phase				



Decommissioning activities	Noise-sensitive locations nearest to decommissioning works and associated traffic routes	Adverse, Not Significant, Short-Term	A decommissioning plan will be agreed with the local authority and implemented by the contractor. Best-practice noise and vibration controls comparable to those for construction will apply.	Adverse, Not Significant, Short-Term

21.9 LANDSCAPE AND VISUAL

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Landscape Effects	Site & Immediate Study Area	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)	All construction stage landscape and visual mitigation measures embedded in the design assessed	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Central Study Area	No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)		No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Wider Study Area	No greater than Slight (with notable areas experiencing imperceptible effects), Short-term,		No greater than Slight (with notable areas experiencing imperceptible effects), Short-term, Adverse (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
		Adverse (Not Significant in EIA Terms)		
Visual Effects	Site & Immediate Study Area	Ranging from Substantial-moderate to Moderate, Short-term, Adverse (Not Significant in EIA Terms)	All construction stage landscape and visual mitigation measures embedded in the design assessed (See Section 13.7.1 and 13.7.2)	Ranging from Substantial-moderate to Moderate, Short-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Central Study Area	Ranging from Moderate to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)		Ranging from Moderate to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Wider Study Area	Ranging from Slight to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)		Ranging from Slight to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)
Operational Phase				

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Landscape Effects	Site & Immediate Study Area	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)	All operational stage landscape and visual mitigation measures embedded in the design assessed (See Section 13.7.1).	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Central Study Area	No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)		No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Wider Study Area	No greater than Slight (with notable areas experiencing imperceptible effects), Short-term, Adverse (Not Significant in EIA Terms)		No greater than Slight (with notable areas experiencing imperceptible effects), Short-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Local Community Receptors	Substantial-moderate to Slight, Long-term, Adverse (Not Significant in EIA Terms)		Substantial-moderate to Slight, Long-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Designated Views & Routes	Moderate to Slight-imperceptible, Long-		Moderate to Slight-imperceptible, Long-term,

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
		term, Adverse (Not Significant in EIA Terms)	All operational stage landscape and visual mitigation measures embedded in the design assessed (See Section 13.7.1).	Adverse (Not Significant in EIA Terms)
Visual Effects	Tourism, Amenity & Heritage Receptors	Moderate to Slight-imperceptible, Long-term, Adverse (Not Significant in EIA Terms)		Moderate to Slight-imperceptible, Long-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Centres of Population	Moderate to Imperceptible, Long-term, Adverse (Not Significant in EIA Terms)		Moderate to Imperceptible, Long-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Major Routes	Substantial-moderate to Imperceptible, Long-term, Adverse (Not Significant in EIA Terms)		Substantial-moderate to Imperceptible, Long-term, Adverse (Not Significant in EIA Terms)
Decommissioning Phase				
Landscape Effects	Site & Immediate Study Area	Substantial-moderate, Short-term, Adverse (Not	All decommissioning stage landscape and visual mitigation measures embedded in the design assessed	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
		Significant in EIA Terms)		
Landscape Effects	Central Study Area	No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)		No greater than Moderate, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Wider Study Area	No greater than Slight (with notable areas experiencing imperceptible effects), Short-term, Adverse (Not Significant in EIA Terms)		No greater than Slight (with notable areas experiencing imperceptible effects), Short-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Site & Immediate Study Area	Ranging from Substantial-moderate to Moderate, Short-term, Adverse (Not Significant in EIA Terms)	All decommissioning stage landscape and visual mitigation measures embedded in the design assessed	Ranging from Substantial-moderate to Moderate, Short-term, Adverse (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Visual Effects	Central Study Area	Ranging from Moderate to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)		Ranging from Moderate to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)
Visual Effects	Wider Study Area	Ranging from Slight to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)		Ranging from Slight to Imperceptible, Short-term, Adverse (Not Significant in EIA Terms)
Landscape Effects	Site & Immediate Study Area	Substantial-moderate, Short-term, Adverse (Not Significant in EIA Terms)		

21.10 AIR QUALITY

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Impact of construction dust from construction and trackout in terms of dust soiling, and human health	Human Residential Receptors and Ecological (Cloughmoyne Special Area of Conservation / Proposed National Heritage Area)	Moderate adverse (Significant)	Dust mitigation for a high-risk site as recommended by IAQM 'Guidance on the assessment of dust from construction' will be implemented as set out in Chapter 14 – Air Quality (see Section 14.5.1)	Not Significant
Operational Phase				
Impact of operational phase emissions from facility on air quality	Human Residential Receptors and Ecological (Cloughmoyne Special Area of Conservation / Proposed National Heritage Area)	Not significant	No mitigation required	Not significant
Decommissioning Phase				
Impact of dust from decommissioning in terms of dust soiling, and human health	Human Residential Receptors and Ecological (Cloughmoyne Special Area of Conservation /	Moderate adverse (Significant)	Dust mitigation for a high-risk site as recommended by IAQM 'Guidance on the assessment of dust from construction' will be implemented as per Chapter 14 – Air Quality (see Section 14.5.1)	Not significant

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Proposed National Heritage Area)			

21.11 CLIMATE

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Greenhouse Gas emissions from construction activities and embodied carbon	Global	Significant	Construction phase mitigation is set out in Section 15.9.1.1.1 of the EIAR Climate Chapter and includes measures to reduce GHG emissions from embodied carbon of raw materials, transport, waste and energy usage.	Not significant
Impact to project from climate change hazards during construction	Local	Not significant	Climate change mitigation is set out in Section 15.9.2.1.1 and includes SuDS, landscaping, lightning protection, wind loading.	Not significant
Operational Phase				

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
GHG emissions and savings from operational phases (net effect)	Global	Not significant	No mitigation proposed.	Not significant
Impact to project from climate change hazards during operation	Local	Not significant	No mitigation proposed.	Not significant
Decommissioning Phase				
Greenhouse Gas emissions from decommissioning activities	Global	Not significant	No mitigation proposed.	Not significant
Impact to project from climate change hazards during decommissioning	Local	Not significant	No mitigation proposed.	Not significant

21.12 CULTURAL HERITAGE

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Direct physical impact arising from ground disturbance	Field system MA123-038	Moderate (Not Significant in EIA Terms)	Archaeological testing (Section 16.5)	Slight (Not Significant in EIA Terms)
	Ringfort-rath MA122A010	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	Hillfort and hut site MA123-041001-2	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	Burnt mounds (x4) and redundant record; MA123-067 MA123-067001-4	Moderate (Not Significant in EIA Terms)	Archaeological testing (Section 16.5)	Slight (Not Significant in EIA Terms)
	Burnt mound MA123-067005	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	Burnt mound (x2) MA123-067007-8	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
	Burnt mound; cross MA123-067006; MA123-066	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	Earthwork GA042-160	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	House – indeterminate date (x2); Field system; Ecclesiastical enclosure; Hut site; Church; Graveyard; Graveslab; GA042-001001-10	Moderate (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Slight (Not Significant in EIA Terms)
	Townland boundaries 1-9	Imperceptible (TB1); Slight (TB2–9) (Not Significant in EIA Terms)	Archaeological monitoring (Section 16.5)	Imperceptible (TB1); Slight (TB2-9) (Not Significant in EIA Terms)

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Operational Phase				
Impact of operational phase on archaeological heritage assets	Enclosure AH97 (MA123-037)	Significant Adverse (Significant in EIA Terms)	No mitigation required	Significant Adverse (Significant in EIA Terms) (reversible upon removal of turbines)
	Hillfort and hut site AH98 (MA123-041001 – 041002)	Significant Adverse (Significant in EIA Terms)	No mitigation required	Significant Adverse (Significant in EIA Terms) (reversible upon removal of turbines)
	Known archaeological heritage assets within the study areas; 206 sites (or groups of sites)	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms);	No mitigation required	Various (see below); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms); Moderate Adverse (Not Significant in EIA Terms); Not applicable

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
		Moderate Adverse (Not Significant in EIA Terms); Not applicable		
	Known built heritage assets within the study areas; 38 sites (or groups of sites)	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms); Not applicable	No mitigation required	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms); Not applicable
	Previously unrecorded cultural heritage assets within the study areas; 66 sites (or groups of sites)	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not	No mitigation required	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
		Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms)		(Not Significant in EIA Terms)
	Designed landscapes within the study areas; 15 sites	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms)	No mitigation required	Various (see below); Imperceptible Adverse (Not Significant in EIA Terms); Not Significant Adverse (Not Significant in EIA Terms); Slight Adverse (Not Significant in EIA Terms)
Decommissioning Phase				
Indirect physical disturbance	n/a	n/a	n/a	n/a

21.13 TRAFFIC AND TRANSPORTATION

Potential Impact	Receptor	Significance of effect	Additional Mitigation	Residual significance of effect
Construction Phase				
Traffic Delay	Motorists/ Population	Short-Term, Adverse and Not Significant	None	Short-Term, Adverse and Not Significant
Road Safety	Motorists/ Population	Short-Term, Adverse and Not Significant	Temporary Signage and Markings, Traffic Control via Signals/ STOP/GO system, On-site Wheel-wash facilities, Public Road Cleaning	Short-Term, Adverse and Not Significant
Operational Phase				
Traffic Delay	Motorists/ Population	Long-Term, Adverse and Imperceptible	None	Long-Term, Adverse and Imperceptible
Decommissioning Phase				
Traffic Delay	Motorists/ Population	Short-Term, Adverse and Not Significant	None	Short-Term, Adverse and Not Significant
Road Safety	Motorists/ Population	Short-Term, Adverse and Not Significant	Temporary Signage and Markings, Traffic Control via Signals/ STOP/GO system, On-site Wheel-wash facilities, Public Road Cleaning	Short-Term, Adverse and Not Significant

21.14 Major Accidents and Natural Disasters

Potential Impact	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Construction Phase				
Striking strategic infrastructure resulting in damage, disruption to services and/or fatalities/injuries	Strategic infrastructure including electricity, water and telecommunications services	Significant Adverse	Detailed desk studies and field surveys for underground services; implementation of mitigation measures contained within the CEMP (see Appendix 2-2 Construction Environmental Management Plan).	Imperceptible, Temporary and Not Significant
Contamination of ground, groundwater and surface water resulting in environmental damage and potential effects on downstream receptors including drinking water supplies	Soils, groundwater, surface water, aquatic receptors and drinking water supplies	Significant Adverse	Implementation of the CEMP (Appendix 2-2), Surface Water Management Plan (Appendix 2-6), Sustainable Drainage Systems (SuDS), groundwater and surface water monitoring, and the Karst Management Protocol (Appendix 8-1).	Imperceptible, Temporary and Not Significant
Major traffic accidents resulting from construction traffic and temporary traffic management measures	Road users and surrounding communities	Significant Adverse	Implementation of a Construction Traffic Management Plan (see Appendix 17-1 Traffic Management Plan).	Imperceptible, Temporary and Not Significant
Operational Phase				
Collapse or damage of turbine structures, proposed 110 kV substation or associated infrastructure	Human health, property, infrastructure and the environment	Significant Adverse	Implementation of the Karst Management Protocol (Appendix 8-1), emergency response procedures within the CEMP (Appendix 2-2), geotechnical design, turbine safety systems, inspection and maintenance procedures.	Imperceptible to Low Magnitude, Long-Term Duration and Not Significant



Ice falling from wind turbine blades resulting in injury or damage	Human health, livestock, property and infrastructure	Significant Adverse	Turbines fitted with ice detection systems and operational controls to prevent turbine operation during icing conditions.	Imperceptible to Low Magnitude, Long-Term Duration and Not Significant
Decommissioning Phase				
Striking strategic infrastructure resulting in damage, disruption to services and/or fatalities/injuries	Strategic infrastructure including electricity, water and telecommunications services	Significant Adverse	Application of environmental management procedures equivalent to the construction phase including implementation of the CEMP (Appendix 2-2).	Imperceptible, Temporary and Not Significant
Contamination of ground, groundwater and surface water	Soils, groundwater, surface water, aquatic receptors and drinking water supplies	Significant Adverse	Pollution prevention controls, monitoring measures and environmental management procedures consistent with the CEMP (Appendix 2-2), Surface Water Management Plan (Appendix 2-6) and Karst Management Protocol (Appendix 8-1).	Imperceptible, Temporary and Not Significant
Traffic accidents associated with decommissioning traffic	Road users and surrounding communities	Significant Adverse	Traffic management measures equivalent to those implemented during construction (see Appendix 17-1 Traffic Management Plan).	Imperceptible, Temporary and Not Significant

21.15 Interactions of the Foregoing

Potential Interaction	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Construction Phase				



Potential Interaction	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Interaction between Population & Human Health, Land, Soils & Geology, Hydrology & Hydrogeology, Air Quality and Climate arising from excavation works, borrow pit activities, access tracks, GCR and TDR works	Local residents, soils, water environment and air quality receptors	Slight Adverse, Temporary, Not Significant	Embedded mitigation measures identified in Chapters 5, 8, 9, 14 and 15 (see Section 19.2.1.1).	Imperceptible to Slight Adverse (Not Significant)
Interaction between Biodiversity and Hydrology & Hydrogeology through potential water quality effects	Aquatic habitats, flora and fauna	Slight Adverse, Not Significant	CEMP and water quality protection measures (see Section 19.2.2.2).	Not Significant
Interaction between Biodiversity and Air Quality through dust generation	Habitats and ecological receptors	Slight Adverse, Not Significant	Dust suppression measures and biodiversity mitigation measures (see Section 19.2.2.3).	Not Significant
Interaction between Biodiversity, Noise & Vibration and Traffic & Transportation	Mammals, birds and ecological receptors	Slight Adverse, Not Significant	Construction traffic management and ecological mitigation measures (see Section 19.2.2.5).	Not Significant
Interaction between Ornithology, Lands, Soils & Geology and Hydrology & Hydrogeology through sedimentation and habitat disturbance	Bird species and supporting habitats	Slight Adverse, Not Significant	Surface water protection measures and habitat protection measures (see Section 19.2.3.1).	Not Significant
Interaction between Land, Soils & Geology, Hydrology & Hydrogeology and Air Quality & Climate	Soils, groundwater, surface waters and air quality receptors	Slight Adverse, Not Significant	Drainage controls, soil handling protocols and pollution prevention measures (see Section 19.2.4.1).	Not Significant

Potential Interaction	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
Interaction between Land, Soils & Geology and Archaeology & Cultural Heritage	Archaeological remains and cultural heritage assets	Moderate Adverse prior to mitigation	Archaeological testing, monitoring and mitigation measures (see Section 19.2.4.3).	Direct effects Not Significant; Significant indirect effects on setting of AH97 and AH98 remain as assessed in Chapter 16
Operational Phase				
Interaction between Population & Human Health and Landscape & Visual effects	Residential amenity and local communities	Assessed in relevant chapters	No additional mitigation beyond that identified in Chapter 5 and Chapter 13 (see Section 19.2.1.5).	Not Significant
Interaction between Population & Human Health and Material Assets (telecommunications)	Telecommunications users and local residents	Slight Adverse prior to mitigation	Telecommunications safeguarding measures (see Section 19.2.1.3).	Not Significant
Interaction between Population & Human Health and Shadow Flicker	Residential receptors	Assessed in Chapter 10	Embedded shadow flicker mitigation (see Section 19.2.1.2).	Not Significant
Interaction between Biodiversity and Hydrology & Hydrogeology through long-term runoff management	Aquatic habitats and ecological receptors	Slight Adverse	SuDS and permanent drainage infrastructure (see Section 19.2.2.2).	Not Significant
Decommissioning Phase				
Interaction effects similar to construction phase, but of reduced magnitude due to	Environmental receptors identified above	Slight Adverse, Temporary	Application of mitigation measures equivalent to those implemented during construction (see	Not Significant



Potential Interaction	Receptor	Significance of Effect	Additional Mitigation	Residual Significance of Effect
reduced ground disturbance and retention of some infrastructure			Sections 19.2.1.1, 19.2.2.2, 19.2.3.1 and 19.2.4.1).	