

## 16. MAJOR ACCIDENTS AND NATURAL DISASTERS

### 16.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) describes the likely significant effects on the environment arising from the vulnerability of the Proposed Development as detailed in Chapter 4 Description of the Proposed Development, to risks of major accidents and/or natural disasters, as well as the potential of the Proposed Development itself to cause potential major accidents and/or natural disasters. It has been completed in accordance with the guidance set out by the Environmental Protection Agency (EPA) in ‘Guidelines on Information to be contained in Environmental Impact Assessment Report’ (EPA, 2022) and the European Commission in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU, as amended by 2014/52/EU), namely ‘Guidance on the preparation of the Environmental Impact Assessment Report’.

The assessment of the vulnerability of the Proposed Development to major accidents and/or natural disasters, as well as the risk of the Proposed Development itself causing major accidents and/or natural disasters is carried out in compliance with the EIA Directive (2014/52/EU) which states the need to assess:

*“the expected significant effects deriving from the vulnerability of the project to risks of major accidents and/or natural disasters which are relevant to the project concerned.”*

The objective of this assessment is to ensure that appropriate precautionary actions are taken for the Proposed Development;

*“because of their vulnerability to major accidents and/or natural disasters (such as flooding, sea level rise, or earthquakes), are likely to have significant adverse effects on the environment”.*

Based on the requirements of the EIA Directive, this chapter seeks to determine:

- The relevant major accidents and/or natural disasters, if any, that the Proposed Development could be vulnerable to or could cause;
- The potential for these major accidents and/or natural disasters to result in likely significant adverse environmental effect(s); and
- The measures that are in place, or need to be in place, to prevent or mitigate the likely significant adverse effects of such events on the environment.

As detailed in Section 1.1.1 in Chapter 1 (Introduction), for the purposes of this EIAR, the various project components are described and assessed using the following references: ‘Proposed Development’, ‘proposed turbines’ and the ‘Site’. Please see Section 1.1.1 of this EIAR for further details. A detailed description of the Proposed Development is provided in Chapter 4 (Description of the Proposed Development) of this EIAR.

### 16.1.1 Statement of Authority

This section of the EIAR, has been prepared by Ellen Costello and Natasha Morley, and reviewed by Sean Creedon of MKO. Ellen holds a BSc (Hons) in Earth Science, and a MSc (Hons) in Climate Change: Integrated Environmental and Social Science Aspects where she focused her studies on renewable energy development in Europe and its implications on environment and society. Ellen’s key strengths and expertise are Environmental Protection and Management, Environmental Impact Statements, Project Management, and GIS Mapping and Modelling. Since joining MKO, Ellen has



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been involved in a range of renewable energy infrastructure projects. In her role as a Project Manager, Ellen works with and co-ordinates large multidisciplinary teams including members from MKO's Environmental, Planning, Ecological and Ornithological departments as well as sub-contractors from various fields in the preparation and production of EIARs. Natasha is an Environmental Scientist with MKO and holds a PgDip. in Environmental Sustainability Implementation from UCD. Natasha's key strengths and areas of expertise are in project management, environmental impact assessment, GIS mapping and modelling, and environmental surveying. Since joining MKO, Natasha has experience in report writing including feasibility studies and EIA screening reports and EIAR chapters including Air Quality chapters for large-scale renewable energy developments.

Sean is an Associate Director in the Environment Team at MKO. He oversees a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery and hydrogen as well as a range of thermal and other energy related developments. He is a member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Sean has over 22 years' experience in program and project development, holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

## 16.2 Assessment Methodology

### 16.2.1 General

The following sources of information and literature pertinent to the area were used in the preparation of this section:

- Census of Ireland<sup>1</sup>
- South-West Regional Planning Guidelines 2010-2022<sup>2</sup>
- Regional Spatial and Economic Strategy (RSES) 2020-2032<sup>3</sup>, published by the Southern Regional Assembly on 31 January 2020
- Cork County Council (CCC) – Major Emergency Plan 2021<sup>4</sup>
- Health Service Authority advice for Health and Safety in the Renewable Sector<sup>5</sup>
- Rialtas na hÉireann 2024 National Risk Assessment: Overview of Strategic Risks<sup>6</sup>
- Cork County Council (CCC) - Cork County Development Plan 2022-2028<sup>7</sup>
- Fáilte Ireland<sup>8</sup>

Major accidents or natural disasters are hazards that have the potential to affect the Proposed Development and lead to environmental effects directly and indirectly. These include accidents during construction, operation and decommissioning of the Proposed Development caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster is considered in relation to the information required to be provided in the EIAR, i.e., Chapter 5 Population & Human Health, Chapter 6 Biodiversity, Chapter 8 Land, Soils & Geology Chapter 9

<sup>1</sup> Central Statistics Office <https://www.cso.ie/en/census/>

<sup>2</sup> Regional Planning Guidelines for the West Region <https://www.nwra.ie/wp-content/uploads/Planning-Guidelines-for-the-West-Region.pdf>

<sup>3</sup> Regional Spatial and Economic Strategy 2020-2032 <https://www.nwra.ie/rses/>

<sup>4</sup> CCC Major Emergency Plan <https://www.corkcoco.ie/sites/default/files/2022-02/cork-county-council-major-emergency-plan.pdf.pdf>

<sup>5</sup> Health Service Authority advice for Health and Safety in the Renewable Sector

[https://www.hsa.ie/eng/your\\_industry/renewable\\_energy/](https://www.hsa.ie/eng/your_industry/renewable_energy/)

<sup>6</sup> Rialtas na hÉireann <https://assets.gov.ie/static/documents/national-risk-assessment-2024-overview-of-strategic-risks.pdf>

<sup>7</sup> CCC Cork County Development Plan <https://www.corkcoco.ie/en/resident/planning-and-development/cork-county-development-plan-2022-2028>

<sup>8</sup> Fáilte Ireland <https://www.failteireland.ie/>

Hydrology & Hydrogeology, Chapter 10 Air Quality, Chapter 11 Climate, Chapter 13 Landscape & Visual, Chapter 14 Archaeological, Architectural & Cultural Heritage and Chapter 15 Material Assets.

## 16.2.2 Legislative Context

### 16.2.2.1 Legislation

An assessment of the following key elements was undertaken in accordance with the EIA Directive (2014/52/EU):

- The vulnerability of the Proposed Development to potential major accidents and/or natural disasters.
- The Proposed Development potential to cause major accidents and/or natural disasters which pose a risk to human health, cultural heritage and/or the environment.

The information relevant to major accidents and/or disasters to be included in the EIAR is set out in Section 8 of Annex IV of the EIA Directive as follows:

*“(8) A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies”.*

### 16.2.2.2 Guidance Documents

The following guidance documents have been consulted in the preparation of this section:

- European Commission (2017). Environmental Impact Assessment of Projects Guidance on the preparation of Environmental Impact Assessment Reports
- Environmental Protection Agency (2022), Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- Department of Environment, Heritage and Local Government (2010) *A Guide to Risk Assessment in Major Emergency Management*
- Environmental Protection Agency (2014) Guidance on Assessing and Costing Environmental Liabilities
- Department of Defence (2020) A National Risk Assessment for Ireland
- Cork County Council (CCC) – Major Emergency Plan 2021

## 16.2.3 Categorisation of the Baseline Environment

A desk-study has been completed to establish the baseline environment for which the proposed risk assessment is being carried out. This will influence both the likelihood and the impact of a major accident or natural disaster. Local and regional context has been established prior to undertaking the risk assessment to develop an understanding of the vulnerability and resilience of the area to emergency situations.

Further detail on the baseline environment is provided in Section 16.3.

## 16.2.4 Impact Assessment Methodology

### 16.2.4.1 Introduction

A wind farm is not a recognised source of pollution. It is not subject to Industrial Emissions Directive regulation or any other EPA environmental regulatory consent. Should a major accident or natural disaster occur the potential sources of pollution onsite during the construction, operational and decommissioning phases are limited and of low environmental risk. Sources of pollution with the potential to cause significant environmental pollution and associated negative effects such as bulk storage of hydrocarbons or chemicals, storage of wastes, management of flammable materials etc. are limited, and so, there is an inherent low level of environmental risk associated with major accident or natural disaster impacting the Proposed Development and causing environmental damage.

According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are “normal” in terms of seismicity in Ireland. These are known as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such, buildings or structures in Ireland are extremely unlikely to be damaged or collapse due to seismic activity. Irelands geographic position means that tsunamis, which may pose a risk to developments similar to the Proposed Development in other geographic locations, are of a low likelihood of occurrence, and are less likely to be of a significant magnitude in order to cause an accident or disaster. The potential natural disasters that may occur are therefore limited to issues such as flooding and fire and are described in the Sections below.

Major industrial accidents involving dangerous substances pose a significant threat to humans and the environment; such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the Site of the accident. The Proposed Development is not regulated or connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites and so there are no potential effects from this source.

The Proposed Development has low potential to cause natural disasters or major accidents. As detailed in Sections 8.3 of this EIAR, there are sections of peat identified within the Site on the published soils map (<https://gis.epa.ie/EPAMaps/>), published subsoils maps ([www.gsi.ie](http://www.gsi.ie)), and Appendix 8-1 ‘Geotechnical and Peat Stability Report’.

Blanket peat is found in this area which has been significantly degraded due to agricultural land improvement and commercial forestry. The Proposed Development is located in an upland site, therefore there is potential for peat slides. The GSI have classified this area with the majority of the infrastructure sitting in an area of moderately high potential for landslides.

Any risks associated with flooding, impacts on infrastructure, accidents etc are addressed in the sections below.

Current EIA practice already includes an assessment of some potential major accidents and disaster scenarios such as pollution incidents to ground and watercourses as well as assessment of flooding events. These are described in detail in the relevant EIAR assessment chapters (Refer to Chapters 5 to 16, and Appendix 9-1 Flood Risk Assessment for further detail).

### 16.2.4.2 Site Specific Risk Assessment Methodology

A site-specific risk assessment identifies and quantifies risks focusing on unplanned, but possible and plausible events occurring during the construction, operation and decommissioning of the Proposed Development. The approach to identifying and quantifying risks associated with the Proposed Development by means of a site-specific risk assessment is derived from the EPA ‘Guidance on

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Assessing and Costing Environmental Liabilities' 2014 document<sup>9</sup>. The following steps were taken as part of the site-specific risk assessment:

- > Risk Identification
- > Risk Classification, likelihood and consequence, and
- > Risk Evaluation

16.2.4.2.1 **Risk Identification**

Risks have been reviewed through the identification of reasonably foreseeable risks in consultation with relevant contributors to this EIAR. The identification of risks has focussed on non-standard but plausible incidents that could occur at the Proposed Development during construction, operation and decommissioning.

In accordance with the European Commission EIAR Guidance, risks are identified in respect of the Proposed Development's:

1. Potential to cause accidents and/or disasters.
2. Vulnerability to potential disaster/accident.

16.2.4.2.2 **Risk Classification**

Classification of Likelihood

After identifying the potential risks, the likelihood of occurrence of each risk has been assessed. An analysis of safety procedures and proposed environmental controls was considered when estimating likelihood of identified potential risks occurring. Table 16-1 defines the likelihood ratings that have been applied.

The approach adopted has assumed a 'risk likelihood' where one or more aspects of the likelihood description are met.

Table 16-1 Classification of Likelihood (Source: DoEHLG, 2010)

Ranking	Likelihood	Description
1	Extremely Unlikely	May occur only in exceptional circumstances; once every 500 or more years.
2	Very Unlikely	Is not expected to occur; and/or no recorded incidents or anecdotal evidence; and/or very few incidents in associated organisations, facilities, or communities; and / or little opportunity, reason or means to occur; may occur once every 100-500 years.
3	Unlikely	May occur at some time; and /or few, infrequent, random recorded incidents or little anecdotal evidence; some incidents in associated or comparable organisation's worldwide; some opportunity, reason or means to occur; may occur once per 10-100 years.

<sup>9</sup> EPA (2014) Guidance on assessing and costing environmental liabilities. Available at [https://www.epa.ie/publications/compliance-enforcement/licenses/reporting/financial-provisions/EPA\\_OEE-Guidance-and-Assessing-WEB.pdf](https://www.epa.ie/publications/compliance-enforcement/licenses/reporting/financial-provisions/EPA_OEE-Guidance-and-Assessing-WEB.pdf)

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4	Likely	Likely to or may occur; regular recorded incidents and strong anecdotal evidence and will probably occur once per 1-10 years.
5	Very Likely	Very likely to occur; high level of recorded incidents and/or strong anecdotal evidence. Will probably occur more than once a year.

### Classification of Consequence

The consequence rating assigned to each risk has assumed that all proposed mitigation measures and/or safety procedures have failed to prevent the major accident and/or disaster. Furthermore, the CCC Major Emergency Plan (2021) will work to reduce the consequence of any major accident or disaster. The consequence of the impact if the event occurs has been assigned as described in Table 16-2.

The consequence of a risk to/from the Proposed Development has been determined where one or more aspects of the consequence description are met, i.e., risks that have no consequence have been excluded from the assessment.

*Table 16-2 Classification of Impact (Source: DoEHLG, 2010)*

Ranking	Likelihood	Impact	Description
1	Minor	Life, Health, Welfare Environment Infrastructure Social	Small number of people affected; no fatalities and small number of minor injuries with first aid treatment.  No contamination, localised effects <€0.5M  Minor localised disruption to community services or infrastructure (<6 hours).
2	Limited	Life, Health, Welfare Environment Infrastructure Social	Single fatality; limited number of people affected; a few serious injuries with hospitalisation and medical treatment required.  Localised displacement of a small number of people for 6-24 hours. Personal support satisfied through local arrangements.  Simple contamination, localised effects of short duration  €0.5-3M  Normal community functioning with some inconvenience.
3	Serious	Life, Health, Welfare Environment Infrastructure	Significant number of people in affected area impacted with multiple fatalities (<5), multiple serious or extensive injuries (20), significant hospitalisation.

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Ranking	Likelihood	Impact	Description
		Social	<p>Large number of people displaced for 6-24 hours or possibly beyond; up to 500 evacuated.</p> <p>External resources required for personal support.</p> <p>Simple contamination, widespread effects or extended duration</p> <p>€3-10M</p> <p>Community only partially functioning, some services available.</p>
4	Very Serious	Life, Health, Welfare Environment Infrastructure Social	<p>5 to 50 fatalities, up to 100 serious injuries, up to 2000 evacuated.</p> <p>Heavy contamination, localised effects or extended duration</p> <p>€10-25M</p> <p>Community functioning poorly, minimal services available</p>
5	Catastrophic	Life, Health, Welfare Environment Infrastructure Social	<p>Large numbers of people impacted with significant numbers of fatalities (&gt;50), injuries in the hundreds, more than 2000 evacuated.</p> <p>Very heavy contamination, widespread effects of extended duration.</p> <p>&gt;€25M</p> <p>Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support.</p>

**Risk Evaluation**

Once classified, the likelihood and consequence ratings have been multiplied to establish a 'risk score' to support the evaluation of risks by means of a risk matrix.

The risk matrix sourced from the DoEHLG *Guide to Risk Assessment in Major Emergency Management* and as outlined in Table 16-3 indicates the critical nature of each risk. This risk matrix has therefore been applied to evaluate each of the risks associated with the Proposed Development. The risk matrix is colour coded to provide a broad indication of the critical nature of each risk:

- > The red zone represents 'high risk scenarios':
- > The amber zone represents 'medium risk scenarios', and
- > The green zone represents 'low risk scenarios.'

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Table 16.3 Classification of Impact (Source: DoEHLG, 2010)

		Consequence Rating				
		1.Minor	2.Limited	3. Serious	4. Very Serious	5.Catastrophic
Likelihood Rating	5. Very Likely					
	4. Likely					
	3. Unlikely					
	2. Very Unlikely					
	1. Extremely Unlikely					

### 16.3 Baseline Conditions

The functional areas of CCC fall under the Major Emergency Management South Region. The Major Emergency Plans prepared by CCC (2021) outlines the following potential major emergency scenarios in the county:

- > **Natural**
  - o Flooding & Severe Weather.
- > **Transportation**
  - o Aircraft Collision / Loss;
  - o Major Road / Rail Incident;
  - o Hazardous materials incident (Transportation); and
  - o Marine Emergency in Port (Passenger Ferry).
- > **Technological**
  - o Fire / Gas Explosion / Toxic Cloud release at industrial site;
  - o SEVESO sites;
  - o Loss of critical infrastructure; and
  - o Water contamination/pollution incident.
- > **Civil**
  - o Fire / Major Crowd Safety incident;
  - o Epidemics / pandemics; and
  - o Water Rescue.
- > **Site/event Specific Emergency Plans for Cork County Council:**
  - o Severe Weather Plan (excluding flooding)
  - o Flood Emergency Response Plan
  - o Drinking Water Incident Response Plan
  - o External Emergency Plans for Upper Tier SEVESO Sites
  - o Inter-Agency Emergency Plan for Cork Airport
  - o Inter-Agency Emergency Plan for the Jack Lynch Tunnel
  - o Bantry Bay Port Emergency Plan
  - o Oil Spill / Hazardous Noxious Substances Contingency Plan

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The risks which are most relevant in the context of this project and to this assessment are described below:

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### 16.3.1 Natural

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#### 16.3.1.1 Flooding

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Chapter 9 'Hydrology & Hydrogeology' of this EIAR provides detailed assessment regarding the susceptibility of the Proposed Development to flooding and landslide events. A flood risk identification study was undertaken within Chapter 9 and Appendix 9-1, to identify existing potential flood risks associated with the Proposed Development. From this study, it was identified that there were no instances of historical flooding recorded within the Site. The OPW Past Flood Events map<sup>10</sup> recorded no recurring flood events within the vicinity of the proposed Site boundary.

There are no records of flooding available within the vicinity of the Proposed Development on the National Indicative Fluvial Mapping (NIFM)<sup>11</sup>. Furthermore, the Proposed Development will be constructed with its own drainage system which will provide additional surface water attenuation. The overall risk of flooding posed at the Site is assessed to be low. Please refer to the Chapter 9 'Hydrology & Hydrogeology' of this EIAR for further details.

#### 16.3.1.2 Peat Stability

A comprehensive and robust Peat Stability Risk Assessment was undertaken by Fehily Timoney (refer to Appendix 8-1) for the Proposed Development and used to inform the design process including the siting of all proposed main infrastructure location and drainage control measures. The Peat Stability Risk Assessment was informed by the Scottish Government's 2017 guidance document, *Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments*. Intrusive ground investigation works were carried out as part of the peat stability assessment including peat depth probing, shear strength testing, ground augering/coring and trial pitting. The extensive suite of ground investigations, the robust peat stability assessment, the proposed monitoring measures and the lessons learned from previous peat slide events on similar sites will ensure that the risk of such an event, occurring during the construction of the Proposed Development site is minimised. Peat stability impacts arising from the Proposed Development during the operational and decommissioning phases are not significant as there is no significant handling or movement of peat during these phases.

The findings of the peat assessment showed that the Site has a low risk of peat failure and is suitable for the Proposed Development. The findings include recommendations and control measures for construction work in peat lands, all of which will be implemented in full to ensure that all works adhere to an acceptable standard of safety.

The Site is dominated by shallow peaty soils in shallow bedrock, with some pockets of blanket peat along the summit of the central ridgeline and on the lower western slopes of the Site in the area of the proposed infrastructure. The Site comprises predominantly of coniferous forestry while the surrounding landscape to the south and north is rolling hillsides with land-use comprising of commercial forestry, agriculture and blanket peatland. Peat thicknesses recorded during the site walkovers from 354 no. probes ranged from 0 to 5.5m with an average depth of 0.45m. 95% of the probes recorded peat depths of less than 1.5m. A number of localised readings were recorded where peat depths were between 2.0 and 5.5m, all located in one localised flat area found on the main entrance road and within part of the area intended for peatland enhancement. The deeper peat areas were avoided, where possible, when optimising the wind farm layout for site. The average peat depth at the proposed turbines is 0.5m. Slope inclinations at the main infrastructure locations range from 6 to 10 degrees.

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<sup>10</sup> OPW Flood Maps <https://www.floodinfo.ie/map/floodmaps/>

<sup>11</sup> NIFM [https://www.floodinfo.ie/map/nifm\\_user\\_guidance\\_notes/](https://www.floodinfo.ie/map/nifm_user_guidance_notes/)

An analysis of peat sliding was carried out at the main infrastructure location across the Site for both the undrained and drained conditions. The purpose of the analysis was to determine the Factor of Safety (FoS) of the peat slopes.

An undrained analysis was carried out, which applies in the short-term during construction. For the undrained condition, the calculated FoS for load conditions 1 and 2 for the locations analysed, showed that all locations have an acceptable FoS of greater than 1.4, indicating a low risk of peat failure. The undrained analysis is considered the most critical for condition 2, as most peat failures occur in the short term upon loading of the peat surface.

A drained analysis was also carried out, which examined the effect of in particular, rainfall on the existing stability of the natural peat slopes on site. For the drained condition, the calculated FoS, showed that all locations have an acceptable FoS of greater than 1.4.

The peat stability risk assessment at each infrastructure location, along access roads and at settlement pond locations identified a number of mitigation/control measures to reduce the potential risk of peat failure. See Appendix 8-1 of this EIAR for details of the required mitigation/control measures for each infrastructure element.

In summary, the findings of the peat assessment showed that the Proposed Development has an acceptable margin of safety, is suitable for the construction of a wind farm, and is considered to be at low risk of peat failure provided appropriate mitigation measures, such as implementing and maintaining an appropriate drainage system are implemented. The findings include recommendations and mitigation/control measures for construction work in peat lands, all of which will be implemented in full to ensure that all works adhere to an acceptable standard of safety.

Please see Chapter 8 Land, Soils & Geology and Appendix 8-1 Geotechnical and Peat Stability Report for more details.

## 16.3.2 Meteorological

Ireland has a temperate, oceanic climate, resulting in mild winters and cool summers<sup>12</sup>. The Proposed Development is located in southwest Cork, approximately 11.6 km northeast of the Atlantic Coastline. The dominant influence on Ireland's climate is the Atlantic Ocean. As a consequence, Ireland does not suffer from the extremes of temperature experienced by many other countries at similar latitude. The hills and mountains, many of which are near the coasts, provide shelter from strong winds and from the direct oceanic influence.

The Met Éireann weather station at Cork Airport, Co. Cork has meteorological data recorded for the 30-year period of 1991-2020. The Met Éireann weather station in Sherkin Island<sup>13</sup> is located closer to the Proposed Development. There is no 30-year data available for this monitoring station. The Sherkin Island monitoring station is located approximately 36.6 kilometres south of the Site. Recent monthly meteorological data recorded at Sherkin Island, from January 2022 to July 2025 (at the time of writing), is available at: <https://www.met.ie/climate/available-data/monthly-data>. Over the last three-year period (2022-2024), the wettest months are December and January, while May is usually the driest. July is the warmest month with a mean daily temperature of 15.1° Celsius.

Met Éireann have recorded the Number of days with a maximum 10-min. mean wind speed  $\geq$  15m/s at Sherkin Island<sup>14</sup>. The windier months of the year are November, December and January, where the maximum 10-min mean wind speeds of  $\geq$  15m/s were reached 8, 9, and 10 times respectively in 2024.

<sup>12</sup> Met Éireann Climate of Ireland <https://www.met.ie/climate/climate-of-ireland>

<sup>13</sup> Met Éireann Sherkin Island Monthly Data <https://www.met.ie/climate/available-data/monthly-data>

<sup>14</sup> Met Éireann Monthly Weather Events - Sherkin Island <https://www.met.ie/ga/climate/available-data/monthly-data/public-works/sherkin-island>

The calmest months of the year in Sherkin Island were May and July, where there were no records of wind speed exceeding 15m/s.

### 16.3.3 Transport

The Proposed Development will utilise the existing road network during the construction, operation, and decommissioning phases. Construction related traffic will comprise both turbine component and construction materials delivery and the subsequent return of empty vehicles, and daily construction staff movements to and from the Site.

It is proposed that large wind turbine components will be delivered to the Site, under Garda escort and mainly at night.

Potential impacts that may occur on the identified road networks could be caused by an accident during the delivery of the turbines, collisions onsite and offsite with vehicles involved in construction and operation of the Proposed Development, and damage to critical transport infrastructure caused by extreme weather i.e., periods of heavy rainfall, taking into account climate change and strong winds. As detailed in Chapter 15 of this EIAR: Material Assets, the localised traffic disruptions due to other proposed works will be mitigated using industry standard traffic management measures. These traffic management measures will be designed in accordance with the Department of Transport's 'Guidance for the Control and Management of Traffic at Roadworks – Second Edition (2010)'.

### 16.3.4 Technological

There are no large industrial sites within, or adjacent to the Site. The nearest SEVESO site is Sunoco Bantry Bay Terminal Ltd. located in Whiddy Island, Bantry, Co Cork, approximately 18km from the Site. The Site is also not located within or adjacent to an urban centre.

The Proposed Development has the potential to cause contamination and pollution of soil and ground and surface water from potential release of hydrocarbons, earthworks and excavations during the construction phase. These impacts are addressed in detail in Chapter 8 Land, Soil & Geology and Chapter 9 Hydrology & Hydrogeology of this EIAR and are not related to either the vulnerability of the Proposed Development to natural disasters or major accidents, nor the potential for the Proposed Development to cause natural disasters or accidents. Accidental spillage during refuelling of construction plant with petroleum hydrocarbons is a pollution risk. The accumulation of small spills of fuels and lubricants during routine plant use can also be a significant pollution risk. Large spills or leaks have the potential to result in significant effects (i.e., contamination of subsoils and pollution of the underlying aquifer) on the geological and water environment. Best practise measures pertaining to hydrocarbon use and storage as detailed in Chapter 8 and the CEMP (Appendix 4-3) will minimise the potential for these impacts to occur. The release of wastewater at the Site could pose a risk to down gradient groundwater wells, groundwater quality and surface water quality. Proven and effective methods to mitigate against these potential impacts are detailed in Chapter 9 Hydrology & Hydrogeology and best practise measures during all phases of the development (CEMP Appendix 4-3), which minimise the potential for leaks and will break the potential pathways between any source and receptor. Indirect impacts associated with major accidents and / or natural disasters on contamination are considered further in Section 16.4.1.

There is potential for hazardous materials in the form of hydrocarbons to be transported to and used on site. Mitigation measures as best practice as detailed in Chapter 9 Hydrology & Hydrogeology and the CEMP (Appendix 4-3), respectively, will minimise the potential for leaks and will break the potential pathways between any source and receptor. The removal of hazardous materials will be done by licenced operators for disposal at licensed waste facilities. There is limited potential for hazardous material release during the operational phase of the Proposed Development. On occasion, operational maintenance crew may need to dispose of hydrocarbon waste such as oil that may be required during turbine maintenance procedures. Any waste that does arise will be minimal and waste management will

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be carried out in accordance with 'Best Practice Guidelines on the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021) produced by the EPA.

The CEMP includes a Waste Management Plan which outlines the best practice procedures during the decommissioning phases of the project. The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of decommission of the Proposed Development. Disposal of waste will be seen as a last resort. Please see the CEMP (Appendix 4-3) for best practice measures to prevent the creation of waste which During the decommissioning phase. Please see Appendix 4-6 for the Decommissioning Plan.

The likelihood of fire occurring at the Proposed Development is low. The likelihood of fire occurring will be further lowered by the implementation of good site management practices during the construction, operational and decommissioning phases.

During construction of the Proposed Development, all staff will be made aware of and adhere to the Health & Safety Authority's 'Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2013'. This will encompass the use of all necessary Personal Protective Equipment and adherence to the site Health and Safety Plan. An Emergency Response Plan (ERP) which will be prepared prior to the construction phase and implemented and adhered to on site. The ERP provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection. Please see Chapter 4 'Description of the Proposed Development' and Appendix 4-3 CEMP for details.

### 16.3.5 Civil

The likelihood of a civil emergency, as described above, occurring at the Site is anticipated to be low. Major crowd safety and civil disorder are not relevant to the Site. Access will be to authorised personnel only during the construction, operational and decommissioning phases.

### 16.3.6 Site/event Specific Emergency Plans for Cork County Council:

The Major Emergency Plans prepared by Cork County Council (2021) outlines potential Site/event specific emergency plans which have been considered or ruled out as part of the baseline. A list of the emergency plans can be found above in section 16.3

The 'Severe Weather Plan (excluding flooding)' and 'Flood Emergency Plan' are already considered under section 16.3.1 Natural and the 'External Emergency Plans for Upper Tier SEVESO sites' and 'Oil Spill / Hazardous Noxious Substances Contingency Plan' are considered under section 16.3.4 Technological, therefore are not assessed in this section.

Due to the distance from the Site the 'Inter-Agency Emergency Plan for Cork Airport', the 'Inter-Agency Emergency Plan for the Jack Lynch Tunnel' and the 'Bantry Bay Port Emergency Plan' have also been ruled out and not considered as part of the Baseline.

The following Major Emergency Plans prepared by Cork County Council have been assessed as part of the baseline;

#### CCC Drinking Water Incident Response Plan

Uisce Éireann identified 2 no. surface water abstraction in the vicinity of the Proposed Development.

The Bunsheelin River intake is located approximately 5km to the north of the Site. No element of the Proposed Development is located within the Bunsheelin River catchment. The Bunsheelin River drains into the River Lee at Ballingeary.

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An abstraction point is also present at Inchigeelagh at eastern (downstream) end of Lough Allua. Only the northern section of the Site (entrance and access road) drains into Lough Allua.

Due to the nature of wind farm developments, being near surface construction activities, impacts on groundwater are negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The primary risks to groundwater at the Site would be from cementitious materials, hydrocarbon spillage and leakages, potential piling works, and construction/upgrade of the proposed culverts. These potential significant effects are assessed within Chapter 9 Hydrology & Hydrogeology. Some of these are common potential impacts on all construction sites (such as road works and industrial sites). All potential contamination sources will be carefully managed at the Site during the construction and operational phases of the development and mitigation measures are proposed within Chapter 9 Hydrology & Hydrogeology and listed within Chapter 18 Schedule of Mitigation & Monitoring Measures.

A comprehensive Surface Water Management Plan (Appendix 4-7) and drainage plan (Appendix 4-4) has been prepared for the Proposed Development, and this will ensure that surface water runoff from the developed areas of the Site will be of a high quality and will therefore not impact on the quality of downstream rivers and lakes.

16.4

## Risk Assessment

This section outlines the possible risks associated with the Proposed Development for the construction, operational and decommissioning phases.

These risks have been assessed in accordance with the relevant classifications as outlined in Table 16-1 and 16-2.

As outlined in Section 16.2.4.2.2, the consequence rating assigned to each potential risk assumes that all proposed mitigation measures and safety procedures have failed to prevent the major accident and/or disaster i.e. pre-mitigation.

16.4.1

### Likely Significant Effects

16.4.1.1

#### Do-Nothing Scenario

If the Proposed Development were not to proceed, the existing wind farm infrastructure (access roads, existing onsite 38kV substation and 38kV underground cable connection) would remain unused and commercial forestry and agricultural practices would continue.

If the Proposed Development were not to proceed the opportunity to capture part of Cork's valuable renewable energy resource would be lost, as would the opportunity to contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions. An alternative land use option to developing a renewable energy project at the Site would be to leave the Site as it is, with no changes made to the current land use compromises of commercial forestry, agricultural land and unutilised existing wind farm infrastructure that remains at the Site from the Kealkill Wind Farm. The opportunity to generate local employment and investment and to diversify the local economy would be lost. Identification of Effects During Construction

A risk register has been developed which contains all potentially relevant risks identified during the construction phase of the Proposed Development. Eight risks specific to the construction of the Proposed Development have been identified and are presented in Table 16-4.

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Table 16-4 Risk Register - Construction Phase

Risk ID	Potential Risk	Possible Cause
<b>Potential vulnerability to accidents and / or natural disasters</b>		
A	<b>Critical Infrastructure Emergencies</b>  Risk of delivery of turbines and associated infrastructure to site.	Traffic accident during turbine delivery or extreme weather periods of heavy rainfall, taking into account climate change and strong winds.
B	<b>Severe Weather</b>  Risk to construction activity on site.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
C	<b>Flooding</b>  Risk of flooding in areas surrounding the Site impacting the construction phase and leading to environmental emissions.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
D	<b>Peat Stability</b>  Movement of peat within the Site during construction.	Mismanagement of excavated material on site.  Severe weather conditions- storm, flooding.
<b>Potential to cause accidents and / or natural disasters.</b>		
E	<b>Traffic Incident</b>  Collisions onsite and offsite with vehicles involved in construction of Proposed Development.	Driver negligence or failure of vehicular operations on site roads.  Traffic Management not implemented.
F	<b>Contamination</b>  Discharge or spillage of fuel, chemical solvents onto subsoils and into watercourse or percolated to groundwater.  Groundwater and surface water emissions from construction activities.	Accidental fuel spillage during delivery to site;  Failure of fuel storage tank or tanks in plant and machinery and vehicles leading to uncontrolled emissions;  Drainage and seepage water resulting from accident during infrastructure excavation;  Stockpiled excavated material becoming unstable and providing a point source of exposed sediment;  Excavation works during the construction of the Proposed Development which may

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Risk ID	Potential Risk	Possible Cause
	Risk of sediment-laden run off reaching surface water, groundwater system or contamination of public water supply.	result in entrainment of sediment from the excavations during construction;
G	Fire / Explosion	Equipment or infrastructure failure; Electrical problems; and Employee negligence.
H	Collapse / damage to structures	Earthquake, land slide, extreme weather events; and  Vehicular collisions due to driver negligence on public roads.  Traffic Management not implemented.

### 16.4.1.2 Identification of Effect During Operation

Six risks specific to the operation of the Proposed Development have been identified and are presented in Table 16-5.

Table 16-5 Risk Register – Operational Phase

Risk ID	Potential Risk	Possible Cause
<b>Potential vulnerability to accidents and / or natural disasters</b>		
I	<b>Severe Weather</b>  Risk to operational activity on site, blade or turbine damage.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
J	<b>Flooding</b>  Risk of flooding in areas surrounding the Proposed Development impacting the construction phase and leading to environmental emissions	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds
K	<b>Contamination</b>  Discharge or spillage of fuel, chemical solvents, sewage or wastewater into watercourse or percolated to groundwater.	A vehicular incident on the public road involving fuel, wastewater or sewage transportation in the operational phase.  Spill or leak of oil during operational maintenance.

Potential to cause accidents and / or natural disasters

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Risk ID	Potential Risk	Possible Cause
L	<b>Fire / Explosion</b>	Equipment or infrastructure failure;  Electrical problems; and  Employee negligence.
M	<b>Collapse / damage to structures</b>	Earthquake, extreme weather events; and  Vehicular collisions due to driver negligence on public roads.
N	<b>Traffic Incident</b>  Collisions onsite and offsite with vehicles involved in operation of Proposed Development.	Driver negligence or failure of vehicular operations on site roads.  Traffic Management not implemented.

### 16.4.1.3 Identification of Effect During Decommissioning

Five Risks specific to the decommissioning of the Proposed Development have been identified and are presented in Table 16-6.

Table 16-6 Risk Register – Decommissioning Phase

Risk ID	Potential Risk	Possible Cause
<b>Potential vulnerability to accidents and / or natural disasters</b>		
O	<b>Severe Weather</b>  Risk to decommissioning activity on site leading to environmental emissions.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
P	<b>Flooding</b>  Risk of flooding in areas surrounding the Site impacting the decommissioning phase and leading to environmental emissions.	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.
<b>Potential to cause accidents and / or natural disasters.</b>		
Q	<b>Traffic Incident</b>  Collisions onsite and offsite with vehicles involved in construction of Proposed Development.	Driver negligence or failure of vehicular operations on site roads.  Traffic Management not implemented.

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Risk ID	Potential Risk	Possible Cause
R	<p><b>Contamination</b></p> <p>Discharge or spillage of fuel, chemical solvents, suspended solids into watercourse, percolated to groundwater or impacts to water supply</p>	<p>Accidental fuel spillage during delivery to the Site.</p> <p>Failure of fuel storage tank or tanks in plant and machinery and vehicles leading to uncontrolled emissions.</p> <p>Earthworks during construction Resulting in Suspended Solids Entrainment in Surface Waters</p>

These risks have been assessed in accordance with the relevant classification (Refer to Table 16-1 and Table 16-2) and the resulting risk analysis is given in Table 16-7.

The risk register is based upon possible risks associated with the Proposed Development. As outlined in Section 16.2.4.2, the consequences rating assigned to each potential risk assumes that all proposed mitigation measures and safety procedures have failed to prevent the major accident and/or disaster. A summary of the findings can be found in Table 16-8.

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### 16.4.1.4 Assessment of Effect - Summary

Table 16-7 Risk Assessment

Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
<b>Construction Phase</b>								
A	<b>Critical Infrastructure Emergencies</b>	Traffic accident during turbine delivery or extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life.	1	The risk of traffic accident during turbine delivery due to severe weather conditions impacting the identified road network is unlikely when considering the assessment in Chapter 11 (Climate) (weather conditions recorded over the last 30 years within the area) and Chapter 15.1 – Traffic Assessment (turbine delivery occurring during the night, Garda patrolled, etc).	1	The risk of a traffic accident due to severe weather conditions during the construction phase will result in a minor consequence in that a ‘small number of people would be affected’ should a severe weather event occur, with ‘no fatalities and a small number of minor injuries with first aid treatment’.	1
B	<b>Severe Weather</b>	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life; and Damage to, or depletion of aquatic habitats and species.	3	The risk of severe weather is unlikely when considering the assessment in Chapter 11 (Climate) and weather conditions recorded over the last 30 years within the area.	1	The risk of severe weather conditions during the construction phase will result in a minor consequence in that a ‘small number of people would be affected’ should a	3

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					<p>The works programme for the groundworks part of the construction phase of the Proposed Development, which is laid out in detail in the Construction and Environmental Management Plan (CEMP, Appendix 4-3), will take account of weather forecasts and predicted rainfall in particular and construction will be paused if required.</p> <p>All construction works will be paused during a Red Weather Warning as issued by Met Éireann and will not recommence until the weather warning has been lifted and it has been deemed safe to do so.</p>		<p>severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.</p> <p>Severe weather may cause increased mobilisation of sediment which will be controlled via the Proposed Development design and mitigation measures.</p>	
C	<b>Flooding</b>	Extreme weather- periods of heavy rainfall,	Illness or loss of life;	2	The risk of flooding is considered unlikely when taking into account the	1	The risk of flooding during the construction phase will result in a minor	2



Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		taking into account climate change and strong winds.	Groundwater Flooding; Flooding to surrounding properties; and Damage to, or depletion of aquatic habitats and species.		assessment in Chapter 9 (Hydrology & Hydrogeology) of the EIAR and the Site-specific Flood Risk Assessment detailed in Appendix 9-1 and the implementation of a bespoke drainage design plan for the project.		consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.  Flooding has the potential to cause increased sediment mobilisation however flooding is not anticipated and should any flooding occur, it would be localised.	
D	Peat Stability	Mismanagement of excavated material on site.  Extreme weather conditions.	Movement of peat within the Site;  Sedimentation of nearby watercourse; and  Damage to, or depletion of	2	The Proposed Development has been designed to minimise the potential for peat instability and failure. Refer to Appendix 8-1: Geotechnical and Peat Stability Report.	2	The risk of peat instability during the construction phase will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration'.  Simple contamination of environment (e.g. watercourses, aquatic	4

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
			aquatic habitats and species.				habitats and associated species), localised effects of short duration.	
E	Traffic Incident	<p>Driver negligence or failure of vehicular operations on site roads (Proposed Development access roads).</p> <p>Driver negligence or failure of vehicular operations on public road network (turbine component deliveries/ other infrastructure deliveries/ staff vehicles).</p> <p>Traffic Management</p>	Injury or loss of life.	3	<p>The Traffic and Transport section of Chapter 15: Material Assets of this EIAR details traffic movements which relate to the Construction Phase of the Proposed Development. A Traffic Management Plan will be completed prior to the construction of the Proposed Development which will detail proposals for traffic movements entering and leaving the Site, and within the internal access roads.</p> <p>The internal road network within the Proposed Development has been designed to allow for 2 vehicles to pass on the road, and/or in passing bays, which will reduce the</p>	1	A minor consequence is predicted. Having regard to on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small number of minor injuries with first aid treatment.'	3

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		not implemented.			<p>likelihood of a traffic incident or collision occurring within the Proposed Development. There will also be a speed limit imposed on the internal Proposed Development Road network, which will also reduce the likelihood of any traffic incident or collision.</p> <p>As such, it can be determined that there is some 'opportunity, reason or means' for a vehicle collision to occur on site or public roads, 'at some time.' An unlikely risk is therefore predicted.</p> <p>Staff will be trained/toolbox talks highlighting construction entrances and proper access and egress procedures.</p>			

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
F	<p><b>Contamination – Fuel storage and handling</b></p> <p><b>- General Construction</b></p>	<p>Fuel spillage during delivery to Site.</p> <p>Failure of fuel storage tank or tanks in plant and machinery and vehicles.</p> <p>Drainage and seepage water resulting from infrastructure excavation.</p> <p>Stockpiled excavated material providing a point source of exposed sediment.</p> <p>Works during the construction of the Proposed Development</p>	<p>Release of suspended solids to groundwater.</p> <p>Contamination of local drinking water supplies and groundwater aquifers.</p> <p>Groundwater and surface water emissions from construction activities.</p> <p>Accidental spillage during refuelling.</p>	2	<p>As outlined in Chapter 4 (Description of the Proposed Development), fuel storage and re-fuelling plant and machinery will be managed on-site to ensure containment and prevent spillages of fuel. No fuels, chemicals or solvents will be stored outside of the confines of the Proposed Development site.</p> <p>Setback distances from sensitive hydrological features means that adequate room is maintained for the proposed drainage mitigation measures as detailed in Chapter 9 (Hydrology &amp; Hydrogeology).</p> <p>Detailed mitigation measures and methodologies for the</p>	2	<p>The risk of a fuel spillage at the Site causing a significant environmental effect is extremely low taking all and best practice measures proposed into account.</p> <p>Should impacts to drinking water occur as a result of construction activities at the Site, a limited consequence in that there would be ‘a limited number of people affected’ with ‘localised effects of short duration’ on people and environmental receptors due to the nature of the Proposed Development. There will be ‘normal community functioning’ in the area with ‘some inconvenience’ The co-ordination systems as well as the response elements detailed in the Cork County Council – Major Emergency Plan 2021 work to reduce the</p>	4

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		which may result in entrainment of sediment from the excavations REG. No. <del>PLANNING (WEST) DEPT</del> CORK COUNTY COUNCIL NORTON HOUSE, SKIBBEREEN, CO. CORK 15 SEP 2025			control of emissions from the Proposed Development associated works as described in the EIAR. Standard and specific mitigation to prevent accidents and indirect effects of accidents are included in the Proposed Development design and will be implemented.		consequence (both on people and the environment) of potential for impacts to drinking water at the Site.  The potential residual environmental effects are described in detail in Chapter 8 and Chapter 9 which conclude that there will be no significant environmental effects.	
G	Fire / Explosion	Equipment or infrastructure failure;  Fuel spillage/storage;  Electrical problems; and  Employee negligence.	Illness or loss of life;  Damage to, or depletion of habitats and species;  Impacts on ambient air quality; and	2	As outlined in Chapter 4 (Description of the Proposed Development), fuel stored onsite during the construction phase of the Proposed Development will be stored in bunded areas. Therefore, fuel leakage/spillage is not considered to be a significant fire risk.	2	Should a fire/explosion occur at the Site, a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' on people and environmental receptors due to the nature of the Proposed Development and the lack of infrastructure or fuel storage during operation	4



Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
			Fire and explosion.		In accordance with Chapter 19 of the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the development shall be subject to a fire safety risk assessment which would assist in the identification of any major risks of fire on site, and mitigation of the same during operation.		that would result in any such incident.  There will be 'normal community functioning' in the area with 'some inconvenience' The co-ordination systems as well as the response elements detailed in the Cork County Council – Major Emergency Plan 2021 work to reduce the consequence (both on people and the environment) of potential fire/ explosions at the Site.	
H	<b>Collapse / damage to structures</b>	Vehicular collisions due to driver negligence on public roads; and  Earthquakes, extreme weather events.	Injury or loss of life.	1	According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are “normal” in terms of seismicity in Ireland. These are known as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such,	1	The risk of infrastructure collapse during the construction phase will result in a minor consequence in that a 'small number of people would be affected' and no real likelihood of any impact on any environmental receptors.	1

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	<p style="text-align: center;">CORK COUNTY COUNCIL            NORTON HOUSE, SKIBBEREEN, CO. CORK</p> <p style="text-align: center;">06 NOV 2025</p>	<p style="text-align: center;">REG. NO. _____            PLANNING (WEST) DEPT</p>			<p>buildings in Ireland are extremely unlikely to be damaged or collapse due to seismic activity.</p> <p>As outlined in Chapter 11 (Climate) of this EIAR, due to Ireland's latitudinal position, the probability of extreme weather events posing a threat to human life are low. However, in the circumstance of such a weather event occurring at the Site of the Proposed Development during the operational phase, the Severe Weather Plan as set out in the Cork County Council – Major Emergency Plan 2021 will be followed.</p> <p>Having regard to speed limits within the Site, it is not predicted that any collision of vehicles and any infrastructure would</p>		<p>In the event of a severe weather event, all stipulations outlined in the Severe Weather Plan will be followed explicitly.</p>	

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					result in significant damage/collapse.			
<b>Operational Phase</b>								
I	Severe Weather	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life.	3	The risk of severe weather is unlikely when considering the assessment in Chapter 11 (Climate) and weather conditions recorded over the last 30 years within the area.	1	The risk of severe weather conditions during the operational phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur with 'no fatalities and a small number of minor injuries with first aid treatment'.	3
J	Flooding	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life; Groundwater Flooding; Flooding to surrounding properties; and Damage to, or depletion of	2	The risk of flooding is considered unlikely when taking into account the assessment in Chapter 9 (Hydrology and Hydrogeology) of the EIAR, the Site-specific Flood Risk Assessment detailed in Appendix 9-1, and the implementation of a bespoke drainage design plan for the project.	1	The risk of flooding during the operational phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.	2

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
			aquatic habitats and species.					
K	Contamination	A vehicular incident on the public road or Proposed Development road network involving fuel, wastewater or sewage transportation in the operational phase.	Damage to, or depletion of aquatic habitats and species.  Contamination of local drinking water supplies, Group Water Schemes, and groundwater aquifers.	2	As outlined in Chapter 9 (Hydrology & Hydrogeology), fuels stored on site will be minimised and any hydrocarbons stored on-site will be banded to 110% of the storage tanks maximum capacity.	1	The risk of a fuel spillage or impact on surrounding drainage during the operational stage will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration', through the use of banded containment areas during operation. The potential residual environmental effects are described in detail in Chapter 9 (Hydrology & Hydrogeology) which concludes that there will be no significant environmental effects.	2
L	Fire / Explosion	Equipment or infrastructure failure;	Illness or loss of life;  Damage to, or depletion of	2	There is a possibility of equipment failure during the operational phase of the Proposed Development. The	2	Should a fire/ explosion occur at the Site, a limited consequence in that there would be 'a limited number of people affected' with	4

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		<p>Fuel spillage/storage;</p> <p>Electrical problems; and</p> <p>Employee negligence.</p>	<p>habitats and species; and</p> <p>Impacts on ambient air quality.</p>		<p>proposed turbines have an operation life of approximately 35 years, but components may need to be replaced before this period has passed. The existing onsite 38kV substation will need maintenance.</p> <p>In accordance with Chapter 19 of the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the Proposed Development shall be subject to a fire safety risk assessment which would assist in the identification of any major risks of fire on site, and mitigation of the same during operation.</p>		<p>'localised effects of short duration' on people and environmental receptors due to the nature of the Proposed Development and the lack of infrastructure or fuel storage during operation that would result in any such incident. There will be 'normal community functioning' in the area with 'some inconvenience' The co-ordination systems as well as the response elements detailed in the Cork County Council – Major Emergency Plan 2021 work to reduce the consequence (both on people and the environment) of potential fire/ explosions at the Site.</p> <p>As modern turbine blades are composite structures, the risk of injury arising from the malfunction of a turbine is low. Additionally,</p>	

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
							all turbines are located in excess of 500m from the nearest dwellings, again minimising the risk of injury and threat to human life.	
M	Collapse/ damage to structures	<p>Vehicular collisions due to driver negligence on public roads; and</p> <p>Earthquakes, extreme weather events.</p>	Injury or loss of life.	1	<p>According to the Irish National Seismic Network (INSN), earthquakes measuring ~2 on the Richter Scale are “normal” in terms of seismicity in Ireland. These are known as microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. As such, buildings in Ireland are extremely unlikely to be damaged or collapse due to seismic activity.</p> <p>As outlined in Chapter 11 (Climate) of this EIAR, due to Ireland’s latitudinal position, the probability of extreme weather events</p>	1	<p>The risk of infrastructure collapse during the operational phase will result in a minor consequence in that a ‘small number of people would be affected’ and no real likelihood of any impact on any environmental receptors.</p> <p>In the event of a severe weather event, all stipulations outlined in the Severe Weather Plan will be followed explicitly.</p>	1

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					<p>posing a threat to human life are low. However, in the circumstance of such a weather event occurring at the Site of the Proposed Development during the operational phase, the Severe Weather Plan as set out in the Cork County Council – Major Emergency Plan 2021 will be followed.</p> <p>Having regard to speed limits within the Site, it is not predicted that any collision of vehicles and any infrastructure would result in significant damage/collapse.</p>			
N	Traffic Incident	Driver negligence or failure of vehicular operations on Proposed Development site roads.	Injury or loss of life.	3	<p>A very low number of vehicles will access the Proposed Development site as part of the operational phase.</p> <p>As such, it can be determined that there is</p>	1	A minor consequence is predicted. Having regard to on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small	3

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
		Traffic Management not implemented.			some 'opportunity, reason or means' for a vehicle collision to occur on the Site, 'at some time.' An unlikely risk is therefore predicted.		number of minor injuries with first aid treatment.'	
<b>Decommissioning Phase</b>								
0	Severe Weather	Extreme weather- periods of heavy rainfall taking into account climate change and strong winds.	Illness or loss of life; and Damage to, or depletion of aquatic habitats and species.	3	The risk of severe weather is unlikely when considering the assessment in Chapter 11(Climate) and weather conditions recorded over the last 30 years within the area.  Decommissioning works will be paused should a Status Red weather warning alert be issued by Met Eireann as is standard practice.	1	The risk of severe weather conditions during the decommissioning phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.  Decommissioning will not require significant excavations works. There is no likelihood of any impact on any environmental receptors.	3

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
P	Flooding	Extreme weather- periods of heavy rainfall, taking into account climate change and strong winds.	Illness or loss of life; Groundwater Flooding; Flooding to surrounding properties; and Damage to, or depletion of aquatic habitats and species.	2	The risk of flooding is considered unlikely when taking into account the assessment in Chapter 9 (Hydrology & Hydrogeology) of the EIAR.	1	The risk of flooding during the decommissioning phase will result in a minor consequence in that a 'small number of people would be affected' should a severe weather event occur, with 'no fatalities and a small number of minor injuries with first aid treatment'.	2
Q	Traffic Incident	Driver negligence or failure of vehicular operations on site roads.  Traffic Management not implemented.	Injury or loss of life.	3	Traffic movements associated with the decommissioning phase of the Proposed Development will be limited to Heavy Goods Vehicles (HGVs) needed for the decommissioning works, and Light Goods Vehicles (LGVs) needed to transport construction staff to the Site.	1	A minor consequence is predicted. Having regard to on-site speed limits and vehicular movements, a 'small number of people would be affected' should a vehicular collision occur, with 'no fatalities and small number of minor injuries with first aid treatment.'	3

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood Rating	Basis of Likelihood	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
					As such, it can be determined that there is some 'opportunity, reason or means' for a vehicle collision to occur on site, 'at some time.' An unlikely risk is therefore predicted.			
R	Contamination	<p>Fuel spillage during delivery to the Site.</p> <p>Failure of fuel storage tank or tanks in plant and machinery and vehicles.</p> <p>Eathworks resulting in Suspended Solids Entrainment in Surface Water</p>	<p>Damage to, or depletion of aquatic habitats and species; and</p> <p>Discharge to groundwater.</p> <p>Degradation of water quality and contamination of local drinking water supplies and groundwater aquifers.</p>	2	<p>As outlined in Chapter 4 (Description of the Proposed Development), fuel will be stored on-the Proposed Development Site but in a bunded area to ensure containment and prevent spillages of fuel. No fuels, chemicals or solvents will be stored outside of the confines of the Site</p> <p>All main infrastructure (turbines, hardstands, temporary construction compounds etc.) besides roads for site access will be kept outside the water abstraction zone.</p>	2	<p>The risk of a fuel spillage or impact on surrounding drainage during the decommissioning stage will result in a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' through the use of bunded containment areas during decommissioning. The potential residual environmental effects are described in detail in Chapter 9 Hydrology &amp; Hydrogeology which concludes that there will be no significant environmental effects.</p>	4

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Risk ID	Potential Risk	Possible Cause	Environmental Effect	Likelihood	Likelihood Rating	Basis of Likelihood	Consequence	Consequence Rating	Basis of Consequence	Risk Score (Consequence x Likelihood)
						Setback distances from sensitive hydrological features means that adequate room is maintained for the proposed drainage measures as detailed in Chapter 9 Hydrology & Hydrogeology.			Should impacts to drinking water occur as a result of decommissioning activities at the Site, a limited consequence in that there would be 'a limited number of people affected' with 'localised effects of short duration' on people and environmental receptors due to the nature of the Proposed Development	

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The risk assessment for each of the potential risks identified are consolidated in Table 16-8 which provides their 'risk-score'. A corresponding risk matrix is provided in Table 16-9, which is colour coded in order to provide an indication of the critical nature of each risk. As outlined in Section 16.2.4.2, the red zone represents 'high risk' scenarios, the amber zone represents 'medium risk' scenarios, and the green zone represents 'low risk' scenarios.

Table 16-8 Risk Scores

Risk ID	Potential Risk	Likelihood Rating	Consequence Rating	Risk Score
<b>Construction Phase</b>				
A	Critical Infrastructure Emergencies	1	1	1
B	Severe Weather	3	1	3
C	Flooding	2	1	2
D	Peat Stability	2	2	4
E	Traffic Incident	3	1	3
F	Contamination	2	2	4
G	Fire / Explosion	2	2	4
H	Collapse/ damage to structures	1	1	1
<b>Operational Phase</b>				
I	Severe Weather	3	1	3
J	Flooding	2	1	2
K	Contamination	2	1	2
L	Fire / Explosion	2	2	4
M	Collapse/ damage to structures	1	1	1
N	Traffic Incident	3	1	3
<b>Decommissioning Phase</b>				
O	Severe Weather	3	1	3
P	Flooding	2	1	2
Q	Traffic Incident	3	1	3
R	Contamination	2	2	4

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Table 16-9 Risk Matrix

		Consequence Rating				
		1.Minor	2.Limited	3. Serious	4.Very Serious	5.Catastrophic
Likelihood Rating	5.Very Likely					
	4. Likely					
	3. Unlikely	B,E,I,N,O,Q				
	2. Very Unlikely	C,J,K,P	D,F,G,L,R			
	1. Extremely Unlikely	A,H,M				

Table 16-9 presents the potential risks identified during the construction, operation and decommissioning of the Proposed Development all of which can be classified as ‘low’ risk scenarios.

The scenarios with the highest risk score in terms of a major accident and/or natural disaster during the construction, operation and decommissioning phase of the Proposed Development are identified below.

16.4.1.5 **Contamination During Construction and Decommissioning (F, R)**

There is a potential risk of contamination from site activities during the construction, operation and decommissioning phases from potential release of hydrocarbons. The risk of contamination was given a risk score of 4 on a very precautionary basis. However, as outlined in Chapter 8 (Land, Soils & Geology), and Chapter 9 (Hydrology & Hydrogeology), measures will be put in place to reduce the risk of accidental spillage and contamination of pollution risk to soils, groundwater, surface water and associated ecosystems, and to terrestrial ecology.

The risk of contamination is ‘very unlikely’ to occur and will have ‘limited’ consequences should it do so, representing a ‘low-risk scenario’ during the construction and decommissioning phases.

The conclusions in the relevant chapters of the EIAR state that there will be no significant effects associated with this potential impact.

16.4.1.6 **Peat Stability During Construction (D)**

There is a potential risk of peat instability during the construction of the Proposed Development. The risk of peat instability was given a risk score of 4. The risk of peat instability has been minimised through the careful design of the Proposed Development and will be further limited through the implementation of the best practice construction control measures outlined in the Geotechnical and Peat Stability Report; Appendix 8-1 of the EIAR.

The risk of peat instability is ‘very unlikely’ to occur and will have ‘limited’ consequences should it do so, representing a ‘low-risk scenario’ during the construction phase. Therefore, there will be no significant effect.

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All mitigation measures proposed as part of this project are also listed in Chapter 18: Schedule of Mitigation & Monitoring Measures.

### 16.4.2.3 Mitigation – Severe Weather During Construction, Operation and Decommissioning (B, I,O)

The works programme for the construction stage of the development will take account of weather forecasts and work will be suspended in the case of extreme weather events. The following forecasting and weather warning systems are available and will be used on a daily basis at the Site to direct proposed construction activities:

- General Forecasts: Available on a national, regional and county level from the Met Éireann website ([www.met.ie/forecasts](http://www.met.ie/forecasts)). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- Weather Warning or Advisories: Met Éireann's main suite of warnings are issued by the duty forecaster between 10am and midday and are updated as necessary as new information becomes available. In general, warnings will not be issued more than 60-hours ahead of the expected adverse weather but advisories on potential hazards are issued up to a week in advance. The three warning categories are:
  - Yellow: Not unusual weather. Localised danger.
  - Orange: Infrequent. Dangerous/disruptive.
  - Red: Rare. Extremely dangerous/destructive.
- MeteoAlarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;
- 3-hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;
- Rainfall Radar Images: Images covering the entire country are freely available from the Met Éireann website ([www.met.ie/latest/rainfall\\_radar.asp](http://www.met.ie/latest/rainfall_radar.asp)). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and
- Consultancy Service: Met Éireann provide a 24-hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest.

### 16.4.2.4 Mitigation – Peat Stability During Construction (D)

The findings of the Geotechnical & Peat Stability Report (Appendix 8-1) showed that the Site has an acceptable margin of safety, is suitable for the Proposed Development and is considered to be at low risk of peat failure. The findings include recommendations and control measures for construction work in peatlands to ensure that all works adhere to an acceptable standard of safety. These measures are summarised below and further detailed in Appendix 8-1;

- Detailed ground investigation to confirm peat, mineral soil and bedrock condition and properties.
- Use of experienced geotechnical staff for site investigation.
- Excavations will require temporary support and regular inspection.
- Side casting of excavated material only in designated areas.
- No temporary stockpiling of materials on in-situ peat.
- Maintain hydrology of area as far as possible by maintaining existing drains to prevent the build-up of water pressures in the peat, leading to the peat becoming "buoyant".
- Use of experienced contractors and trained operators to carry out the work.

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- Monitoring upslope and downslope of open excavations and along the section of existing floating road.
- Limits on the length of excavation (10m) left open before backfilling.

### 16.4.3 Residual Effects

The risk of a major accident and/or disaster during the construction of the Proposed Development is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

It is considered that when the above mitigation is implemented, and all mitigation detailed in the EIAR is implemented, there will not be significant residual effect(s) arising during the construction, operation and decommissioning of the Proposed Development.

### 16.4.4 Monitoring

#### 16.4.4.1 Monitoring During Construction

As outlined in Section 4.4 of the EIAR, the CEMP will be reviewed and updated prior to the commencement of any works. The CEMP will be a live document maintained by the contractor that will work to ensure that potential risks of major accident and/or disaster are identified, avoided and mitigated, as necessary. Refer to Appendix 4-3 for the CEMP that sets out the minimum standards to be employed by the contractor.

All monitoring measures proposed as part of this project are also listed in Chapter 18: Schedule of Mitigation.

#### 16.4.4.2 Monitoring During Operation

The operator of the Proposed Development will continue to assess the risk of major accidents and/or disasters on Site on an on-going basis during operation.

The maintenance programme, record of reported incidents, as well as general site activities will be monitored on an on-going basis to ensure risk of major accidents does not increase over time.

#### 16.4.4.3 Monitoring During Decommissioning

As outlined in Section 4.11 of the EIAR, a Decommissioning Plan has been prepared (Appendix 4-6) the final detail of which will be agreed with the local authority prior to any decommissioning. The Decommissioning Plan will be updated prior to the end of the operational period in line with decommissioning methodologies that may exist at the time and will be finalised with the competent authority at that time. The Decommissioning Plan includes mitigation and monitoring measures that will be in place during the decommissioning phase. These can also be found in a Chapter 18 Schedule of Mitigation and Monitoring Measures which sets out all proposed Mitigation and Monitoring Measures for all three phases of the Proposed Development.

### 16.4.5 Assessment of Cumulative Effects

A search in relation to plans and projects that may have the potential to result in a cumulative impact with the Proposed Development on the environment was carried out as part of the EIAR. The Proposed Development has been considered, in combination with existing, permitted and proposed

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developments and plans (wind energy or otherwise), as set out in Section 2.9 in Chapter 2 (Background to the Proposed Development) of this EIAR.

All elements of the Proposed Development were assessed to identify any cumulative effects. A wind farm including all its various components including the grid connection works, substation, roads, turbines etc is not a recognised source of pollution. It is not subject to Industrial Emissions Directive regulation or any other Environmental Protection Agency environmental regulatory consent. Should a major accident or natural disaster occur the potential sources of pollution onsite during the construction, operational and decommissioning phases are limited and of low environmental risk. Sources of pollution with the potential to cause significant environmental pollution and associated negative effects such as bulk storage of hydrocarbons or chemicals, storage of wastes, management of flammable materials etc. are limited and so there is an inherent low level of environmental risk associated with major accident or natural disaster.

There is low potential for significant natural disasters to occur at the Site. Ireland is a geologically stable country with a mild temperate climate. The potential natural disasters that may occur are therefore limited and these have been assessed in the context of the Proposed Development, cumulatively in this chapter and in the wider EIAR.

Major industrial accidents involving dangerous substances pose a significant threat to humans and the environment; such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the site of the accident. The Proposed Development is not regulated or connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites and so there are no potential effects from this source. There is no real likelihood of significant environmental effects cumulatively associated with major accidents.

The Proposed Development has low potential to cause natural disasters or major accidents. The Site is a peatland site and so there is potential for peat slides or landslides. However, the risk of peat slides/landslides is low. Any risks associated with flooding, impacts on infrastructure, accidents etc. are addressed in the sections above. There is no real likelihood of significant environmental effects cumulatively associated with the Proposed Development's potential to cause accidents or natural disasters.

Following a detailed assessment of the potential for any further impact when considered in combination with any or all of the plans and projects set out in Chapter 2, Section 2.9, the Proposed Development, with mitigation measures in place, was found to have no potential for significant cumulative effects associated with the potential for the project to be impacted by major accidents and/ or natural disasters or the Proposed Developments potential to cause major accidents and/ or natural disasters. This is based on the low risk associated with the Proposed Development described in this Chapter of the EIAR and a review of the nature of the surrounding land uses and projects existing or intended in the surrounding area. Therefore, the cumulative residual effect of the Proposed Development to cause or be impacted by major accidents and natural disasters is not significant.

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