

18 Risk of Major Accidents and/or Disasters

18	Risk of Major Accidents and Disasters	1
18.1	Introduction.....	2
18.2	Quality Assurance and Competency of Experts.....	2
18.3	Study Methodology	3
18.4	Site Specific Risk Assessment Methodology.....	3
18.5	The Existing Receiving Environment (Baseline)	5
18.6	The Proposed Development.....	5
18.7	Predicted Impacts - Risk of Major Accidents and/or Disasters.....	7
18.8	Potential Cumulative Impacts	8
18.9	Risks to Human Health.....	8
18.10	Mitigation Measures	10
18.11	Interactions.....	12
18.12	Conclusions	12
18.13	References	12

18.1 Introduction

The EIA Directive has been amended to include 'Risk Management' as an issue to be addressed. Article 3 of the new EIA Directive requires that the EIA shall identify, describe and assess in the appropriate manner, the direct and indirect significant effects on population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage, and landscape deriving from (amongst other things) the "vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned".

The Planning and Development Regulations 2001, as amended, Schedule 6 paragraph 2(h) indicate that it may be appropriate to furnish additional information in relation to the following –

(h) a description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment 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, emergencies arising from such events.

As set out in the European Commission's, *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report*, Annex IV of the EIA Directive contains direct reference to accidents and disaster risks in two provisions. The Directive uses the terms 'major' accidents and 'disasters', which are tied to the notion of significant effects (see the section below on assessing effects on the environment): the focus of these provisions is on significant risk and/or a risk that could cause significant environmental effects. Two key considerations emerge therefrom, namely:

- a project's potential to cause accidents and/or disasters; and
- the vulnerability of the Project to potential disaster/accident.

Accordingly, this chapter identifies and assesses the likely significant impacts on the environment arising from the vulnerability of the proposed development to risks of major accidents and / or natural disasters. It considers whether the proposed development is likely to cause accidents and / or disasters and its vulnerability to them.

The purpose of the chapter is to ensure that the safety and precautionary measures necessary to protect the proposed development in the event of a major accident and / or natural disaster are identified and that appropriate mitigation measures are provided that would protect the environment in the event of such occurrences.

This chapter will identify the types of major accidents / natural disasters that the project is vulnerable to; whether major accidents or natural disasters and the responses to these give rise to significant adverse environmental impacts; the nature of these impacts and the measures needed to prevent or mitigate the likely adverse impact of such events on the environment.

18.2 Quality Assurance and Competency of Experts

This chapter of EIAR has been prepared by Katarina Kanevova, who completed her Master's Degree in Spatial Planning at Slovak University of Technology in Bratislava, Slovakia in 2010. Following her studies she worked in forward planning, specialised on land-use planning projects in Slovakia. Her main focus after moving to Ireland is on residential development. Katarina is a Corporate Member of the Irish Planning Institute.

This chapter has been reviewed by Linda McEllin, Associate Director at Brock McClure Planning & Development Consultants. Linda has worked at Brock McClure for 11 years and has over 18 years' experience in the private planning sector. Linda has focused her expertise in the areas of Large

Scale Residential Developments. Linda has a Master's Degree in Regional and Urban Planning from University College Dublin. Linda is a Corporate Member of the Irish Planning Institute.

18.3 Study Methodology

The proposed development has been designed and will be constructed in line with best practice. Major accidents and / or natural disasters are therefore very unlikely. The identification, control and management of risk is an integral part of the design. The following section set outs a risk analysis, which addressed the identification, likelihood and consequence of major accidents and / or natural disasters.

The relevant legislation that applies to this chapter is the Planning and Development Regulations 2001 as amended, and in particular Schedule 6 – Information to be contained in EIAR. The following paragraph of Schedule 6, Paragraph 2(e)(i)(IV), specifically refers to *"a description of the likely significant effects on the environment of the proposed development resulting from ... the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)"*.

Paragraph 2(h) further expands with *"a description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment 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, emergencies arising from such events."*

Additionally, the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the "COMAH Regulations"), which implement the Seveso III Directive (2012/18/EU), and which revoked the 2006 Major Accident Regulations also applies to this Chapter.

18.4 Site Specific Risk Assessment Methodology

This section identifies the potential of unplanned but potential events that could occur during construction and operation of the proposed development.

Cognisance has been taken of the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022). This document follows the requirements laid out in the Directive 2014/52/EU.

Specifically, the EPA Guidelines state that the EIAR must take account of *"the vulnerability of the project to risk of major accidents and/or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and / or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)... The potential for a project to cause risks to human health, cultural heritage or the environment due to its vulnerability to external accidents or disasters is considered where such risks are significant, e.g., the potential effects of floods on sites with sensitive plants. Where such risks are significant then the specific assessment of those risks in the form of a Seveso Assessment (where relevant) or Flood Risk Assessment may be required. The EIAR should refer to those separate assessments while avoiding duplication of their contents."*

Reference has also been made to the Department of the Environment, Heritage & Local Government (DoEHLG) Publication 'Guide to Risk Assessment in Major Emergency Management 2010' and the Office of Emergency Planning, Department of Defence (DOD) Publication 'A National

Risk Assessment for Ireland 2020'. A consolidated list of national hazards for Ireland identified in the DOD document are identified in Table 18.3.

Ranking	Classification	Likelihood
1.	Extremely Unlikely	May occur 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 organisations worldwide; some opportunity; reason or means to occur; may occur once per 10-100 years.
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.

Table 18.1 - Classification of Likelihood (Extracted from DoELG – A framework for major emergency management guidance document 1: A guide to Risk Assessment in Major Emergency Management 2010)

The site is not in an area prone to natural disasters. Risks were reviewed through the identification. Therefore the risks set out below are considered the most relevant potential risks, with the likelihood identified from extremely unlikely (1) to very likely (5).

A risk matrix can be prepared against which the proposed development can be tested.

Likelihood	5 – V. Likely					
	4 – Likely					
	3 – Unlikely					
	2 – V. Unlikely					
	Ext. Unlikely					
		1 Minor	2 – Limited	3 Serious	4 – V. Serious	5 – Catastrophic
Consequence of Impact						

Table 18.1 Risk Matrix

Significant effects resulting are adverse effects that are described as 'Significant', 'Very Significant' or 'Profound' under the EPA Guidelines (2022). Consequently, any evaluated risks that fall within Amber or Red Zones ('Medium' or 'High' Risk Scenarios) are brought forward for further consideration and assessment for further mitigation.

Hazard: Civil	Hazard: Natural
- Large Crowd Event - Pandemic - Water Supply Distribution and Contamination - Food Chain Contamination - Animal Disease - Terrorist Incident	- Storm - Snow and Ice (including prolonged low temperature) - Flooding (including pluvial, fluvial and coastal)

Hazard: Civil	Hazard: Natural
Hazard: Transportation	Hazard: Technological
- Maritime Incident - Air Incident - Transport Hub (including Airports, Ports and Rail Stations)	- Structural Collapse (including Dam, Tunnel, Bridge and Building) - Nuclear Incident (Abroad) - Cyber Incident - Disruption of Energy Supply (including oil, gas, electricity and communications)

Table 18.3 - Identification of Key Risks and Categorisation

The site is not in an area prone to natural disasters. Risks were reviewed through the identification of plausible risks in consideration with relevant specialists. The risks set out below are considered the most relevant potential risks.

Category	Risk Factor Type	Likelihood
Weather	Storms/Snow	3
Hydrological	Risk from Flooding	1
Geological	Made ground	3
Road	Traffic Accident	3
Industrial Accident	Seveso Site	1
Explosion	Natural Gas	1
Fire	Construction and Operation	3
Building Collapse	Structural Failure	1
Hazardous Substance Escape	Construction	2
Pollution	Construction	3

Table 18.4 - Identification of Key Risks and Categorisation

The likely significant effects are set out below.

18.5 The Existing Receiving Environment (Baseline)

In terms of risk of major accidents and disasters, the subject site is located outside major potential risk areas such as seveso sites and airport and its protection zone.

Flood zone A is noted in the north west corner of the subject site and it is further addressed in Chapter 8 Hydrology.

The subject site benefits of a valid planning permission for 291 no. residential units granted under SHD ABP-303804-19.

18.6 The Proposed Development

Likely Significant Effects

The likely significant effects are set out below.

Do Nothing Scenario

The Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment (European Union, 2022), states that:

“The ‘do-nothing’ alternative is a general description of the evolution of the key environmental factors of the site and environs if the proposed project did not proceed. It is similar to but typically less detailed than the ‘likely future receiving environment’ description discussed in section 3.6 Describing the Baseline. It should cumulatively consider the effects of projects which already have

consent but are not yet implemented. It may also be appropriate to consider other projects that are planned but not yet permitted. For example, it would be prudent to consider a significant project for which a planning application has been lodged even if the consent decision has not been issued. The 'do-nothing' alternative should describe consequences that are reasonably likely to occur. It ought not be used to exaggerate or catastrophise environmental consequences that may occur without the proposed project.." (P35)

For the proposed development, where the development does not proceed, it is likely that the permitted development of 291 no. residential units under SHD ABP-303804-19 would be implemented within the permission expiring in 2029.

This would (a) not fully realise the potential of the subject sites for sustainable residential use, and (b) not change the character (for the better) or improve the quality of the Temple Hill streetscape to the extent that the proposed development would.

Construction Phase

The proposal will involve the management of invasive species on site; the excavation of a basement level; traffic management; use of equipment and machinery on site; and scaffolding. The impact of the construction period will be temporary in nature, HGV vehicles are not expected to exceed 10 vehicles per hour during the busiest period of construction works.

The management of all hazardous waste arising, if they occur, shall be coordinated in liaison with Health and Safety Management. In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify Dun Laoghaire-Rathdown County Council (DLRCC) and provide a Hazardous/Contaminated Soil Management Plan.

Operational Phase

The proposal provides for a residential development consisting of 414 units, a residential tenant amenity space, a creche and a café.

The design criteria of the buildings are in accordance with all relevant building and fire safety standards. Fire alarms, fire extinguishers and fire blankets will be installed in all internal areas. All fire alarms will be in accordance with the current I.S. 3218:2024 and the Fire Certificate, and all fire extinguishers will meet the requirements of I.S. 291:2015 + A1:2022 – Selection, Commissioning, Installation, Inspection and Maintenance of Portable Fire Extinguishers.

A fire evacuation strategy will be put in place in advance of occupancy. Appropriate means of escape in case of fire involving multiple escape stairs, ventilated corridors and sprinkler systems have been designed into each of the warehousing units. Fire safety checks and fire drills will be employed by the Management Company once the Proposed Development is operational. Access routes serving the Proposed Development have been designed to provide adequate space for the Fire Brigade.

The cleaning of windows in the buildings will be undertaken by a specialist contractor and risks of accidents will be minimised as a result.

There are no exceptional risks associated with technology.

The Flood Risk Assessment enclosed herewith sets out the following flood risk analysis for operational stage:

Source	Pathway	Receptor	Likelihood	Consequence	Risk	Mitigation Measure	Residual Risk
Fluvial	Carysfort-Maretimo which runs adjacent to	Proposed development	Low	Moderate. water ingress	Low	None	Low

	the sites Northern Boundary.			into the building and basements			
Coastal	Site is located 300m from the Coastline	Proposed development	Moderate	Low	Low	None	Low
Surface Water (Pluvial)	Private and Public Drainage Network	Proposed development	Moderate	Low	Low	Appropriate drainage design, over land flood routing and setting of appropriate floor levels	Low
Human Mechanical Error (Pluvial)	Failure of SuDS measures (e.g. Hydrobrake failure)	Proposed development	Moderate	Medium	Medium	Additional SuDS measures have been incorporated into the design.	Low
Ground Water	Rising groundwater levels within the site	Proposed development	Moderate	Moderate. Ground water Ingress into Basement	Medium	To minimise the risk to the development, all finish floor levels, thresholds or basement entrances should be raised by 100mm from the surrounding hardstanding areas to risk of inundation.	Medium

Table 18.5 - Flood Risk Analysis

As the flood risk from all sources can be mitigated, reducing the flood risk to low or very low, the proposed development is considered acceptable in terms of flood risk.

18.7 Predicted Impacts - Risk of Major Accidents and/or Disasters

The following risk register has been prepared to identify the main risks identified within the construction and operational phases of the development. All other risk events were considered not relevant for the proposed development/ the development not considered vulnerable.

Risk No.	Risk Event	Possible Cause
Construction Stage		

1.	Accidents during construction	Traffic Working at Height Fire Ground Water Pollution
2.	Adverse Weather	Snow/Storms/Poor Weather System
Operational Stage		
3.	Fire Following Occupation	Inappropriate Use of Electrical Appliances
4.	Falls	Falling from Roof Gardens Window Cleaning
5.	Flooding	Tidal Fluvial Pluvial Ground Water Human/Mechanical Error

Table 18.6 - Main Risks

18.8 Potential Cumulative Impacts

The potential cumulative impacts of the proposed development and on population and human health have been considered in conjunction with the other projects in the surrounding area and relevant plans and particulars.

This impact is likely to be long term and is considered to be positive, having regard to the zoning objective for the subject lands, and their strategic location in close proximity to high quality, high frequency public transport, and the high level of demand for new housing in the area.

18.9 Risks to Human Health

The potential for increased accidents is also considered low as a result of the relatively minor traffic increases. The worst-case scenario where mitigation measures failed for a development of the type proposed is considered to be the risk of an accident during the construction phase. This is considered highly unlikely.

In addition, the following risks to human health have been identified in individual chapters of this EIAR and these are set out herein for transparency in relation to overall risks to human health.

- **Lands Soils, Geology, Hydrology, Utilities :** A potential risk to human health due to the associated works during construction is the direct contact, ingestion or inhalation of receptors (i.e. construction workers) with any soils which may potentially contain low level hydrocarbon concentrations from Site activities (potential minor leaks, oils and paint).

No human health risks associated with long term exposure to contaminants (via. direct contact, ingestion or inhalation) resulting from the proposed development are anticipated.

- **Noise and Vibration:** The potential impacts on human beings in relation to the generation of noise and vibration during the construction phases are that high levels of noise and vibration could cause a degree of nuisance to people in nearby sensitive locations. Implementation of the mitigation measures set out and adherence to good practice noise

reducing measures will ensure that the residual impact on human health will be lessened and impacts will be short-term, slight to moderate and negative in nature.

Similarly, during the operational phase, plant selections designed to achieve the relevant noise criteria will result in a residual impact that is long-term, imperceptible and neutral to people in nearby noise sensitive locations.

- **Air & Climate:** Dust emissions from the construction phase of the proposed development have the potential to impact human health through the release of PM₁₀ and PM_{2.5} emissions. As per section 9.3.4 the surrounding area is of low sensitivity to dust related human health impacts. It was determined that there is an overall low risk of dust related human health impacts as a result of the construction phase of the proposed development. Therefore, in the absence of mitigation there is the potential for imperceptible, negative, short-term impacts to human health as a result of the proposed development.
- **Wind and Microclimate:** From the simulation results the following observations are pointed out:
 - The proposed development has been designed in order to produce a high quality environment that is attractive and comfortable for pedestrians of all categories. To achieve this objective, throughout the design process, the impact of wind has been considered and analysed, in the areas where critical patterns were found, the appropriate mitigation measures were introduced.
 - As a result of the final proposed, wind flow speeds at ground floor are shown to be within tenable conditions. Some higher velocity indicating minor funnelling effects are found near the South-West side of the development. However, as it is shown in the Lawson map indicate that the area can be utilised for the intended use.
 - Due to re-circulation effects between Block D, this area is suitable for short term sitting instead of long term sitting. These conditions are not occurring at a frequency that would compromise the pedestrian comfort, according to the Lawson Criteria.
 - Regarding the balconies, higher velocities can be found for some directions, only on some of the balconies. However, these velocities are below the threshold values defined by the acceptance criteria and therefore are not critical for safety.
 - Tree planting all around the development has been utilised, with particular attention to the corners of the Blocks has positively mitigated any critical wind effects. Thus, it can be concluded that at ground floor good shielding is achieved everywhere.
 - The proposed development does not impact or give rise to negative or critical wind speed profiles at the nearby adjacent roads, or nearby buildings. Moreover, in terms of distress, no critical conditions were found for "Frail persons or cyclists" and for members of the "General Public" in the surrounding of the development.
 - The proposed development does not impact or give rise to negative or critical wind speed profiles at the nearby adjacent roads, or nearby buildings.
- **Material Assets - Traffic and Transport:** A number of temporary risks to human health may occur during construction phase related to noise, dust, air quality and visual impacts which are addressed in other sections of this EIAR. There will be a slight increase in traffic on the local road network.
- **Material Assets - Waste Management:** The potential impacts on human beings in relation to the generation of waste during the demolition, construction and operational phases would occur from the incorrect management of waste. This could result in littering which could cause a nuisance to the public and attract vermin. A carefully planned approach to waste management and adherence to the project specific C&DWMP and OWMP, will ensure appropriate management of waste and avoid any negative impacts on the local population. **long-term, imperceptible and neutral.**

18.10 Mitigation Measures

Construction Stage

The following mitigation measures are proposed within the Construction Management Plan, which reduce the risks of major accidents and disasters and risks to human health.

All works on site shall comply with BS 5228 2009+ A1 2014 (Parts 1 & 2) which gives detailed guidance on the control of noise and vibration from construction activities. In general, the following mitigation measures shall be implemented during the proposed construction works:

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Keep internal haul roads well maintained and avoid steep gradients.
- Minimise drop height of materials.
- Start-up plant sequentially rather than all together
- In accordance with "Best Practicable Means", plant and activities to be employed on site are reviewed to ensure that they are the quietest available for the required purpose.
- Where required, improved sound reduction methods are used e.g. enclosures.
- Site equipment is located away from noise sensitive areas, as much as physically possible.
- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Hours will be limited during which site activities likely to create high levels of noise and vibration are carried out.
- A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site.

Site Route Measures:

Site access routes (particularly unpaved areas) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25% to 80%⁵.

- A speed restriction of 20 km/h will be applied as an effective control measure for dust for on-site vehicles or delivery vehicles within the vicinity of the site;
- Bowsters will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50% . The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced areas shall be restricted to essential site traffic only.

Site Traffic Control Measures:

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered at all times to restrict the escape of dust;
- Any hard surface site roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.

- A power washing facility or wheel cleaning facility will be installed near to the site compound for use by vehicles exiting the site when appropriate, and an example of the washing equipment can be seen in insert 7.1 ; and
- Road sweepers will be employed to clean the site access route as required.

Noise and Vibration Measures:

External noise and vibration monitoring will be undertaken at locations on the site boundary closest to sensitive locations. Monitors may be added, removed or relocated as necessary.

- Site traffic vehicle movements would be minimised through:
- Consolidation of delivery loads to/from the site and managing large deliveries on site to occur outside of peak periods.
- Use of precast/prefabricated materials where possible
- Adequate storage space on site will be provided
- A strategy will be developed by the main contractor to minimise construction material quantities as much as possible
- Site staff vehicle movements will also be minimised by offering Travel to Work Scheme benefits to encourage car sharing.

Dust Control Measures:

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.

- During working hours, technical staff will be available to monitor dust levels as appropriate; and
- At all times, the dust management procedures put in place will be strictly monitored and assessed.

The dust minimisation measures should be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities should be reviewed, and procedures implemented to rectify the problem. Specific dust control measures to be employed are presented below

Mobility Management Measures:

The contractor will be required as part of the contract to introduce a mobility management plan for its workforce to encourage access to the site by means other than by private car. The following section identifies some of the measures the contractor will provide as part of the Mobility Management Plan.

The Mobility Management Plan will form part of the Construction Management Plan and will be agreed with Dun Laoghaire Rathdown County Council prior to works beginning on site.

Walking

The contractor will ensure construction staff have ease of access to Temple Hill Road thereby providing convenient access to the public transport routes that run along same and the nearby DART line.

Cycling

Cycle parking spaces will be provided on the site for construction staff. In addition, lockers will be provided to allow cyclists store their cycling clothes.

Car Sharing

Car sharing among the construction staff will be encouraged, especially from areas where construction staff may be clustered. The contractor will aim to organise shifts in accordance to staff origins, hence enabling higher levels of car sharing. Such a measure offers a significant opportunity to reduce the proportion of construction staff driving to -site and which will minimise the potential traffic impact on the road network surrounding the site.

Public Transport

The Contractor will issue an information leaflet to all staff as part of their induction on site, highlighting the location of the various public transport services in the vicinity of the construction site.

Management of the Mobility Management Plan

To oversee and implement the Mobility Management Plan for the construction works, the following mechanisms will be put in place by the Main Contractor:

- The appointment of a Mobility Manager to implement the Plan.
- The establishment of a group (which includes the Main Contractor) to oversee the ongoing implementation of the Plan.

Operational Stage

At the operational level, a Site Engineer from the main contractor and Foreman from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the discrete operations stated in the Waste Management Plan are performed on an on-going basis.

18.11 Interactions

There are interactions with Population and Human Health, Land, Soils, Geology and Hydrogeology, Surface Water, Noise, Climate and Air, Material Assets, Traffic and Transport, Landscape and Visual, and Cultural Heritage.

18.12 Conclusions

Through the implementation of mitigation measures, there are no identified incidents or examples of major accidents and or natural disasters that present a sufficient combination of risk and consequence that are likely to lead to significant residual impacts or environmental effects or impacts on human health.

18.13 References

- Environmental Protection Agency (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;
- Office of Emergency Planning (2020) 'A National Risk Assessment for Ireland 2020' Department of Defence Publication;
- Statutory Instrument (SI). No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018; and

- DOELG: A Framework For Major Emergency Management Guidance Document 1: A Guide To Risk Assessment In Major Emergency Management 2010

RECEIVED: 30/01/2026