SDCC Rathcoole Housing Development

Environmental Impact Assessment Report (EIAR)
Chapter 15: Major Accidents and Disasters

South Dublin County Council (SDCC)

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Quality information

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15 Major Accidents and Disasters

15.1 Introduction

This chapter presents an assessment of the potential likely significant effects arising from the vulnerability of the Proposed Development to relevant major accidents and disasters (MA&Ds) during its construction and operational phases and the potential for the Proposed Develop to contribute to or create new MA&Ds. The assessment identifies reasonably foreseeable MA&D scenarios and evaluates their potential consequences for environmental and human receptors.

The Site is located in Rathcoole, within the administrative area of South Dublin County Council (SDCC). The application Site boundary ('red line') encloses an area of approximately 11.4 ha.

MA&Ds are incidents which can result in immediate or delayed significant harm to human health and/ or the environment and require the use of resources beyond those of the proposed developer or its contractors to manage, such as the emergency services. In the context of this assessment, major accidents are typically anthropogenic in nature and include for example, the accidental loss of containment of significant quantities of dangerous substances such as Acetylene gas, leading to fires and/ or explosions. Disasters are typically naturally occurring events, such as earthquakes, landslides and flooding, and can also include manmade or external hazards such as civil unrest.

In this assessment, the MA&Ds pertinent to the Proposed Development are identified and qualitatively assessed to determine the potential impact on the following receptors:

- Population and human health;
- Biodiversity, with particular attention to species and habitats protected under the Birds and Habitats Directives (Directives 2009/147/EC and 92/43/EEC) (EU, 1992; 2009);
- Land, soil, water, air and climate; and
- Property and material assets, cultural heritage and the landscape.

The assessment of MA&Ds considers the full lifecycle of the Proposed Development, from construction, through operation, and maintenance. However, as this is a housing development, the decommissioning and demolition have been scoped out and won't be considered further in this assessment.

Credible MA&Ds scenarios which are identified are termed 'Risk Events' and the mitigation measures to reduce these risks are considered. These measures include the engineering design and operational controls to prevent MA&Ds, and if Risk Events were to occur, reduce their impact and severity. Mitigation measures are therefore considered, along with the anticipated emergency management arrangements which would be initiated if the event occurred.

For each Risk Event, the qualitative assessment contained in this chapter will conclude if sufficient measures are in place to reduce risks associated with reasonably foreseeable worst-case impacts to acceptable limits, or if further mitigation is required.

This chapter contains an overview of the regulatory requirements to identify and assess MA&Ds. The methodology for MA&Ds identification initially considers the substances which would be present on-site (during construction for example), and which have the potential to causes a major accident by virtue of their chemical or physical properties. Substances which have the potential to initiate and/ or contribute to a major accident are identified within this chapter for qualitative assessment.

The potential for natural disasters such as flooding and seismic events is primarily determined by the location of the Proposed Development.

A detailed description of the Proposed Development is provided in **Chapter 2: Description of Development (EIAR Volume 1)**.

15.2 Legislation, Policy and Guidance

This section identifies the relevant policy, legislation and guidance informing the scope of the MA&Ds assessment and sets out the requirements stipulated within Directive 2011/92/EU (European Parliament, 2011) on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 (the EIA Directive) (European Parliament, 2014).

15.2.1 Legislation

The assessment of the vulnerability of the Proposed Development to MA&Ds is included within the EIAR following changes to EU legislation now transposed into Irish law within the revised EIA Directive *2014/52/EU, transposed into Irish law through* European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), as amended.
. These Regulations (S.I. No. 296/2018) state in relation to an EIA:

*" **Condition 16*** that environmental impact assessment process means a process of; ***(a) (i)** the preparation of an environmental impact assessment report by the applicant in accordance with this Act and regulations made there under.*

***(b) (i**i) such an examination, analysis and evaluation of the expected direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risk of major accidents or disaster, or both major accidents and disasters that are relevant to that development".*

"***Schedule 6, Condition 2** additional information relevant to the specific characteristics of the development or type of development concerned and to the environmental features likely to be affected.*

***(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."*

This assessment therefore considers embedded and additional measures to prevent or mitigate MA&D risks, and the preparedness for emergency response. The assessment reflects the current stage of the Proposed Development design.

Many regulations have been made which are of relevance to the control of MA&Ds of the construction of the Proposed Development, including the following:

- Act No.10/2005 - Safety, Health and Welfare at Work Act (HSWA) (ISB, 2005). Including associated amendments;
- S.I. No. 231/2021 - Safety, Health and Welfare at Work (Chemical Agents) (Amendment) Regulations (ISB, 2021a);
- S.I. No. 528/2021 - Safety, Health and Welfare at Work (Construction) (Amendment) Regulations (ISB, 2021b);
- S.I. No. 255/2023 - Safety, Health and Welfare at Work (General Application) (Amendment) Regulations (ISB, 2023);
- Act No. 10/1972 (as amended by Act No. 21/1979) - Dangerous Substances Act (ISB, 1972);
- S.I. No. 272/2008 - European Communities (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations (CLP) (ISB, 2008).

Another regulation of relevance to MA&Ds is the EU SEVESO III Directive (2012/18/EU) (EU, 2012) which is implemented in Ireland through the Chemicals Act (Control of Major Hazards Involving Dangerous

Substances) Regulations SI. No. 209/2015 ('the COMAH Regulations') (ISB, 2015). The COMAH Regulations apply to sites storing threshold quantities of dangerous substances. Based on current design information, the Proposed Development would not store any dangerous substances that reach COMAH thresholds and would therefore not be considered a COMAH Establishment.

15.2.2 Policy

15.2.2.1 National

The Department of Housing, Local Government and Heritage (DHLGH) as part of the ISB has published a series of guidance documents in line with their Major Emergency Management Framework in order to set out arrangements for co-ordination at local, regional and national levels of emergency management. The framework also introduces a system to immediately determine a lead agency in all emergency situations (DHLGH, published in Sept 2021, and updated in June 2025).

15.2.2.2 Regional

The Eastern and Midland Regional Assembly (EMRA, 2019) "Regional Spatial and Economic Strategy FOR THE Eastern and Midland Region 2019 – 2931" does not provide guidance regarding the assessment of MA&Ds. The Strategy does refer to the need to ensure the resilience of critical infrastructure "*as both natural, including extreme weather events, and man-made disaster and crises situations become more common place*".

15.2.2.3 Local

The South Dublin County Development Plan 2022-2028 refers to the EU Directive 2012/18/EU (EU, 2012) on the control of MA&Ds (SDCC, 2022). SDCC have the following policies in place in the context of MA&Ds:

- **Policy EDE26: Major Accidents:** "*Have regard to the provisions of the Major Accidents Directive (European Council Directive 2012 / 18 / EU) (EU,2012) and the technical advice of the Health and Safety Authority (HSA) in relation to identified SEVESO sites in the County*".
- **EDE26 Objective 1:** "*To have regard to the policy and approach of the HSA Guidance on Technical Land-use Planning Advice for Planning Authorities and Established COMAH Operators (HSA,2023) or any superseding documents where appropriate, in assessing planning applications and in preparing land use plans*".

15.2.3 Guidance

Key considerations for MA&Ds assessment are provided in the European Commission (EC): Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017).

No dedicated MA&D guidance exists for EIARs in Ireland. However, the scope of the assessment has been developed with reference to the Institute of Environmental Management and Assessment (IEMA) (now called the Institute of Sustainability and Environmental Professionals (ISEP)) publication 'Major Accidents and Disasters in EIA: An IEMA Primer' (IEMA, 2020) which lays out emerging best practice.

The assessment has also been informed by the Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022), and the Health and Safety Authority (HSA, 2023) .

As an emerging topic within environmental impact assessment (EIA), the IEMA, EPA, HSA, and CDOIF Guidelines provide useful guidance on the assessment of MA&Ds via the application of a process involving hazard identification via the consideration of typical guidewords and the assessment of consequences.

15.3 Methodology

The assessment of MA&Ds applies a proportionate hazard-identification and qualitative risk-screening methodology, consistent with the IEMA Primer (2020) and EPA (2022). As the Proposed Development is not a COMAH establishment, a proportionate EIAR-level approach has been used rather than a full COMAH-style risk assessment.

The methodology aims to identify credible MA&D scenarios relevant to the substances, activities and location of the Proposed Development. For each credible scenario, embedded design controls and operational measures are considered, and the residual risk is described qualitatively. The EIAR considers

whether risks can be reduced to a level that is low and broadly acceptable, in line with the precautionary approach outlined in the IEMA Primer.

15.3.1 Study Area

The Study Area for assessment of MA&Ds is not defined within regulatory guidance or standardised methodology. The distances identified for the different features outlined below were identified based on a combination of a review of the Study Areas set within each of the individual technical chapters of this EIAR, professional judgement and an appraisal of the types of features considered within this MA&Ds assessment.

The following factors and associated distances were taken into consideration for setting the Study Area, in order to capture the adverse consequences caused by other events, on the Proposed Development and relate to distances from the Site:

- Built Environment
  - Airports and airfields within 13km (general safeguarding zone);
  - COMAH establishments within 5km (worst case consultation zone)
  - Major Accident Hazard (MAH) Pipelines within 1km (worst case consultation zone);
  - Fuel bulk storage within 1km (worst case consultation zone);
  - Rail within 1km;
  - Utilities/transmission crossing the Site boundaries.
- Natural Features
  - Flooding within 1km;
  - Ground stability within 1km;
  - Dam failures within 3km;
  - Seismic activity within 5km.

15.3.2 Identifying Significant Environmental Effects

A proportionate, precautionary approach has been used in this assessment, based on the relative likelihood of the credible hazardous scenarios identified. A greater level of detail has been applied to the assessment of scenarios which are considered more likely to occur, or to scenarios with potentially more significant consequences.

The approach used in this assessment is summarised as follows:

- Identify the hazardous substances which could be present over the lifecycle of the Proposed Development. These include flammable substances, materials harmful to the environment and materials harmful to human health;
- Consider the quantities and storage arrangements associated with these substances and the operations carried out at the Proposed Development involving these materials;
- Identify the credible major hazard scenarios associated with these materials and operations;
- Assess the location and vulnerability of the Proposed Development to hazards as a result of infrastructure, climatic conditions and geological events.

In general, credible MA&D scenarios fall into one of three categories:

- Events that could not realistically occur, due to the substances present, the type of development or its geographic location;
- Events that could realistically occur, but for which the Proposed Development, and associated receptors, are no more vulnerable than any other development; and

- Events that could occur, and to which the Proposed Development is particularly vulnerable, or which the Proposed Development has a capacity to exacerbate.

Where credible major accident or disaster scenarios are identified, the potential for any change in the relevant environmental and human health receptors is described in qualitative terms.

Mitigation measures which would be adopted during the design, construction and operation of the Proposed Development are described to provide documented evidence to support and demonstrate that likely effects would be mitigated or managed to an acceptable level. Section 15.6 contains a screening process to identify the credible Risk Events for further consideration. The specific mitigation measures associated with each Risk Event are presented and the general mitigation measures to reduce risk are discussed in Section 15.6.

For the purpose of this assessment, the definition of a 'Major Accident' is taken from the guidelines on MA&Ds within the IEMA Primer (IEMA, 2020):

> *"A **major accident** is an event (for instance, train derailment or major road traffic accident) that threatens immediate or delayed serious environmental effects to human health, welfare and/ or the environment and requires the use of resources beyond those of the client or its appointed representatives (i.e., contractors) to manage.*
>
> *Major accidents can be caused by disasters resulting from both man-made and natural hazards.*
>
> *A **disaster** is a man-made/ external hazard (such as an act of terrorism) or a natural hazard (such as an earthquake) with the potential to cause an event or situation that meets the definition of a major accident.*
>
> *In general, major accidents and/ or disasters should be considered as part of an assessment where the development has the potential to cause the loss of life, permanent injury and/or temporary or permanent destruction of an environmental receptor which cannot be restored through minor clean-up and restoration".*

The Proposed Development would not be classified as a COMAH Establishment, however, the criteria for a major accident are listed in Schedule 6 of the COMAH Regulations (S.I. No. 209/2015) (ISB, 2015b) which are as follows:

1. Injury to persons and damage to real estate:
    a. A death;
    b. Six persons injured within the establishment and hospitalised for at least 24 hours (hrs);
    c. One person outside the establishment hospitalised for at least 24 hrs;
    d. A dwelling outside the establishment which is damaged and unusable as a result of the accident;
    e. The evacuation or confinement of persons for more than 2 hrs where the value (persons × hours) is at least 500;
    f. The interruption of drinking water, electricity, gas or telephone services for more than 2 hrs where the value (persons × hours) is at least 1,000.
2. Immediate damage to the environment:
    a. Permanent or long-term damage to terrestrial habitats:
        i. 0.5 ha or more of a habitat of environmental or conservation importance protected by legislation; or
        ii. 10 ha or more of more widespread habitat, including agricultural land.
    b. Significant or long-term damage to freshwater and marine habitats:
        i. 10 kilometres (km) or more of river or canal;
        ii. 1.0 ha or more of a lake or pond;
        iii. 2.0 ha or more of delta; or
        iv. 2.0 ha or more of a coastline or open sea; or

v. Significant damage to an aquifer or underground water: 1.0 ha or more.

3. Damage to property:
   a. Damage to property in the establishment, to the value of at least €2 million;
   b. Damage to property outside the establishment, to the value of at least €500,000.

15.3.3 Determination of Sensitive Receptors

15.3.3.1 Residential

The nearest residential receptors are on Beechwood Lawns, Coolamber Road, Coolamber Drive, Greenogue Drive and Mulally's Lane in Rathcoole and Millrace Park in Saggart which are within 100m of the Site boundary. There are numerous residential receptors within Rathcoole and Saggart within 500m of the Site boundary.

15.3.3.2 Industrial

The Site is located in Rathcoole Park approximately 1.5km south of the Casement Aerodrome, which is a military airbase operated by the Department of Defence. There are two COMAH sites within the study area, namely the Brenntag Chemical Distribution (Ireland) – a Lower Tier COMAH site and Dachser Ireland (Ltd) – an Upper Tier COMAH site.

15.3.3.3 Transport

Aside from the residential roads mentioned above, the Site located is close proximity to the south of the N7 and Main street. The Site is located south of Casement Aerodrome (refer to **Chapter 14: Traffic**).

15.3.3.4 Ground and Groundwater

The Proposed Development is not located in a Groundwater Source Protection Area (GSI, 2026a). Groundwater within the bedrock aquifer in the vicinity of the Proposed Development is classified as locally important (refer to **Chapter 07: Land, Soils and Geology** for baseline details).

15.3.3.5 Water

The Site and surrounding area contain a number of surface water features associated with the Camac_020 WFD river waterbody, including the River Camac, Coolmine Stream and Crockshane (Slade) Stream. A further non-WFD watercourse (potential spring), identified as a branch of the Coolmine Stream/Fitzmaurice Stream, is also present within the Site (GSI, 2026b). There are a number of waterbodies located within 5km of the Site - these are discussed in **Chapter 08: Water and Hydrology**.

15.3.3.6 Protected Environmental Sites

There are no Protected Environmental Sites within the study area.

15.3.3.7 Heritage Sites

There are a number of heritage assets within the study area, including 14 protected structures such as the Rathcoole Church of Ireland church, graveyard and enclosure. Additionally, there a number of undesignated heritage assets including 10 archaeological sites within 500m of the Study Area and 20 structures which have National Inventory of Architectural Heritage (NIAH) status. Cultural heritage assets within/ in proximity to the Site are discussed in **Chapter 13: Archaeology and Cultural Heritage**.

15.3.4 Describing Potential Effects

The EPA 2014 Guidance (EPA, 2014) provides ratings of the reasonable worst-case consequence of a MA&Ds event under Section 3.3.2 ('Risk Analysis') which is replicated in Table 15-1 and Table 15-2. This risk classification has been used herein (refer to Table 15-4 and

) to screen MA&D scenarios using the consequence categories as detailed in Table 15-1 and Table 15-2.

Table 15-1: Risk Classification Table – Consequence

Rating	Consequence Category	Consequence Description
1	Trivial	No impact or negligible change to the environment
2	Minor	Minor impact/ localised or nuisance
3	Moderate	Moderate impact to environment
4	Major	Severe impact to environment
5	Massive	Massive impact to a large area, irreversible in medium term

Source: EPA, 2014

Table 15-2: Risk Classification Table – Likelihood

Rating	Consequence Category	Consequence Description
1	Very low	Very low chance of hazard occurring
2	Low	Low chance of hazard occurring
3	Medium	Medium chance of hazard occurring
4	High	High chance of hazard occurring
5	Very High	Very high chance of hazard occurring

Source: EPA, 2014

15.3.5Significance of Effect

The likelihood and consequence ratings are combined to produce an overall risk ranking as described in Section 3.3.2 ‘Risk Analysis’ of the EPA 2014 Guidance and replicated in Table 15.3.

Significant effects arising from major accidents and/or disasters are adverse effects that are described as ‘moderate’, ‘significant’, ‘very significant’ or “profound” under the EPA Guidelines. Consequently, a residual risk score of 8 or above (amber and red zones), is considered significant and requires further assessment.

Table 15-3: Level of Significance

LIKELIHOOD	Very high	5	5	10	15	20	25
	High	4	4	8	12	16	20
	Medium	3	3	6	9	12	15
	Low	2	2	4	6	8	10
	Very low	1	1	2	3	4	5
			1	2	3	4	5
			Trivial	Minor	Moderate	Major	Massive
			CONSEQUENCE				

Source: EPA, 2014

15.3.6Assumptions and Limitations

This assessment is based on Proposed Development construction and design that is currently available.

This assessment has considered credible, worst-case MA&D Risk Events associated with the Proposed Development.

15.4 Baseline Environment

15.4.1 The Proposed Development

A full description of the Proposed Development is available in **Chapter 02: Description of the Proposed Development (EIAR Volume I)**. The Proposed Development consists of the construction of 130 new homes, 2 no. senior and 1 no. junior grass pitches and associated infrastructures (such as parking spaces, access roads, landscapes, etc).

15.4.2 Location and Receptors

The Site is located in Rathcoole approximately 15km south-west of Dublin city centre. It is located adjacent to Rathcoole Park and covers a small section of Rathcoole Woodland. There is existing residential areas to the north and north-west of the Site.

A description of the Site location is provided in **Chapter 02: Description of the Proposed Development** (**EIAR Volume 1**) alongside a summary of environmental receptors. Detailed descriptions of individual environmental receptors are contained within the appropriate technical sections of the EIAR Volume 1, particularly **Chapter 05: Population and Human Health**, **Chapter 06: Biodiversity**, **Chapter 07: Land, Soils and Geology**, **Chapter 08: Water and Hydrology** and **Chapter 10: Climate**.

15.5 Potential Impacts

15.5.1 Construction

The identification of potential MA&Ds during construction considers the nature and scale of the proposed construction activities, the materials and substances likely to be present on Site, and relevant external hazards that could affect the construction works.

The following substances may be present on Site during Proposed Development construction:

- Construction materials such as liquid concrete which can be harmful to human health and the environment and which would be present in significant quantities during construction where it is used to construct buildings, site surfacing, equipment supports and other assets. Potential MA&Ds scenarios would be impact on the environment and human health if storage and containment arrangements failed and resulted in a large release of concrete.paste with high pH;
- Diesel fuel may be present on Site to fuel vehicles and construction equipment - this material is flammable and toxic to the aquatic environment and may be present in small volume quantities during construction;
- Acetylene gas stored in compressed gas cylinders may be used for welding during construction activities at the Site. This material is flammable and can potentially lead to explosions.

The following construction activities would have hazards that could potentially lead to a MA&D:

- Excavation, and construction of buildings and other structures would require the use of vehicles and tools - the hazards associated with such activities include the potential for vehicle impact, particularly during reversing and vehicle overturning.

The controls around construction works would be carefully managed via risk assessment to control the risks to people and the environment. The environmental controls would be detailed in the Construction Environmental Management Plan (CEMP) and safety controls in the associated method statements and risk assessments for the works which would be prepared by the appointed construction contractor (hereafter referred to as ‘the Contractor’).

15.5.2 Operation

The Proposed Development would comprise residential development, GAA pitches, a park pavilion and associated infrastructure. During operation, hazardous substances are not expected to be stored or used in quantities at the Site that would give rise to a credible major accident scenario.

The operational assessment therefore considers credible MA&D scenarios associated with the operation of the Proposed Development and its vulnerability to relevant external and natural hazards.

15.5.3 Indirect, Secondary & Transboundary Effects

Indirect and secondary effects could arise where a major accident or disaster results in consequences beyond the immediate location of the event, for example through the release of pollutants to surface water, groundwater, soil or air, or through disruption to infrastructure and services. These potential effects are considered, where relevant, as part of the assessment of the individual Risk Events and associated environmental receptors.

Given the nature and location of the Proposed Development and the types of MA&D Risk Events identified, no significant transboundary effects are anticipated.

15.5.4 Identification of Potential Accidents

Table 15-4 contains a review of the potential accident scenarios which involves the substances to be used during construction of the Proposed Development, identifying the means by which a loss of containment may occur and an assessment of the likely significance of a release on human health, safety and the environment. The hazard codes of each substance are listed in accordance the Classification, Labelling and Packaging (CLP) Regulation (EC) No. 1272/2008 (EU, 2008). As the Proposed Development does not propose to store hazardous materials during operation, these scenarios are associated with the construction phase only.

Table 15-4: Identification of Credible Major Accident Scenarios (Construction)

Substance	Description of Use	CLP Hazard Classification	Risk Effect	Likelihood	Impact	Risk	Screening and Identification of Potential Major Accident Hazards	Further Assessment Required (Y/ N)
Concrete	Liquid concrete would be used in the construction of new facilities at the Proposed Development including buildings, surfacing and containment systems.	Typically, non-classified in accordance with CLP.	Concrete is not classified hazardous in accordance with CLP; however, concrete paste is alkaline (pH 10-14) and therefore harmful to people if in contact with skin or eyes. If concrete enters the environment via a release to water, it can raise the pH causing harm to aquatic ecosystems. Concrete released to the environment can also cause sedimentation on aquatic beds, which could harm flora and fauna. In the event of an accidental release occurring during construction, concrete/cement can raise the pH if released to water.	3	2	6	Concrete is not classified as hazardous in accordance with CLP; however, concrete paste is alkaline (pH 10-14) and therefore harmful to people if in contact with skin or eyes. If concrete enters the environment via a release to water, it can raise the pH causing harm to aquatic ecosystems. Concrete released to the environment can also cause sedimentation on aquatic beds, which could harm flora and fauna. In the event of an accidental release occurring during construction, concrete/cement can raise the pH if released to water. Containment systems to intercept any material released will be developed and implemented during construction in line with the CEMP preventing concrete reaching aquatic environments. Residual liquids and solids will be removed from site by an appropriately authorised waste contractor for disposal at an authorised waste disposal facility. This scenario is therefore not considered further in this assessment.	**N**
Diesel	Diesel fuel may be present during construction of the Proposed Development to fuel vehicles and construction equipment.	H226 - Flammable liquid and vapour. H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H332 - Harmful if inhaled. H350 – May cause cancer. H373 - May cause damage to organs. H410 - Very toxic. to aquatic life with long lasting effects.	In the event of accidental damage to a diesel storage tank, there is the potential for a release of gas oil (diesel) to the surrounding area. If it is released, gas oil (diesel) has the potential to cause a major accident, as it can cause major disturbances to the soil and groundwater due to its high toxicity. If gas oil (diesel) vapour is ignited, this can result in a pool fire which has the potential to cause harm to people via thermal radiation and inhalation of smoke, this fire may also spread to nearby equipment containing flammable material such as diesel fuel, this may cause subsequent fires/ explosions. The impact of a pool fire within a storage tank bund would be restricted to the Site, as high levels of thermal radiation would be unlikely at offsite receptors.	3	2	6	As detailed in **Chapter 03** (Need for Development) and the CEMP, the embedded mitigation measures include: • Use of diesel alternatives (e.g. hybrid excavators, electric mobile elevated work platforms (MEWPs), battery storage for generators, etc) where possible to reduce fuel consumption, fuel handling risk, carbon emissions and noise levels; • Offsite refuelling of regular road-going vehicles; • Offsite refilling of a mobile double-skinned fuel bowser/fuel truck; • Onsite refuelling of site construction plant by trained, competent operators from the mobile double-skinned fuel bowser/fuel truck; and • Fuel bowser to be parked on a level bunded area in the construction compound when not in use. Volumes of diesel to be held onsite are likely to be relatively low and stored in bunded storage tank. This scenario is therefore not considered further in this assessment.	**N**
Compressed Gas Cylinders Typically including: Acetylene	During construction and maintenance activities, welding may be carried out using compressed gases such as acetylene and nitrogen.	H220 - Extremely flammable gas H280 – Gas under pressure (all gas cylinders).	The number of cylinders containing extremely flammable gas used on Site are expected to be relatively low. In the event of accidental damage to a gas cylinder, pressure regulator or associated pipework, there is the potential for a release of gas. If the gas released is ignited, this could result in a fire/ explosion. In the event of a fire onsite which escalates to areas where gas cylinders are stored, there is the potential for an explosion if the cylinders are exposed to thermal radiation. The consequences of a fire/ explosion could include harm to people if present in the vicinity of the cylinder(s) and damage to assets, potentially interrupting operation of The Proposed Development.	3	2	6	The number of cylinders containing extremely flammable gas used on Site are expected to be relatively low. In the event of accidental damage to a gas cylinder, pressure regulator or associated pipework, there is the potential for a release of gas. If the gas released is ignited, this could result in a fire/ explosion. In the event of a fire onsite which escalates to areas where gas cylinders are stored, there is the potential for an explosion if the cylinders are exposed to thermal radiation. The consequences of a fire/ explosion could include harm to people if present in the vicinity of the cylinder(s) and damage to assets, potentially interrupting construction of the Proposed Development. Industry standard procedures will be used for the storage and use of gas cylinders which reduce the risk associated with these systems to a low level. When not in use, cylinders will be stored in external, well-ventilated areas and when in use, appropriately certified equipment will reduce the potential for ignition if a flammable gas is accidentally released. Taking into consideration the likely small quantities of flammable gas stored in cylinders which will be present on-site and the safety and security measures which will be in place to store and use this material safely, it is considered that no credible major accident scenarios exist for these substances and are therefore not considered further in this assessment.	**N**

15.5.5Identification of Potential Disasters

The vulnerability of the Proposed Development to natural disasters such as flooding, earthquakes and the impact of climate change is substantially dependant on its location. For example, highly unlikely events such as seismic events at the location of the Proposed Development have the potential to cause significant damage to assets and infrastructure.

The Proposed Development is expected to be operable as permanent residential housing; therefore, adverse impacts associated with climate change, such as increased ambient temperatures, flooding and wind speeds, are pertinent and are also considered in this section.

The Proposed Development is located close to the following facilities; Brenntag Chemical Distribution (Ireland) – Lower Tier COMAH site and Dachser Ireland (Ltd) – Upper Tier COMAH site, which are within 5km of the Site. There is the low risk of adverse events occurring at these facilities which escalates to have an impact at the Proposed Development. These scenarios are referred to in the COMAH Regulations as 'Domino Events' and are also considered in this section, along with accidents which are not directly related to the dangerous substances identified in Table 15-2.

Disasters such as major storms and significant seismic events have a low probability of occurrence; however, the potential consequences can reach the highest level of significance as defined in Section 15.3.5. The potential disaster scenarios which have been assessed for the Proposed Development are described in Table 15-5.

The potential impacts of disasters are well understood by building engineers involved in the design, and , construction, of the Proposed Development. Potential impacts are generally mitigated during the design phase, for example, by the use of building standards, industry standard mechanical and structural design codes used for pipework, supports and structural assets (ISB, 2020b).

Taking into consideration the likelihood and consequences following the inclusion of mitigating measures, the overall risk of disasters occurring at the Proposed Development are considered to be very low, but cannot be entirely eliminated. Consequently, additional measures associated with management of the Site, such as accident prevention plans and emergency response procedures, would be put in place prior to occupation. These measures would further reduce the risk and the consequences of disasters and are summarised in Section 15.6.

Table 15-5: Identification of Credible Potential Disasters Scenarios

Scenario	Risk Effect	Likelihood	Impact	Risk	Screening and Identification of Potential Major Accident Hazards	Further Assessment Required (Y/ N)
'Domino Event' Accident - Industrial accident on existing Site which escalates to the Proposed Development	An incident such as a fire at a neighbouring COMAH site could potentially reach the facilities associated with the Proposed Development both during construction and operation. This could result in an event which takes more resources to manage and has the potential to cause harm to people on Site, damage to property and assets. An explosion at a nearby COMAH site could generate projectiles which may reach the Proposed Development, causing harm to people on Site and damage to assets. An incident such as a fire or explosion from a nearby COMAH site is unlikely to generate any knock-on effects due to the lack of hazardous substances stored/ used on site.	**3**	**3**	9	The credible scenarios which could result in a release of hazardous substances include the failure of or accidental damage to pipework, flexible hoses, storage tanks and transfer pumps which cause significant quantities of hazardous substances to be released. This scenario could also include the failure of containment systems within delivery vehicles whilst on Site. An incident at the Brenntag Chemicals Distribution Ireland Ltd manufacturing facility such as a fire or explosion could result in significant damage at that location but would be unlikely to have an impact at the Proposed Development due to distance. Therefore, whilst this would be considered as a potential disaster at the Brenntag manufacturing facility, is not considered further for the Proposed Development. The proximity of the Dascher Ireland facility, an upper tier COMAH site, to the Proposed Development has the potential for the impact of these scenarios to be exacerbated as a facility specialising in hazardous material logistics.	**Y** **Risk Event 1**
Structural Failure/ Building Collapse during demolition/ construction	An incident such as a building collapsing during demolition activity (e.g. falls in wrong direction or off schedule) or during construction. This could result in an event which takes more resources to manage and has the potential to cause harm to people on Site, damage to property and assets.	**2**	**3**	6	Embedded mitigation measures include: • Designing and building any structure to the appropriate EN design standards; and • Compliance with material specification standards. In addition, construction activities conducted at the Site will be subject to a CEMP along with the development/ implementation of specific methods statements and risk assessments covering construction activities. This will include liaison with key stakeholders to agree appropriate controls (e.g. exclusion zones, safe working spaces, etc). Such assessments will consider the potential for collapses to occur and identify appropriate mitigation measures and safe systems of work to be adopted to reduce the risk to a very low level, therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Accident – Vehicle Collison	An incident such as a construction vehicle, delivery or collection vehicles during either construction of operation colliding with other vehicles, workers or assets on site. This could result in an event which takes more resources to manage and has the potential to cause harm to people on Site, damage to property and assets.	**2**	**3**	6	During construction activities, vehicle movements will be conducted at the Site and subject to a CEMP which should identify the relevant measures to control potential impacts from vehicles during construction works and reduce the risk to a very low level. Vehicle movements during the construction phase would also be subject to a Construction Traffic Management Plan (CTMP) which would identify measures to improve the safety and reliability of vehicle movements both on and off site (e.g. deliveries to a site) and reduce congestion. Therefore, the risk of an accident occurring is considered to be low and is not considered further. As outlined in **Chapter 3 (Need for Development)** for the operational phase the embedded mitigation includes a new access route from Peyton Roundabout via a new three arm priority junction on Greenogue Drive connecting to the existing Mulally's Lane. The existing Mulally's Lane access from Peyton Roundabout will be closed to vehicles and repurposed into an active travel link. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Accident – Aircraft/ Drone Strike	There is limited potential for accidental damage to infrastructure due to aircrafts and drones passing over the Proposed Development.	**1**	**4**	4	The Proposed Development is located within 5km of the Casement Aerodrome, which encompasses the study area. If the onsite structures are considered an 'aerodrome obstacle' consultation with the aerodrome licence holder and the IAA would be undertaken, such that appropriate mitigation, i.e. lighting, is in place to minimise risk of collision. NO such structures are expected to be built on site. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Accident - Vandalism/ Arson/Civil Unrest/ Terrorism/ Cyber Attack	Vandalism, arson, civil unrest and terrorist activities could cause harm to people on the Construction Site, damage to assets and impact on future residents at the Proposed Development. There is limited potential for hostile acts against The Proposed Development. In most instances, these acts would be limited to minor damage or vandalism. The potential for a significant terrorist incident would be considered as unlikely as the Proposed Development would not be considered as a high-risk target. Cyber security where electronic systems such as wif-fi and internet are remotely accessed by bad actors for a variety of purposes is an increasing threat to society. However, residents occupying the Proposed Development would procure their own internet provision and this is not considered to be a credible MA&D.	**2**	**2**	4	Vandalism, arson and terrorist activities could cause harm to people on Site, damage to assets and interruption operations at the Proposed Development. This will be mitigated by implementing security measures including appropriate fencing, CCTV, access control and guards etc during the construction phases of the Proposed Development. Embedded design will ensure that the residential properties will be include door and windows developed to appropriate BS EN standards including consideration of security and access. The measures described above will reduce the risk associated with vandalism, arson and terrorism to a low level. In addition, while the National Risk Assessment for Ireland 2024 and the National Cyber Risk Assessment 2025, reflects the ever increasing risk around armed conflict, terrorism and geopolitical instability leading up to the ongoing invasion of Ukraine there are no similar 'recorded incidents or anecdotal evidence' of an attack of this magnitude in Ireland and as such at this time this has been considered 'very unlikely'. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Climate Change/ Natural Event –	The frequency of storm events experienced in the location of the Proposed Development could increase during the lifecycle of the	**3**	**2**	6	Known incidences of extreme weather https://www.met.ie/climate/weather-extreme-records Mitigation is drainage, design, warnings of storms, etc.	**N**

Scenario	Risk Effect	Likelihood	Impact	Risk	Screening and Identification of Potential Major Accident Hazards	Further Assessment Required (Y/ N)
Surface Water Flooding	development as a result of climate change. This could result in, flash flooding due to sudden heavy rainfall, increased surface water accumulation (pluvial flooding), and fluvial flooding from rivers. Flooding could result in damage to site assets. A Site-Specific Flood Risk Assessment (FRA) Report has been prepared, refer to **EIAR Volume II Appendix 8-2**. The purpose of the FRA is to identify whether a potential risk of flooding exists at The Proposed Development, and if so, to what extent.				A Stage 2 Flood Risk Assessment (FRA) was completed (Volume 02; Appendix A8-2) which concluded that parts of the Site are classified as Flood Zone A (high probability of flooding where the probability of flooding is greatest (greater than 1% or 1 in 100 for river flooding and 0.5% or 1 in 200 for coastal flooding)). The Site is also noted to be subject to fluvial flooding, primarily along the extents of the Crockshane (Slade) Stream, located along the southern boundary of the site, and the River Camac, running along the eastern boundary of the site. There is also minor flooding within the western portion of the site, along the Coolmine Stream. With regards to flooding along the River Camac, it must be noted that the Camac Flood Alleviation Scheme is currently underway, which is to assess the risk of flooding in key parts of the Camac catchment area which will in turn, inform engineering options to further reduce the risk of flooding in these areas. Chapter 8 Water Environment concluded that, subject to the implementation of embedded mitigation measures, effects on the water environment would be **not significant** during both construction and operation. Chapter 10 Climate concluded there were no significant residual effects have been identified in the Climate Change Risk Assessment (CCCRA). A number of climate resilience measures have been embedded within the design of the Proposed Development. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	
Climate Change/ Natural Event – Coastal Flooding	The frequency of storms experienced in the location of the Proposed Development could increase during the lifecycle of the development as a result of climate change. This could result in storm surges from the Irish Sea, and increased risk of coastal flooding, which could result in damage to site assets.	**No risk**	**n/a**	n/a	A Stage 2 FRA was completed (Volume 02; Appendix A8-2) which concluded there is no risk from coastal flooding within the Study Area based on both CFRAM (Catchment Flood Risk Assessment and Management) and NCFHM (National Coastal Flood. .	**N**
Climate Change/ Natural Event – Increased Ambient Temperatures	The ambient temperatures experienced in the location of The Proposed Development could increase during the lifecycle of the development as a result of climate change. Increasing atmospheric temperatures could potentially result in the operational instability of equipment such as electrical and mobile plant during construction, which are sensitive to temperature and humidity. Failure of these systems due to high temperatures could result in interruptions during construction of the Proposed Development but would be unlikely to result in harm to people or the environment.	**3**	**2**	6	A CCRA has been completed (Chapter 10 – Climate) which confirmed that a CEMP has been prepared to set out the standard measures being taken to govern the activities on the construction site and management of environmental impacts. This will include mitigation measures to reduce the risk of damage to construction equipment and heat impact on employees during high temperatures/ heatwaves, such changing work schedules to avoid highest temperatures if necessary. The design of the residential properties and engineering measures will take operation at future climatic conditions into account; therefore, this scenario is not considered further within this chapter.	**N**
Climate Change/ Natural Event – Extreme Cold Weather Conditions	The weather conditions experienced in the location of the Proposed Development could drastically change during the lifecycle of the development as a result of climate change. Extreme weather conditions such as ice storms can result in the freezing and subsequent damage within the Site.	**3**	**2**	6	The Proposed Development will be designed to building standards which account for changing climatic conditions, Chapter 10 Climate concluded there were no significant residual effects have been identified in the Climate Change Risk Assessment (CCCRA). A number of climate resilience measures have been embedded within the design of the Proposed Development. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Climate Change/ Natural Event – Increased Wind Speeds	A potential increase in the maximum wind speeds caused by climate change which are experienced at the Proposed Development has the potential to cause damage to assets and harm to people and an interruption to operation.	**2**	**3**	6	Chapter 10 Climate concluded there were no significant residual effects have been identified in the Climate Change Risk Assessment (CCCRA). A number of climate resilience measures have been embedded within the design of the Proposed Development including • The CEMP has been prepared to set out the standard measures being taken to govern the activities on the construction site and management of environmental impacts. This will include monitoring weather forecasts and adjusting work schedules during extreme weather events if necessary. • For operational considerations the structural engineering design of the facilities will calculate wind loading and other requirements based on building standards, industry standard guidance and methods. • Structural design standards incorporate factors to account for uncertainty, therefore operation at future conditions which include higher wind speeds will be considered. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	**N**
Natural Event – Earthquakes and seismic events	Low magnitude seismic events which are not perceptible to humans occur quite regularly throughout the island of Ireland. The probability for a major event with the potential to cause significant harm however is very low. If a major seismic event were to occur at The Proposed Development, there is the potential to cause harm to people, damage to assets and infrastructure.	**No risk**	**n/a**	n/a	The Irish National Seismic Network records earthquakes on the island of Ireland, however these are predominantly low magnitude events. For example, within the past 20 years the highest magnitude earthquake in the Irish Sea was 2.8, approximately 60km southeast of Dublin Airport. This event would not have been particularly noticeable on land. The structural engineering design of the Proposed Development will calculate the appropriate loading requirements for seismic factors.	**N**
Natural Event – Lightning strike	A direct lightning strike to the Proposed Development could cause damage to assets and equipment and has the potential to cause harm to people struck by falling objects.	**2**	**2**	4	Chapter 10 Climate concluded there were no significant residual effects have been identified in the Climate Change Risk Assessment (CCCRA). A number of climate resilience measures have been embedded within the design of the Proposed Development including: • The CEMP has been prepared to set out the standard measures being taken to govern the activities on the construction site and management of environmental impacts. This will include monitoring weather	**N**

Scenario	Risk Effect	Likelihood	Impact	Risk	Screening and Identification of Potential Major Accident Hazards	Further Assessment Required (Y/ N)
					forecasts and adjusting work schedules during extreme weather events including lighting storms if necessary • For the operational phase the engineering design of the Proposed Development will incorporate lightning mitigation. This will be assessed in accordance with recognised industry standards such as EN/IEC 62305. • It is expected that appropriate measures such as the installation of an appropriate lightning arrestor at the highest point on buildings will be fitted, such that electrical currents are safely conducted to earth in the event of a storm. Therefore the risk of a disaster occurring is considered to be low and is not considered further.	

15.5.6 Assessment of Major Accidents and Disasters

The conclusions of the assessment of substances contained in Section 15.5.1 and Table 15-3 is that there are no materials which would be present at the Proposed Development with the potential to initiate a credible major accident scenario.

The potential disaster scenarios which are credible for the Proposed Development have been identified in Table 15-5. This assessment has identified one scenario where an incident such as a fire and/ or explosion occurring at the Dascher Ireland facility within the study area, which could escalate and have an impact at the Proposed Development. This 'Domino Effect' scenario has been defined as Risk Event 1.

Risk Events are assessed in further detail within Table 15-6, where measures which would be taken to prevent and mitigate these potential events are considered.

Table 15-6: Assessment of Major Accident and Disaster Scenarios

Risk Event Ref.	Substance	Scenario Description	Potential Causes and Impacts	Mitigation Measures	Residual Effects
1	Class 2 gases Class 3 flammables	Accident - Industrial accident at Dascher Ireland storage facility which could result in damage to the Proposed Development through a domino effect..	An incident which occurs at the Dascher Ireland facility has been identified as having the potential to escalate and potentially have an impact at the Proposed Development.	The mitigation measures to prevent events such as fire and/ or explosion are established systems and controls adopted throughout the storage industry. Such measures include: • Protective systems during offloading operations in place to prevent a loss of containment such as dry-break hose couplings and vehicle chocks to prevent 'drive-away' • A fire protection design basis document containing a fire risk assessment will have been developed by the Contractor to inform the design of the fire system. incidents. • A comprehensive fire detection and firefighting system will have been developed appropriate to the level of fire risk in each part of the Site. • A fire protection design basis document containing a fire risk assessment will have been developed by the Contractor to inform the design of the fire system. • In the event of a fire an alarm will be generated to alert operators and fire suppression systems will automatically operate to extinguish the fire.	COMAH Installations are required by law to take 'all measures necessary' to prevent major accidents. These principles have been in place at these facilities since operation commenced. The mitigation measures to reduce the risk of a fire and/ or explosion which originates within the fuel storage facility will reduce the residual risk to a low level and will be managed by standard operating procedures, safety and environmental management measures to level commensurate with ALARP.

15.6 Mitigation Measures

The following section contains a summary of the key general measures which would be taken to prevent MA&Ds at the Proposed Development.

15.6.1 Construction Phase

The design and construction of the Proposed Development would be in accordance with relevant international, national and established industry codes, standards and practice, such as:

- Designing and building any structure to the appropriate EN design standards such as the relevant Building Regulation Technical and Safety standards; and
- Compliance with material specification standards for buildings materials such as concrete, blockwork and timber.

15.6.2 Operational Phase

The design and construction of the Proposed Development would be in accordance with relevant international, national and established industry codes, standards and practice for residential buildings, such as the National Wiring Rules: I.S. 10101:2020: which mandates the specific safety, sizing and hardware requirements to protect modern homes (e.g. plugs and sockets, circuit boards, residual current devices. surge protection devices, arc fault detection devices, lighting, and circuit breakers)>

15.6.3 Plans and Procedures

A number of plans and procedures would be in place to effectively manage and minimise risks by ensuring that every reasonable effort would be made to ensure that environmental impacts during construction and operation would be avoided or reduced, where possible. These include:

- A Contractor's CEMP would be prepared, along with supporting method statements and risk assessments to support construction activities. These would ensure such works can be undertaken in a logical and safe sequence with appropriate consultation with key stakeholders to ensure relevant standards are met. An outline CEMP has been provided as in this Planning Application and this would be developed further by the Contractor.
- A CTMP (Construction Traffic Management Plan) would be developed to demonstrate how the interface between public and construction related traffic would be managed, where practicable, and to control vehicular movements associated with the construction of the Proposed Development. The CTMP would be developed by the Contractor so that construction traffic would be managed and monitored safely and efficiently throughout the duration of the construction phase.
- Other specific mitigation measures are also included in the relevant chapters of this EIAR. All fuels and chemicals stored on-site both during construction of the Proposed Development would be subject to an assessment in accordance with the Safety, Health and Welfare at Work (Chemical Agents) Regulations and compliance with the requirements of REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals).
- The Proposed Development would comply with the requirements of all relevant health, safety and environmental legislation such that measures are taken to prevent major accidents.
- Environmental Incident Response is addressed in the outline CEMP, demonstrating how in the unlikely event of an incident, response efforts would take place promptly, efficiently, and suitably for the particular circumstances. These would be developed by the Contractor and are likely to include significant spillage of chemical, fuel or other hazardous substances (e.g. concrete), non-compliance incident with any permit or licence, or other such risks that could lead to a major pollution incident, including flooding.

15.6.4 Maintenance of Plant and Equipment

Regular maintenance and inspection of all facilities would be carried out during the construction phase to reduce the potential for equipment failures which could contribute to MA&Ds. All such maintenance would be in accordance with the manufacturer's requirements as a minimum.

15.7 Residual Impacts

Residual effects are defined as those impacts that remain following the implementation of mitigation measures. As per the EPA draft guidelines, the effects from the residual impacts that remain after all assessment and mitigation are referred to as 'Residual Effects' (EPA, 2022). This assessment of MA&Ds has identified the potential for major hazards to occur at sensitive receptors, such as a fire caused by damage or failure of containment systems. These events have significant consequences; however, the likelihood would be extremely low due to measures such as the engineering design of assets and protective systems. These measures are considered sufficient such that all risks are at a manageable level, therefore no additional mitigation measures are proposed.

Table 15-7: Summary of Construction Residual Effects

Receptor	Description of Effect(s)	Significance of Effect(s) Prior to Mitigation	Proposed Mitigation	Residual Significance of Effect (s)
Population & Human Health	Potential exposure to construction-related hazards (diesel, gases, HV works, vehicle movements). No credible major accident scenario identified.	Not Significant	• Embedded controls within the CEMP, hazardous-materials handling, segregation and traffic management.	Not Significant
Environmental Receptors (Land, Soil, Water, Air, Climate)	Potential accidental releases of diesel, concrete, or gases during construction; no credible major accident pathway once controls are applied.	Not Significant	• Bunded fuel storage, spill prevention, concrete-washout controls, CAL (Chemical Agents Legislation) compliance (ISB, 2001; 2015c; 2021), COSHH (Control of Substances Hazardous to Health) compliance, and emergency response measures (CEMP).	Not Significant
Property & Material Assets	Potential for localised construction incidents (vehicle collision, equipment failure); no major-accident-level impacts identified.	Not Significant	• CEMP procedures, CTMP, exclusion zones, specialist contractor method statements.	Not Significant

Table 15-8: Summary of Operation Residual Effects

Receptor	Description of Effect(s)	Significance of Effect(s) Prior to Mitigation	Proposed Mitigation	Residual Significance of Effect (s)
Population & Human Health	Primarily residential properties and GAA pitches, and associated parking and infrastructure. Therefore no hazardous substances will be stored or used in significant quantities. Individual residents may use and store low volumes of cleaning and other household agents.	Not Significant	• Proposed Development will be constructed to relevant building standards and codes.	Not Significant
Environmental Receptors (Land, Soil, Water, Air, Climate)	Primarily residential properties and GAA pitches, and associated parking and infrastructure. Therefore no on-site storage of dangerous substances; no credible operational MA&D scenario. External domino event extremely unlikely.	Not Significant	• Proposed Development will be constructed to relevant building standards and codes. • External COMAH sites will be required to maintain appropriate safety management systems, controls and mitigations and emergency planning.	Not Significant
Property & Material Assets	Operational infrastructure exposed only to typical aerodrome-adjacent risks; no	Not Significant	• Proposed Development will be constructed to relevant building standards and codes.	Not Significant

	credible major accident scenario internally.			
Biodiversity	No operational MA&D pathways; no hazardous materials on-site; external domino event unlikely to reach ecological receptors.	Not Significant	• Proposed Development will be constructed to relevant building standards and codes. • Appropriate consideration of landscape and biodiversity requirements considered during the design of the Proposed Development.	Not Significant

15.8 Cumulative Impacts

Cumulative effects relate to the potential effects of the Proposed Development in combination of the potential effects of other developments (referred to as 'cumulative developments') within the surrounding area.

15.8.1 Construction Phase Cumulative Effects

In combination with other infrastructure developments (including nearby COMAH sites), the potential for domino MA&D-type events has been considered. Given the embedded safety systems of those sites and the lack of hazardous substance storage at the Proposed Development, no additional credible cumulative MA&D scenarios have been identified.

15.8.2 Operation Phase Cumulative Effects

Assuming that the mitigation measures detailed in Section 15.6 for the Proposed Development are implemented, no additional effects due to cumulative developments during operation are anticipated.

15.9 'Do Nothing' Scenario

In a Do-Nothing Scenario, the Site would remain undeveloped and would not introduce new hazardous substances, processes or receptors. No MA&D sources would be present; therefore, no new major accident pathways arise. The effects would be 'Not Significant'.

15.10 Summary

The assessment outlined in this chapter identifies the credible MA&D scenarios relevant to the Proposed Development. Overall, the assessment indicates that all credible risks can be mitigated to be ALARP through the use of established controls and procedures.

15.11 References

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