GOOD SHEPHERD
STUDENT CAMPUS

GOOD SHEPHERD LRD

VOLUME I | EIAR

Non-Technical Summary

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TABLE OF CONTENTS

Table of Tables

Table of Figures

CHAPTER 1 | **Introduction**

Article 5(1)(e) of the EIA Directive requires the project proponent to include a Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) and it is transposed into Irish law under article 94(c) of the Planning and Development Regulations 2001, as amended. The term 'non-technical' indicates that this summary should not include technical terms, detailed data and scientific discussion, that detail is presented in Volume II, the EIAR.

This Non-Technical Summary provides a concise, but comprehensive description of the Project, its existing environment, the effects of the project on the environment, the proposed mitigation measures, and the proposed monitoring arrangements, where relevant. The NTS highlights any significant uncertainties about the project. It explains the development consent process for the Project and the role of the EIA in that process.

It is important to highlight that the assessments that form part of the EIAR were undertaken as an iterative process rather than a one-off, post-design environmental appraisal. Findings from the individual assessments have been fed into the design process, resulting in a project which achieves a 'best fit' within the environment.

1.1 Site Location and Description

The subject site known formerly as the Good Shepherd Convent, is located in Sundays Well, Cork City. The site is bound by existing residential developments to the north, south and east of the site, with Cork City Gaol located immediately west of the site. Access to the site is via the southwest corner of the site which connect to Convent Avenue that runs south to Sundays Well Road.

The Good Shepherd Convent is registered on the National Inventory of Architectural Heritage (Reg No. 20862019) and is listed as a protected structure (Ref No. PS721).

The subject site is zoned primarily ZO 01 'Sustainable Residential Neighbourhoods' where the following objective applies:

"To protect and provide for residential uses and amenities, local services and community, institutional, educational and civic uses."

A portion of the site to the south and west is within the area zoned ZO 17 'Landscape Preservation Zones' where the following objective applies:

"To preserve and enhance the special landscape and visual character of Landscape Preservation Zones."

The site is located with an Architectural Conservation Area (ACA), 'Sundays Well ACA, Sub Area D'.

1.2 Characteristics of the Proposed Development

A full description of the proposed development is provided in Chapter 2 of Volume 2. In summary, the proposed development by Bellmount Good Shepherd Ltd will include the conservation, conversion and extension of the former Good Shepherd Convent, Home Building, Orphanage Building, Well Site, Gate Lodge, and Bakehouse to provide student accommodation and ancillary services.

Figure 1.1 Application Site

1.3 Report Structure

The EIAR has been prepared according to the 'Grouped Format Structure'. This means that each topic is considered as a separate section and is drafted by the relevant specialists. The EIAR is divided into three volumes as follows:

- Volume 1: Non-Technical Summary
- Volume 2: Main Environmental Impact Assessment Report
- Volume 3: Appendices

Volume 1, the Non-Technical Summary (NTS), provides an overview of the project and the EIAR in nontechnical terms. The summary is presented similar to the grouped format structure and discusses each environmental topic separately.

Volume 2, the main EIAR, provides the detailed information on the proposed development and the relevant environmental topics, with technical and detailed investigations of the topic areas as appropriate. This volume is prepared in the grouped format structure as it allows specialist studies to be completed for environmental topics in chapters.

Volume 3, the Appendices, contains supporting documentation and information on the EIAR.

1.4 Screening for Environmental Impact Assessment

Development which falls within one of the categories specified in Schedule 5 of the Planning and Development Regulations 2001, as amended, which equals or exceeds, a limit, quantity, or threshold prescribed for that class of development must be accompanied by an EIAR.

The proposed development falls within the class of development types requiring an EIA under Schedule 5 of the Planning and Development Regulations 2001 (as amended). The proposed development is subject to Part 2 of this Schedule (Section 10) which deals with infrastructure projects where EIA is required for:

> 10. b (iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectare in the case of other parts of a built up area and 20 hectares elsewhere.
>
> (in this paragraph "business district" means a district within a city or town in which the predominant land use is retail or commercial).

The proposed project comprises the construction of 274 no. student accommodation units (with 957 no. bedspaces), on a red line area of c. 3.57ha. An EIAR is therefore required as student accommodation comprises urban development on a site area that exceed the 2ha threshold for a mandatory EIAR.

1.5 Competency

It is a requirement that the EIAR must be prepared by competent experts. For the preparation of this EIAR, the Applicant engaged McCutcheon Halley Chartered Planning Consultants to direct and coordinate the preparation of the EIAR and a team of qualified specialists were engaged to prepare individual chapters. The consultant firms and lead authors are listed in **Table 1-1**. Details of competency, qualifications, and experience of the lead author of each discipline is outlined in the individual chapters.

Table 1.1 Chapters of EIAR & Contributors

Chapter	Aspect	Consultancy	Lead Consultant
1	Introduction	McCutcheon Halley Planning Consultants	Saoirse Kavanagh
2	Project Description	McCutcheon Halley Planning Consultants	Saoirse Kavanagh
3	Alternatives Considered	McCutcheon Halley Planning Consultants	Saoirse Kavanagh
4	Population & Human Health	McCutcheon Halley Planning Consultants	Aida Vaisvilaite

Chapter	Aspect	Consultancy	Lead Consultant
5	Land, Soils & Geology	AWN	Rashaqat Ali Siddiqui and Marcelo Allende
6	Hydrology & Hydrology	AWN	Rashaqat Ali Siddiqui and Marcelo Allende
7	Air Quality	AWN	Ciara Nolan
8	Climate	AWN	Ciara Nolan
9	Noise & Vibration	AWN	Abe Scheele
10	Landscape & Visual	Macroworks	Richard Barker
11	Waste Management	AWN	Chonaill Bradley
12	Material Assets: Traffic & Transport	MHL	David Murphy and Brian Murphy
13	Material Assets: Built Services	MMOS	William O'Sullivan and John Kelleher
14	Biodiversity	Veon	David McGillycuddy and Donnachadh Powell
15	Built Heritage	JCA	Jessie Castle, Katherine McClatchie, and Gareth O'Callaghan
16	Archaeology	John Cronin & Associates	John Cronin and David Murphy
17	Screening for Major Accidents	McCutcheon Halley Planning Consultants	Saoirse Kavanagh
18	Significant Interactions	McCutcheon Halley Planning Consultants	Saoirse Kavanagh
19	Summary of Mitigation Measures	McCutcheon Halley Planning Consultants	Saoirse Kavanagh

1.6 Methodology

In preparing the EIAR the following regulations and guidelines were considered:

- The requirements of applicable EU Directives and implementing Irish Regulations regarding Environmental Impact Assessment;
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Reports (European Commission, 2017)
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Environmental Protection Agency, May 2022)
- Guidelines on Information to be Contained in Environmental Impact Statements (EIS) (Environmental Protection Agency, 2002)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018).

In addition, contributors have had regard to other relevant discipline-specific guidelines, these are noted in individual chapters of the EIAR.

Each chapter of this EIAR assesses the direct, indirect, cumulative, and residual impact of the proposed development for both the construction and operational stage of the proposed development.

The identified quality, significance, and duration of effects for each aspect is primarily based on the terminology set out in the EPAs Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022) as summarised in the following table:

Table 1.2 Impact Rating Terminology

Quality of Effects	
Positive	A change which improves the quality of the environment (for example, by increasing species diversity; or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Significance of Effects	
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.
Duration & Frequency of Effects	
Momentary Effects	Seconds to minutes
Brief Effects	Less than 1 day
Temporary Effects	Less than 1 year
Short-term Effects	1-7 years
Medium-term Effects	7-15 years
Long-term Effects	15-60 years
Permanent Effects	Over 60 years
Reversible Effects	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Extent & Context of Effects	
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Type of Effects	
Indirect Effects	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
Cumulative Effects	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
Do Nothing Effects	The environment as it would be in the future should the subject project not be carried out.
Worst-case Effects	The effects arising from a project in the case where mitigation measures substantially fail.
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).

1.7 Consultation

The following prescribed bodies have been consulted in relation to the general scope of the EIAR:

- Department of Housing, Local Government, and Heritage
- Department of Tourism, Culture, Arts, Gaeltacht, Sport & Media
- Department of Education
- Geological Survey Ireland (Department of the Environment, Climate and Communications)
- The Heritage Council
- Office of Public Works (OPW)
- Transport Infrastructure Ireland (TII)
- The National Transport Authority (NTA)
- The Health and Safety Authority (HSA)
- The Health Service Executive (HSE)
- Inland Fisheries Ireland
- Bat Conservation Ireland

- Uisce Éireann
- An Taisce
- Bord Gais
- ESB
- Environmental Protection Agency
- Fáilte Ireland

Responses received are presented in Appendix 1.1

CHAPTER 2 | **Project Description**

According to the EIA Directive, an EIAR must provide a project description that includes information on the project's site, design, scale, and other relevant elements. The 2014 Directive stipulates in Recital 22 that:

"In order to ensure a high level of protection of the environment and human health, screening procedures and environmental impact assessments should take account of the impact of the whole project in question, including, where relevant, its subsurface and underground, during the construction, operational and, where relevant, demolition phases".

Chapter 2 of Volume II complies with the EIA Directive's criteria by giving information about the proposed development. This chapter of the EIAR has been prepared by Saoirse Kavanagh, Executive Planning Consultant of McCutcheon Halley Planning Consultancy.

2.1 Existing Structures

There are several existing structures and buildings on site associated with the Former Good Shepherd Complex.

The main Former Good Shepherd complex buildings include the Convent, Orphanage, industrial school, Magdalene asylum home, and dormitory, which will joined by infill buildings in the mid-20th century.

Other buildings on site include a gate lodge, former hostel building, and agricultural and outhouse buildings, bake house and coach house, and glass house ruins.

Much of the original fabric of these buildings, including the roofs, have been lost to time. The buildings have been damaged by several fires that have occurred on site since the early 2000s with the most recent fire in 2024.

In relation to these existing buildings, the proposed development will include the following:

- Retention and renovation of the gate lodge
- Demolition of the former hostel building
- Demotion of the agricultural and outhouse buildings
- Demolition of the dormitory building and the mid-20th century infill buildings.
- Demolition of the rear of the Home, Convent, and Orphanage buildings
- Demolition and infill of the basement level passage connecting the convent and orphanage.
- Retention and renovation of the bake house and coach house.
- Removal of the glasshouse ruins and other garden features.

2.2 New Buildings

The proposed development includes the construction of new apartment blocks to provide student accommodation. There are A Blocks proposed along the northern portion of the site with B Blocks to the east and south of the site.

Block A1 will be located in the north-west corner of the site and will replace the demolished dormitory building.

Blocks A2, A3, and A4 will provide extensions to the Home building, Convent building, and Orphanage building respectively. These extensions will be set back from the original buildings to provide a clear delineation between old and new.

Block A5 will provide a new block to the east of the orphanage and the south of the Bake House building.

Blocks B1 and B2 are located south of A5 and will be separated by a new internal street.

Blocks B3 and B4 are located west of B2 and are located on the northern side of the new internal street.

Blocks B5 and B6 are located south of the B3 and B4 and the new internal street. These blocks will replace the agricultural and outhouse buildings

Block B7 is located west of B6 and will replace the former hostel building which will be demolished as part of the proposed development.

The proposal also includes an extension to the Gate Lodge.

2.3 Student Accommodation

The proposed will provide a total of 274 no. student apartment units with a total of 957 no. beds. The proposal includes 140 no. studio apartments, 3 no. 3 bed apartments, 30 no. 4 bed apartments, 23 no. 5 bed apartments, 24 no. 6 bed apartments, 3 no. 7 bed apartments, and 51 no. 8 bed apartments.

2.4 Height

The proposed development includes buildings which range in height from 1 to 6 storeys. The A blocks range from 4 to 6 storeys and the B blocks range from 3 to 5 storeys. The Bakehouse and the Gate Lodge are both 1 to 2 storeys.

2.5 Landscape

The landscape masterplan has been developed by Forestbird Design and includes large areas of open space to serve the development.

The proposed layout and landscaping scheme has been designed around both the Landscape Preservation Zone to the west of the site and the historic buildings located to the north of the site.

2.6 Drainage and Services

All foul drainage from the units is to be collected beneath the ground floor slab and directed to the proposed new foul network onsite, which is proposed to discharge to the existing combined sewer to the southwest of the site.

The surface water drainage will be gathered in a dedicated system and will drain all roofs, terraces, and hardstanding areas through the incorporated SuDS measures in conjunction with drainage channels, gullies, rainwater outlets and downpipes.

The attenuation tank storage has been designed and is being provided as a 2300m3 below ground tank. The attenuation storage holds capacity for a 1 in 100-year storm event and includes for a 20% allowance for climate change.

The proposals for the water supply will involve taking a feed from the existing public watermain, sluices valves will be provided at appropriate locations to facilitate isolation and purging of the system.

It is envisaged that the complete electrical distribution system within the development will be underground with the requirement for sub stations, transformers, mini pillars and micro pillars located overground in positions to be agreed with ESB Networks.

It is envisaged that the complete telecommunications distribution system within the development will be underground with the requirement for distribution kiosks located overground in positions to be agreed with Eir.

2.7 Construction and Demolition Phase

The construction phase of development will be carried out in accordance with the Construction Environmental Management Plan (CEMP) and Resource Waste Management Plan (RWMP) completed for the proposed development and submitted with the application.

The construction phase is expected to be completed in five phases with Phase 1 starting in January 2026, pending a grant of planning permission.

The construction on site will be carried out between 8am to 6pm Monday to Friday, and 8am to 4pm on Saturdays. Any works outside of these hours will be agreed with the local authority.

Construction traffic will enter the site via Convent Road and traffic will be carefully managed by the main contractor to ensure that there is no conflict with general traffic during the construction phase.

A Construction Traffic Management Plan has been completed by MHL Engineers which outlines appropriate mitigation measures for traffic management during the construction phase.

CHAPTER 3 | **Alternatives Considered**

The requirement to consider alternatives within an Environmental Impact Assessment Report (EIAR) is set out in Annex IV (2) of the EIA Directive (2014/52/EU) and in Schedule 6 of Planning and Development Regulations 2001 (as inserted by article 97 of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 which state (at paragraph 1(d)):

> *"A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment".*

The requirement is elaborated at paragraph 2(b), which makes clear that reasonable alternatives may include project design proposals, location, size and scale, which are relevant to the proposed development and its specific characteristics. The Regulations require that an indication of the main reasons for selecting the preferred option, including a comparison of the environmental effects be presented in the EIAR.

The Environmental Protection Agency *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*, 2022 states:

> *"The objective is for the developer to present a representative range of the practicable alternatives considered. The alternatives should be described with 'an indication of the main reasons for selecting the chosen option'. It is generally sufficient to provide a broad description of each main alternative and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required."*
> (Section 3.4.1)

Accordingly, Chapter 3 of the EIAR provides an outline of the main alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account and providing a comparison on the environmental effects. The assessment of alternatives is considered under the following headings:

i. Do Nothing Alternative

ii. Alternative Locations

ii. Iternative Use

iv. Alternative Processes

v. Alternative Design

3.1 Do Nothing Alternative

In the event that the Proposed Development does not proceed, the specific need for this residential development would still exist for the site, and as such the Proposed Development would need to be built elsewhere. In addition, the existing buildings on site would fall into further disrepair and their conservation and restoration would become more unviable over time.

3.2 Alternative Locations

As noted in Section 4.13 of the 2018 Guidelines "*some projects may be site specific so the consideration of alternative sites may not be relevant*." We also refer to the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA. 2022), which states that in some instances alternative locations may not be applicable or available for a specific project which is identified for a specific location.

An alternative location would essentially result in a 'do nothing' scenario for the site.

3.3 Alternative Use

The primary determinant of suitable uses is established in the site's zoning which are set out in the Cork City Development Plan 2022-2028. The majority of the proposed development site is zoned ZO 01 'Sustainable Residential Neighbourhoods' which has the objective '*to protect and provide for residential uses and amenities, local services and community, institutional, educational and civic uses'.* The Development Plan notes that the primary uses in this zone include residential uses, crèches, schools, home-based economic activity, open space and places of public worship.

A portion of the site is zoned ZO 17 'Landscape Preservation Zones' which has the objective '*to preserve and enhance the special landscape and visual character of Landscape Preservation Zones'*. These areas have been identified due to their sensitive landscape character and have limited or no development potential.

3.4 Alternative Processes

Due to the nature and scale of the proposed development (i.e. a residential development greater than 200 student bed spaces), the only option is to submit a Large-Scale Residential Development planning application to Planning Authority. Therefore, there is no alternative process to consider

3.5 Alternative Design

The alternatives chapter provides detail on five alternative layouts considered for the proposed development, including two previous layouts which were permitted by Cork City Council.

The layout progressed taking into account further feedback from the council during the pre-planning process of this application.

CHAPTER 4 | **Population and Human Health**

The assessment of Population and Human Health is contained within Chapter 4 of Volume II.

This chapter of the EIAR was prepared by Aida Vaisvilaite, Planning Consultant of McCutcheon Halley Chartered Planning Consultants and assess the potential impacts of the proposed development on population and human health that are not covered elsewhere in the EIAR. It also details the proposed mitigation measures where necessary.

The appraisal of the likely significant effects of the proposed development on population and human health was conducted by reviewing the current socio-economic environment in the EIAR study area. This comprised site visits and visual assessments of the proposed site and the surrounding area, as well as an analysis of aerial photography and Ordnance Survey (OS) mapping.

The Study Area for the assessment of potential impacts on Population and Human Health includes the Small Areas in Cork City.

4.1 Population

The subject site is located in Sundays Well, Cork City, approximately 2.4km west of the city centre and within walking distance of UCC. The study area recorded a population of 21,039 in the 2022 Census, showing a 6.6% increase since 2016. The largest age cohorts are the 20–24 and 25–29 groups, accounting for 16.8% and 11.3% of the population respectively, indicating a predominantly young and transient demographic. Household sizes are small, with 1–2 person households making up over 60% of all households. The area has a high reliance on private renting, reflecting housing affordability pressures and a large student population. The proposed development will provide 275 units (956 bedspaces) of purpose-built student accommodation, directly responding to these demographic and housing trends.

4.2 Impact Assessment

In identifying potential impacts and receptors, consideration was given to the nature of the proposed student accommodation and the characteristics of the receiving environment. The key potential receptors include:

- Residential areas in proximity
- Community services and facilities
- Local amenity
- Employment and economic activity

During construction, there may be short-term impacts on residential amenity due to noise, dust, and traffic. However, these will be managed through mitigation measures. Once operational, the proposed scheme is expected to positively contribute to the local economy, support service provision, and enhance public amenity through the delivery of well-designed open spaces.

4.3 Do Nothing Scenario

If the development does not proceed, there will be no immediate change to the existing environment. However, a shortfall in housing, particularly student accommodation, will persist in the area. The site, which is zoned for residential development, would remain underutilised and would not contribute to meeting housing supply targets or the objectives of the Cork City Development Plan. The ‘do nothing’ scenario would therefore represent a lost opportunity to optimise land use and support sustainable population growth within the city.

4.4 Construction Phase Impacts

The construction of the proposed development is expected to be delivered in five phases over an 8–10 year period. During this time, potential impacts may include short-term disruption to local amenity, such as increased noise, dust, and construction traffic. These impacts are considered manageable and will not significantly affect settlement patterns in the area. Employment generation during construction is expected to have a moderate, short-term positive impact on the local economy, with up to 250 workers on-site at peak periods.

4.5 Operation Phase

During the operational phase, the proposed development will provide 274 student accommodation units, equating to 957 bedspaces. This will result in a projected increase of c. 957 residents in the area. The development will contribute to meeting the city's housing needs and is expected to support local services and businesses. The scheme has been designed to provide high-quality living spaces and includes well-located public open spaces and recreational facilities, which will have a significant positive impact on residential amenity and human health. No significant adverse impacts are anticipated during the operational phase.

4.6 Mitigation and Monitoring

a. Construction Phase

Health and safety risks during construction will be addressed through adherence to relevant legislation, including the Safety, Health and Welfare at Work (Construction) Regulations 2013. A Construction and Environmental Management Plan (CEMP), along with a Resource Waste Management Plan (RWMP), has been prepared and will be finalised in agreement with the Planning Authority. Construction areas will be fenced off and access restricted to authorised personnel only. Construction traffic and dust control measures will also be implemented in line with best practice.

b. Operation Phase

The proposed development has been designed in accordance with Building Regulations and universal design principles. No significant negative impacts on population and human health are anticipated during the operational phase. As such, no specific mitigation measures are proposed. Compliance with the final design and layout will be a condition of the permitted development.

CHAPTER 5 | **Land, Soils & Geology**

The assessment of Land, Soils & Geology is contained within Chapter 5. Chapter 5 of the EIAR has been prepared by AWN Consulting Ltd., which assesses and evaluates the likely significant impacts of the proposed development on the land, soil and geological aspects of the site and surrounding area associated with the construction of Student Accommodation Development.

5.1 Existing Environment

The overall site is located in the north-west of Cork City centre and is within the jurisdiction of the Cork County Council. The gross site area is approximately 3.43 hectares and is bounded by Cork City Gaol (Museum) to the west, a cemetery along the northeastern boundary and to the east and south mostly consists of residential dwellings.

According to the EPA and GSI (2025) online mapping, the principal soil type on-site is Made Ground, which aligns with the site's development history. The subsoils within the area are Urban deposits linked to imported soils. Site investigations carried out show a sequence of strata given by Top Soil (up to 0.5mbgl), Made Ground to the east of the site (up to 1.4 mbgl) and Cohesive Deposits (sandy gravelly Clay; up to 2.5 mbgl, the maximum depth of exploration). Additionally, the GSI (2025) mapping indicates the site is underlain by Devonian Sandstone with Mudstone and Siltstone.

The GSI currently classifies the aquifer beneath the proposed development site as having 'Extreme' (E) vulnerability, which is mainly based on the permeability and thickness of the subsoils. The site consists of Made Ground underlain by clay, with an expected bedrock depth of 0–3m; however, site investigations with trial pits excavated to a maximum depth of 2.5m did not encounter bedrock.

According to the NRA/TII methodology for rating geological features, the bedrock and soil features at the site are considered of 'Low' Importance due to their low quality, significance, or value on a local scale.

5.2 Impact Assessment

5.2.1 Do Nothing Scenario

In a “Do Nothing” scenario, the baseline environment of the site’s land, soils, and geology would remain unchanged with no excavations or construction, resulting in a neutral effect. The natural state of the area would persist temporarily and in the short term. However, considering existing permitted developments nearby, a similar development aligned with national and regional policies would likely proceed on the site, resulting in comparable significant effects.

5.2.2 Demolition Phase

The demolition of existing buildings, which rely on internal structural elements for stability, is expected to have minimal impact on land, soils, and geology since it involves only surface-level activities with no excavation. This prevents soil disturbance, erosion, or compaction, preserving soil integrity. Without mitigation, the impact is anticipated to be short-term, imperceptible, and negative.

5.2.3 Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated with the following activities:

- Accidental spills, discharges, and leaks.
- Earthworks and Excavations.
- Storage of Hazardous Material.
- Import or Export of Material.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on land, soils and geology, are negative, not significant and long term.

5.2.4 Operational Phase

The development will affect land take and local recharge to soil and bedrock due to the introduction of hard stand, which protects the underlying aquifer but slightly reduces local recharge. However, due to the large aquifer area, this reduction will not significantly impact the natural hydrogeological regime. Typical residential activities during the operational phase will not disturb the topsoil, subsoils, or geology, and without mitigation, the potential effects are expected to be short-term, imperceptible, and neutral.

The development will not involve direct discharges to the ground or abstractions from the bedrock aquifer during operation, but there is a risk of localized accidental discharge from a car park leak. Without mitigation measures, the potential effects on land and soils are expected to be long-term, significant, and negative.

5.2.5 Cumulative Impact

Existing residential and commercial developments nearby, along with multiple approved projects, may proceed concurrently or overlap during various phases. However, there will be no impact on land, soils, and geology since each development will follow its own CEMP and mitigation plan, with no connectivity between projects. Without adherence to these plans, the impact on the local and regional environment could be long-term, significant, and negative.

5.3 Mitigation

5.3.1 Incorporated Design

Incorporated design measures will be employed and will include appropriate design measures such as the proper storage and containment of hazardous substances and proper drainage systems in line with best practice, standard details, policies and guidelines already incorporated into the proposed design.

5.3.2 Demolition Phase

The demolition works for the proposed development are limited to surface-level activities with no excavation, resulting in minimal impact on land and soils. The process involves dismantling structures without disturbing the natural soil structure or landscape, thereby preventing soil erosion or compaction. Waste materials will be managed according to regional and national legislation.

5.3.3 Construction Phase

In order to reduce impacts on the land, soils and geological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- Implementation of a Construction & Environmental Management Plan (CEMP).
- Control of soil excavation, removal and Infill
- Source of fill and aggregates.
- Fuel and chemical handling.
- Environmental Procedures.

The predicted impact on the geological and hydrogeological environment during the construction phase is neutral, imperceptible and short-term, the magnitude of impact is considered negligible.

5.3.4 Operational Phase

The proposed development includes a hardstand cover and a surface water drainage system designed. SuDS will manage run-off quantity and quality, integrating nature-based solutions (NBS) and green infrastructure into the development. The drainage network will include a catchment area with a hydrobrake flow control device, and any local car leaks will be treated by a Class 1 Hydrocarbon Interceptor.

As a result, the risk of accidental discharge is mitigated, and the predicted impact on land, soils and geology during the operational phase is neutral, imperceptible, and short-term, with negligible magnitude

5.4 Residual Impact Assessment

The implementation of mitigation measures will prevent potential impacts on the land, soils, and geological environment during the demolition, construction, and operational phases of the proposed development. Given the inter-relationship between land, soils, geology, hydrogeology, and surface water, the impacts discussed will be relevant to both Land, Soils and Geology and Hydrology and Hydrogeology.

5.4.1 Demolition Phase

A carefully planned approach to waste management during the demolition phase, will ensure that the impact on land, soils, and the geological environment is short-term, imperceptible, and neutral. The magnitude of the impact is considered negligible.

5.4.2 Construction Phase

A carefully planned approach to the following activities during the construction phase will help ensure minimal impact on land, soils, and the geological environment:

- Control of soil excavation, removal, and infill
- Management of fill and aggregate sources
- Proper handling of fuel and chemicals

These measures will result in a short-term, imperceptible, and neutral impact, with the magnitude of the impact considered negligible.

5.4.3 Operation Phase

The mitigation measures will effectively address potential impacts on land, soils, and geology once the development is operational. The residual effect during the operational phase is considered neutral, imperceptible, and short-term, with the impact magnitude rated as negligible.

5.5 Monitoring

5.5.1 Demolition Phase

The demolition works for the proposed development are limited to surface-level activities without excavation, preventing disturbance to the natural soil structure and avoiding soil erosion or compaction. All waste materials will be managed in accordance with regional and national legislation, with resources dedicated to efficient waste practices, ensuring proper processing, segregation, reuse, recycling, recovery, or disposal at licensed facilities. As a result, no monitoring is required.

5.5.2 Construction Phase

During the construction phase, the following monitoring measures will be implemented:

- Inspect surface water run-off and sediment controls regularly.
- Conduct soil sampling to determine disposal options and prevent contamination.
- Monitor excavation works for signs of contamination.
- Ensure adherence to CEMP guidelines (e.g., concrete pouring, refuelling).
- Monitor soil and surface water for accidental discharges to underlying geology.

5.5.3 Operational Phase

To minimize accidental discharges to soil, regular maintenance of the surface water drainage system, including the hydrobrake, separators/interceptors, and foul sewers, is recommended. Additionally, monitoring of surface water run-off will be necessary to detect any accidental discharges to the underlying geology.

CHAPTER 6 | **Hydrology & Hydrogeology**

The assessment of Water, & Hydrology is contained within Chapter 6. Chapter 6 of the EIAR has been prepared by AWN Consulting Ltd. which assesses and evaluates the likely significant impacts of the proposed development on the surrounding hydrological and hydrogeological environment associated with the construction of a student accommodation development.

6.1 Existing Environment

6.1.1 Hydrology

The overall site is located in the north-west of Cork City centre and is within the jurisdiction of the Cork County Council. The gross site area is c. 3.43 hectares and is bounded by Cork City Gaol (Museum) to the west, a cemetery along the northeastern boundary and to the east and south mostly consists of residential dwellings.

The proposed development site is within the Lee, Cork Harbour, and Youghal Bay area. The nearest surface water receptor is the Lee (Cork) Upper Estuary, located about 220m south of the site. The River Lee, which is part of the hydrological environment, is situated approximately 850m upstream of the site.

The most recent water quality status for the River Lee is classified as Q3-4 Moderate, indicating a slightly polluted waterbody, based on the balance of pollution-sensitive to tolerant macroinvertebrates.

The WFD Status score (2016-2021) for the Lee (Cork) transitional waterbody is *'Moderate,'* with a risk of not achieving good status. The closest active monitoring station for the Lee Upper transitional waterbody is Upper Lee Est N Channel, Daly's Bridge, located about 350m southwest of the site. The main pressures on the Lee (Cork) Estuary Upper are urban runoff and wastewater discharges, with its moderate status attributed to hydromorphological and dissolved oxygen conditions.

The site is currently serviced by a combined sewer at the main entrance, with no SuDS or drainage facilities in place. This sewer connects to a combined culvert and eventually discharges into an interceptor sewer along the south side of the Sunday's Well area. The site is not directly hydrologically connected to downstream surface waterbodies, as the combined sewer system discharges to the Cork City Wastewater Treatment Plant, which then releases treated water into the Lough Mahon transitional waterbody combined sewer system discharges to the Cork City Wastewater Treatment Plant, which then releases treated water into the Lough Mahon transitional waterbody

With regard to flooding risk, the proposed development site is located within Flood Zone C, meaning the probability of flooding is less than 0.1% (1 in 1000 years) for both river and coastal flooding. The assessment confirms that, with appropriate mitigation measures, the site is not at risk of flooding.

There are no Special Protected Areas (SPA), Special Areas of Conservation (SAC), Natural Heritage Areas (NHA), or proposed Natural Heritage Areas (pNHA) within the boundary of the proposed development site. The nearest conservation areas are:

- Lee Valley pNHA (Site Code: 000094), located about 1.6km upstream
- Cork Harbour SPA (Site Code: 004030) & Douglas River Estuary pNHA (Site Code: 001046), located about 6.4km downstream
- Great Island Channel SAC (Site Code: 001058), located about 10.7km downstream

There is no direct hydrological linkage between the proposed development and Areas of Conservation. The site is connected to the Cork Wastewater Treatment Plant which discharges to the Lough Mahon Transitional Waterbody, which hosts the Cork Harbour SPA and Great Island Channel SAC.

Based on the review of the receiving environment and the TII methodology (2009), the hydrological features at the site are rated as having 'Medium' to 'Low' importance, with medium to low quality or value on a local scale. This is due to the status of the nearby river waterbodies, which are classified as 'Moderate' by the Water Framework Directive (WFD) and are 'At Risk' of not achieving good status.

6.1.2 Hydrogeology

According to the GSI (2023), the bedrock aquifer beneath the site is classified as a 'Locally Important Aquifer - Bedrock, which is Moderately Productive only in Local Zones.' The potential for vertical or horizontal migration within this aquifer is minimal and localized.

The GSI classifies the aquifer underlying the proposed development site as having 'Extreme' (E) vulnerability, based on the permeability and thickness of the subsoils. The subsoils consist of Made ground underlain by clay, contributing to the extreme vulnerability.

The groundwater body underlying the site is the Ballinhassig East. The EPA (2025) classifies it as having 'Good Status' with a WFD Risk Score of 'Not at risk of not achieving good status.'

Based on the TII methodology (2009), the hydrogeological features at the site are of 'Medium to High' importance with significant value on a local scale. This is due to the site's aquifer being classified as "Locally Important" (LI). While the Ballinhassig East GWB is classified as having 'Good' WFD status, the groundwater vulnerability is categorized as 'Extreme,' which places the local hydrological environment at risk of contamination.

6.2 Impact Assessment

6.2.1 Do Nothing

In a "Do-Nothing" scenario, the hydrological and hydrogeological environment would remain unchanged, with no disturbances or alterations. While the natural state of the area would persist, nearby permitted developments may proceed, likely resulting in similar impacts to the proposed development.

6.2.2 Demolition Phase

During the demolition phase, limited to surface-level activities with no excavation, will have minimal impact on the hydrology and hydrogeology. As there will be no disturbance to the soil structure, the potential for erosion or compaction is prevented, resulting in negligible effects on the environment. In the absence of mitigation, the impact on land, soils, and geology is expected to be short-term, not significant, and negative.

6.2.3 Construction Phase

There is a potential risk of surface water contamination during the construction phase due to pollutants such as suspended solids, hydrocarbons, construction chemicals, cement, and wastewater. These pollutants could affect nearby watercourses, through runoff or lateral migration into the underlying aquifer. Without mitigation measures, runoff may increase turbidity, impact infiltration, and harm local infrastructure, watercourses, or groundwater. Proper containment, monitoring, and avoidance measures are necessary to prevent accidental discharges and minimize impacts. If mitigation is not implemented, the impact on surface water quality would be negative, significant, and short-term.

Without mitigation, the potential for water quality reduction from pollutants the transitional waterbody and GWB could negatively impact human health, particularly from hydrocarbons and petroleum products. However, there are no recorded recreational waters, bathing waterbodies, or surface water drinking sources downstream. As a result, the impacts on human health and populations from changes to the hydrological environment would be negative, slight, and short-term in the absence of mitigation measures.

Accidental discharges during the construction phase, while possible, are temporary and short-lived. They will not significantly impact the long-term water quality or the status of the Lee Estuary Upper, Ballinhassig GWB, or the Cork Harbour SPA. The proposed development will not cause any significant deterioration or prevent the achievement of Water Framework Directive (WFD) objectives or the goals of the 2022-2027 River Basin Management Plan. Therefore, there is no potential for impacts on WFD status during construction.

6.2.4 Operational Phase

Surface Water Drainage

Surface water runoff from roads, parking areas, and hardstanding surfaces may contain contaminants like hydrocarbons, potentially impacting water quality. To manage this, the proposed development includes a Sustainable Urban Drainage System (SuDS), in line with the Cork City Development Plan (2022-2028). This system integrates nature-based solutions (NBS) and green infrastructure to manage runoff, enhance water quality, and promote biodiversity. Key features include:

While the system mitigates the risk of accidental discharges, without bypass interceptors, the potential effects during the operational phase on hydrology and hydrogeology are long-term, significant and negative.

Foul Wastewater Drainage

The site is served by an existing sewer, which connects to an interceptor. A new foul sewer network will be installed, discharging into the existing system, with no direct or indirect discharge into the Lee Estuary Upper. All foul water will be treated at plants in Ballinure, Mahon, and finally the Cork City WWTP in Little Island. The Cork City WWTP has available capacity according to Irish Water's 2023 register. As such, no significant impacts on the Lee Estuary Upper, Ballinhassig GBW, or the Cork Harbour SPA are expected. The potential impacts during the operational phase are neutral, imperceptible, and long-term.

6.2.5 Cumulative Impact

Nearby residential and commercial developments, along with multiple permissions in the area, could overlap during the demolition, construction, and operational phases. However, each development will follow its own CEMP and mitigation plan, ensuring no effects on hydrology and hydrogeology, as there is no connectivity between them. If the CEMP and mitigation plans are not followed, the impact on the local and regional environment could be long-term, significant, and negative.

6.3 Mitigation

6.3.1 Incorporated Design

Incorporated design measures will be employed and will include appropriate design measures such as the proper storage and containment of hazardous substances and proper drainage systems in line with best practice, standard details, policies and guidelines already incorporated into the proposed design.

The following design mitigation measures have been incorporated to address potential impacts of the development:

- SuDS measures, including tree pits, blue and green roofs, rainwater harvesting, and an attenuation system with petrol interceptors and hydrobrake.
- All surface and foul water will be discharged into the existing combined sewer system.

These measures adequately address the risk of accidental discharge.

6.3.2 Demolition Phase

The demolition phase of the proposed development involves surface-level activities, with no excavation work, meaning minimal impact on hydrology and hydrogeology. The absence of excavation prevents soil disturbance, erosion, or compaction, ensuring that the land's composition, stability, and fertility are not significantly affected. No mitigation measures are required for hydrogeology and hydrology during the demolition phase. The demolition works will have a negligible impact on the environment.

6.3.3 Construction Phase

To minimize impacts on the hydrogeological and hydrological environment during construction, several mitigation measures will be implemented. These measures will address key activities, including:

- Control of soil excavation and export from the site
- Management of sources of fill and aggregates
- Proper handling, transport, and storage of fuel and chemicals

During the construction phase, several mitigation measures will be implemented to manage run-off and minimize environmental impacts on the Lee (Cork) Estuary Upper transitional waterbody, including:

- Exposed soil surfaces will be stabilized to minimize erosion, with all exposed areas within the main excavation site.
- Construction water discharge, if necessary, will be directed to the combined sewer, preventing interaction with surface water and incorporating pre-treatment and silt reduction measures.
- Refueling will be done at a safe distance from waterbodies, with spill kits and double-skinned bowsers in place.
- Minor groundwater and collected rainfall will be pumped out and discharged into the combined sewer, with silt traps and oil interceptors used if needed.
- Run-off containing silt will be contained and treated on-site with settlement tanks and silt reduction measures like silt fencing and traps.
- Soil will be carefully managed to prevent runoff, with stockpiles compacted and stored away from surface water drains.
- Construction activities will be planned considering weather conditions to reduce run-off risks, with appropriate distances maintained from surface water drains.

Additional mitigation measures to prevent soil and groundwater contamination during construction include:

- Ensuring that all containers holding potentially polluting substances are stored in secure, bunded areas.
- Drums containing hazardous substances will be clearly labeled for easy identification and spill response.
- Only quality-approved drums will be used, and they will be securely moved using spill pallets.
- Drums will be handled and loaded/unloaded by trained personnel, ensuring safety and compliance.

- For construction activities involving concrete, a suitable risk assessment will be conducted to manage potential risks associated with discharge of alkaline wastewaters or contaminated stormwater.
- Concrete washouts will take place at designated offsite facilities to prevent pollution.

These comprehensive measures aim to minimize environmental impacts and ensure safe and responsible management of potentially harmful materials throughout the construction phase.

Ready-mixed concrete will be delivered to the site by truck, and a risk assessment for wet concreting will be conducted beforehand to prevent the discharge of alkaline wastewaters or contaminated stormwater to the subsoil. Emergency response procedures, aligned with industry guidelines, will be implemented, and all site personnel will be trained accordingly.

Soil and stones will be excavated for new foundations and underground services. Clean excavated soil will be reused on-site for landscaping and fill. If any soil is contaminated, it will be removed off-site for appropriate disposal or recycling. Mitigation measures include:

- Offsite disposal or recycling of surplus soil.
- Temporary storage of soil away from surface water drains to prevent negative environmental impacts.
- Minimizing soil movement to reduce dust and degradation.
- Visual assessment of excavated soil for contamination signs, with testing and proper disposal if contamination is detected.

6.3.4 Operational Phase

The design mitigation measures address potential impacts on surface water quality, incorporating a Sustainable Urban Drainage System (SuDS) in line with the Cork City Development Plan 2022-2028. No discharge to ground is proposed, and surface water will be directed to the combined sewer system. As such, no further mitigation is required.

6.4 Residual Impact Assessment

6.4.1 Demolition Phase

The demolition works will have minimal impacts on the hydrogeological and hydrological environment due to being limited to surface-level activities without excavation. As a result, there will be no significant effects on land composition, stability, or fertility. The implementation of mitigation measures will ensure that the residual impact during the demolition phase remains neutral, imperceptible, and short-term.

6.4.2 Construction Phase

The mitigation and monitoring measures will effectively address potential impacts on the hydrogeological and hydrological environment during the construction phase. As a result, the residual effect on this environment is expected to be neutral, imperceptible, and short-term.

6.4.3 Operation Phase

The mitigation and monitoring measures will effectively address potential impacts on the hydrogeological and hydrological environment during the operational phase. As a result, the residual effect on this environment is expected to be neutral, imperceptible, and long-term.

6.5 Monitoring

6.5.1 Demolition Phase

The demolition phase involves only surface-level activities, with no excavation, eliminating the risk of increased groundwater vulnerability from accidental spills or discharges.

All waste materials will be managed according to regional and national legislation. Waste will be taken to appropriately registered facilities for processing, segregation, reuse, recycling, recovery, or disposal, preventing contaminated runoff from reaching surface or groundwater.

6.5.2 Construction Phase

During the construction phase, the following monitoring measures will be implemented:

- Weekly Inspections to ensure surface water drains remain unblocked.
- Regular inspections of surface water runoff and sediment controls.
- Maintenance of runoff diversion channels and bunds.
- Soil sampling to confirm appropriate disposal options and prevent contaminated runoff.
- Inspection of mitigation measures (e.g., concrete pouring, refueling).
- Water quality monitoring to ensure suitability for discharge to the stormwater network.
- Full adherence to CEMP (e.g., concrete pouring, refuelling).

6.5.3 Operational Phase

To minimize accidental discharges to soil, regular maintenance of the surface water drainage system, including the hydrobrake, separators/interceptors, and foul sewers, is recommended. Additionally, monitoring of surface water run-off will be necessary to detect any accidental discharges to the underlying geology.

CHAPTER 7 | **Air Quality**

The assessment of Air Quality is contained within Chapter 7. The air quality assessment has focussed on:

- Potential construction dust emissions and impacts to nearby sensitive receptors such as residential properties, schools, hospitals, etc.
- Potential vehicle emissions from traffic accessing the site for construction works and during operation.

7.1 Existing Environment

Baseline data and data available from similar environments indicates that levels of nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) and are generally well below the current National and European Union (EU) ambient air quality standards.

7.2 Impact Assessment

7.2.1 Do Nothing Scenario

In the Do Nothing scenario, the site will remain unchanged, and air quality will follow existing trends. These trends may be influenced by nearby developments and traffic. Since the site is zoned for development, a similar project is likely to be built in the future. As a result, air quality impacts are expected, even without the proposed development.

7.2.2 Demolition & Construction Phases

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute for Air Quality Management 2024 guidance document *'Guidance on the Assessment of Dust from Demolition and Construction'*. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects. The surrounding area was assessed as being of high sensitivity to dust soiling and of low sensitivity to dust-related human health effects.

The sensitivity of the area was combined with the dust emission magnitude for the site under four distinct categories: demolition, earthworks, construction and trackout (movement of vehicles) to determine the mitigation measures necessary to avoid significant dust impacts. It was determined that there is a medium risk of dust related impacts associated with the proposed development. In the absence of mitigation there is the potential for ***direct, short-term, negative*** and ***slight*** impacts to air quality, which is an overall ***not significant*** impact in EIA terms.

In addition, construction phase traffic emissions have the potential to impact air quality, particularly due to the increase in the number of HGVs accessing the site. Construction stage traffic did not meet the scoping criteria for a detailed modelling assessment outlined in Transport Infrastructure Ireland's 2022 guidance document *'Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106'.* As a result a detailed air assessment of construction stage traffic emissions has been scoped out and the construction stage traffic emissions will have a ***short-term, neutral*** and ***imperceptible*** impact on air quality, which is an overall ***not significant*** impact in EIA terms.

7.2.3 Operational Phase

Operational phase traffic has the potential to impact air quality due to vehicle exhaust emissions as a result of the increased number of vehicles accessing the site. The change in traffic associated with the operational phase of the proposed development did not meet the PE-ENV-01106 criteria requiring a detailed air dispersion modelling assessment. Therefore, it can be determined that during the operational phase, the proposed development will have a ***long-term, neutral, imperceptible*** and ***not significant*** impact on air quality.

7.2.4 Cumulative Impact

There is the potential for cumulative impacts to air quality should the construction phase of the proposed development coincide with that of other developments within 500 m of the site. A review of proposed/permitted developments in the vicinity of the site was undertaken and relevant developments with the potential for cumulative impacts were identified.

There is at most a medium risk of dust impacts associated with the proposed development. The dust mitigation measures outlined in Section 7.8 of Chapter 7 will be applied during the construction phase which will avoid significant cumulative impacts on air quality. With appropriate mitigation measures in place, the predicted cumulative impacts on air quality associated with the construction phase of the proposed development and the permitted cumulative developments are deemed ***direct, short-term, negative*** and ***not significant.***

Operational phase direct impacts on air quality associated with the proposed development are predicted to be ***direct, long-term, negative*** and ***imperceptible.***

Overall no significant cumulative impacts to air quality are predicted during the construction or operational phases of the proposed development.

7.3 Mitigation

7.3.1 Incorporated Design

There is no incorporated design mitigation required for the development in relation to air quality.

7.3.2 Demolition & Construction Phases

Detailed dust mitigation measures are outlined within Section 7.8 of Chapter 7 to ensure that no significant nuisance as a result of construction dust emissions occurs at nearby sensitive receptors. Once these best practice mitigation measures, derived from the Institute for Air Quality Management 2024 guidance '*Guidance on the Assessment of Dust from Demolition and Construction'* as well as other relevant dust management guidance, are implemented the impacts to air quality during the construction of the proposed development are considered, ***short-term, direct, negative*** and ***imperceptible,*** which is overall ***not significant*** in EIA terms, posing no nuisance at nearby sensitive receptors (such as local residences).

7.3.3 Operational Phase

No site-specific mitigation measures are proposed for the operational phase. The impact to air quality has been assessed as ***long-term, neutral, imperceptible*** and ***not significant***.

The measures set out in the Clean Air Strategy for Ireland (Government of Ireland 2023) aim towards solutions to ensure that air pollution concentrations are reduced in order to comply with the future changes in limit values. Ireland will need to continue to implement and develop measures to ensure improvements in air quality in future years to meet the objectives of the Clean Air Strategy for Ireland (Government of Ireland, 2023) and to comply with the ambient air quality limit values set out in Directive (EU) 2024/2881. These measures must be set at a national level. In relation to the proposed development, the inclusion of bike parking facilities and electric vehicle charging infrastructure as well as the availability of public transport routes will all help in promoting more sustainable modes of transportation and reducing private vehicle trips which will have the benefit of reducing air emissions from traffic.

7.4 Residual Impact Assessment

When the dust mitigation measures detailed in the mitigation section (Section 7.8) are implemented, the residual effect of fugitive emissions of dust and particulate matter from the site will be ***short-term, direct, localised, negative*** and ***not significant***.

The impact to air quality during the operational phase of the proposed development as a result of emissions from vehicles accessing the site have been assessed as having a ***short-term, direct, localised, neutral*** and ***not significant***.

7.5 Monitoring

Monitoring of the dust mitigation measures will be required as set out in Section 7.13 of Chapter 7 and the Construction Environmental Management Plan. The monitoring requirements will ensure that the dust mitigation measures are working satisfactorily.

CHAPTER 8 | **Climate Change**

The assessment of Climate is contained within Chapter 8. The climate assessment has focussed on:

- The potential greenhouse gas emissions during the demolition, construction and operational phases of the development.
- The vulnerability of the project to climate change, including considerations for increased rainfall and other projected climate impacts.
- The design measures to enhance the project's resilience to future climate risks, such as incorporating drainage systems for increased rainfall.

8.1 Existing Environment

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). The EPA state that Ireland had total GHG emissions of 60.6 Mt CO_2e in 2023. This is 2.27 Mt CO_2e higher than Ireland's annual target for emissions in 2023. EPA projections indicate that Ireland has used 63.9% of the 295 Mt CO_2e Carbon Budget for the five-year period 2021-2025. Further reduction measures are required to stay within the budget requirements.

8.2 Impact Assessment

The potential impacts on climate have been assessed in two distinct ways – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA). The GHGA quantifies the GHG emissions from a project over its lifetime and compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude. The CCRA considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

The impact of the demolition, construction and operation of the proposed development on Ireland's total national greenhouse gas emission is compared to Ireland's 2023 total greenhouse gas emissions, the relevant sectoral emissions ceilings and 2030 carbon budgets. Any adverse impacts are predicted to primarily occur during the construction phase, with the dominant sources of greenhouse gas emissions as a result of the development due to the embodied carbon associated with the building materials for the proposed development.

8.2.1 Do Nothing Scenario

In the Do-Nothing scenario, the site will remain as per the baseline and will change in accordance with trends within the wider area (including influences from potential new developments in the surrounding area, changes in road traffic, etc).

As the site is zoned for development, it is likely that in the absence of the proposed development a development of a similar nature would occur. Therefore, the predicted climate impacts within this report are likely to occur even in the absence of the proposed development however, the significance of the impact is unknown.

8.2.2 Greenhouse Gas Assessment

8.2.2.1 Demolition & Construction Phases

Calculation of the GHG emissions associated with the demolition and construction of the proposed development was calculated using the online OneClick Carbon Designer for Ireland Carbon Calculator Tool and the online Transport Infrastructure Ireland Carbon Assessment Tool. The GHG emissions associated with the proposed development are

predicted to be a small fraction of Ireland's 2030 carbon budget of 27.7 $MtCO_2e$ and the sectoral emissions ceilings for the Industry, Waste and Transport sectors. The proposed development will incorporate some mitigation measures which will aim to reduce climate impacts during construction and once the development is operational.

8.2.2.2 Operational Phase

GHG emissions during the operational phase due to road traffic were assessed. The changes in traffic volumes associated with the operational phase of the development were below the screening criteria requiring a detailed climate modelling assessment, as per Transport Infrastructure Ireland (TII) 2022 guidance "*PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document"*. Therefore, traffic related CO_2e emissions will not have a significant impact on climate.

8.2.3 Climate Change Risk Assessment

A CCRA was conducted to consider the vulnerability of the proposed development to climate change, as per the TII 2022 PE-ENV-01104 guidance. This involves an analysis of the sensitivity and exposure of the development to future climate hazards which together provide a measure of vulnerability. The hazards assessed included flooding (coastal, pluvial, fluvial); extreme heat; extreme cold; drought; extreme wind; lightning, hail and fog; wildfire and landslides. The proposed development is predicted to have at most low vulnerabilities to the various climate hazards and therefore climate change risk is considered ***direct, long-term, negative*** and ***imperceptible***, which is considered overall ***not significant*** with regard to the construction and operational phase.

Overall, no significant impacts to climate are predicted during the construction or operational phases of the proposed development.

8.2.4 Cumulative Impact

With respect to the requirement for a cumulative assessment PE-ENV-01104 states that *"the identified receptor for the GHG Assessment is the global climate and impacts on the receptor from a project are not geographically constrained, the normal approach for cumulative assessment in EIA is not considered applicable. By presenting the GHG impact of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. This assessment approach is considered to be inherently cumulative".*

As a result, the cumulative impact of the proposed development in relation to GHG emissions is considered ***direct, long-term, negative*** and ***slight***, which is overall ***not significant*** in EIA terms.

8.3 Mitigation

8.3.1 Incorporated Design

A number of mitigation measures have been incorporated into the design of the proposed development. This includes meeting and exceeding the NZEB (Nearly Zero Energy Buildings) requirements set out in the Part L guidelines. The proposed development is targeting a building energy ratio (BER) of A3 minimum. Additionally, other measures have also been incorporated into the design of the proposed development to mitigate the impacts of future climate change. To address future climate change risks, the design includes mitigation measures such as adequate drainage systems to manage a 20% increase in rainfall in future years.

8.3.2 Demolition & Construction Phases

A number of best practice mitigation measures are proposed for the demolition and construction phase of the proposed development to ensure that impacts to climate are minimised. These mitigation measures include a demolition and construction program, determine material reuse and waste recycling opportunities and identifying and implementing lower carbon material choices and quantities during detailed design.

8.3.3 Operational Phase

During the operational phase, emissions will be minimal. The primary focus will be on operational energy usage. The proposed development will be Nearly Zero Energy Building (NZEB) compliant and is targeting a Building Energy Rating (BER) or A3. Sustainable travel modes will be encouraged through support facilities for cycling and infrastructure for electrical vehicle charging points.

8.4 Residual Impact Assessment

The impact to climate as a result of a proposed development must be assessed as a whole for all phases. The proposed development will result in some impacts to climate through the release of GHGs. TII PE-ENV-01104 guidance references the IEMA guidance which states that the crux of assessing significance is *"not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050"*. The proposed development has incorporated some measures to reduce climate change impacts. Once mitigation measures are put in place, the effect of the proposed development in relation to GHG emissions is considered ***direct, long-term, negative*** and ***slight,*** which is overall ***not significant*** in EIA terms.

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change. The residual effect of climate change on the proposed development is considered ***direct, long-term, negative*** and ***imperceptible***, which is overall ***not significant*** in EIA terms.

8.5 Monitoring

There is no monitoring proposed during the construction or operational phase in relation to climate.

CHAPTER 9 | **Noise and Vibration**

Chapter 9 of the EIAR provides information on the assessment of noise and vibration impacts on the surrounding environment during the construction and operational phases of the proposed Good Shepherd development, Co. Cork.

The following approach was undertaken to assess the potential noise and vibration impact.

- Environmental noise surveys have been conducted in the vicinity of the proposed development to assess the existing baseline noise environment.
- A review of the most applicable standards and guidelines has been conducted to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development.
- Predictive calculations have been performed to determine the noise and vibration impact on the nearest sensitive locations during the construction phase.
- An assessment of traffic noise increases along the local road network was undertaken and a review of any potential fixed items of plant serving the residential units.
- A schedule of mitigation measures has been proposed for both the construction and operational phases to reduce, where necessary, the outward noise and vibration impacts from the development.
- The inward impact of noise from the surrounding environment on the proposed buildings has also been assessed to determine suitable residential amenity for the occupants of the site.

When considering the potential impacts, the key sources will relate to the short-term phase of construction and the long-term impacts associated with the development as a whole once operational.

Baseline noise surveys have been undertaken at the proposed development site and locality to characterise the noise environment. The existing noise environments across the development site and in the vicinity of the nearest existing NSLs are dictated by the surrounding road network including the Blarney Street and R846.

The general construction phase will involve site clearance, demolition, building construction works and landscaping, with the potential for rock breaking to be required in some areas. The assessment has determined that there is the potential for a negative, significant to very significance, and temporary to short-term, effect of noise impacts when works are undertaken within close proximity (10 – 20 m) of the nearest noise sensitive residential locations. At NSL's ≥50m from construction noise levels are below the significance threshold 65 dB $L_{Aeq,T.}$ At these NSLs to be short term, negative and slight to moderate. During potential rock breaking activities construction activities can operate within the adopted CNT of 65 dB $L_{Aeq,T}$ at distances of ≥80m. Negative short term significant to very significant effects are predicted for the closest NSL's up to 70m from works.

The use of best practice noise control measures, hours of operation, scheduling of works within appropriate time periods, strict construction noise limits and noise monitoring (where required) during this phase will ensure impacts are reduced, during the site clearance and ground preparation and for any piling is determined to be negative, significant to very significant and temporary to short term at noise sensitive receptors within 10m to the nearest works, at further distances effects of impacts will be reduced. For general construction works at these distances effects of impact will be reduced to short term, negative, moderate to significant. Where rock breaking is required after the implementation of mitigation measures, residual construction noise levels at the closest NSLs within 10 - 50m of the closest areas requiring rock breaking, works have the potential to be up to 6 - 20 dB above the CNT of 65 dB $L_{Aeq,T}$. There is a potential for a residual temporary to short term, negative, significant to very significant impact at these NSLs during rock breaking.

Vibration magnitudes associated with rock-breaking are well below those associated with any form of cosmetic damage to buildings during the construction phase it is expected that the potential effect due to vibration will be brief, negative and moderate to significant in the absence of mitigation at distances less than 20m, however at the majority of receptors the effect in relation to vibration will be short term, negative and not significant.

The residual effect of construction vibration is short term, negative, and not significant. Where rock breaking is necessary residual effect of construction vibration is short term, negative and moderate to significant.

During the operational phase, the predicted change in noise levels associated with additional traffic in the surrounding area required to facilitate the development is categorised as not significant, negative, imperceptible and long-term.

The predicted change in noise levels associated with mechanical and electrical services during the operational stage are determined to be negative, long term and not significant.

Noise levels associated with the construction phases have been considered cumulatively. Residual cumulative effects related to the construction phase, post-mitigation, are likely to be not significant.

At operational stage, cumulative noise impacts associated with the proposed development and other developments in the area are most likely to be associated with increase noise associated with traffic. An increase +3 dB represents a worst case scenario of a doubling in volume of traffic, representing a perceptible change with moderate impact, moderate significance and long-term. A highly unlikely scenario. The effect associated with building services plant, once designed to achieve the relevant noise criteria, is categorised as negative, imperceptible and long-term.

An inward noise impact has been undertaken to determine the requirement of any acoustic measures required to control sources of inward noise at the proposed residential buildings within the proposed development. The assessment has determined the prevailing noise environment is sufficiently low such that no specific control measures are required for the residential buildings to achieve acceptable internal noise levels within living spaces and bedrooms or the external amenity areas.

Prevailing vibration levels across the site are an order of magnitude lower than the level required to affect any damage to buildings in the proposed development. The effect of impact is therefor Imperceptible to Not Significant and Long Term.

CHAPTER 10 | **Landscape and Visual**

Chapter 10 of the EIAR was prepared to assess the potential significant effects of the proposed development on Townscape and Visual and is prepared in accordance with the industry standard Guidelines for Landscape and Visual Impact Assessment 3rd Edition, 2013 (GLVIA3). A 2km radius study area has been used for the assessment. The key policy document considered is the Cork City Development Plan 2022-2028. Effects are considered in relation to short-term Demolition / Construction phase and the permanent Operational phase of the proposed development.

In terms of the existing (baseline) context, the Good Shepherd Covent site lies on the relatively steep northern slopes above the River Lee, which runs in an easterly direction through the heart of Cork City and around which the City has formed. The site is surrounded by steep terrain that ascends towards the north. The terrain on the southern side of the River Lee rises more gently. The site itself comprises a row of derelict, red brick buildings surrounded by regenerating grass and scrub. A notable group of mature trees is located immediately south of the buildings and towards the western side if the site. The architecture is gothic in design, despite the exterior structure remaining more or less intact, vegetation can be seen emerging from the buildings and the structures are dilapidated.

With regard to the surrounding context, immediately west is the historic Cork City Gaol and Radio Museum, which are both respected heritage and tourism features in their own right. The adjacent land to the east, south and north primarily consist of two storey residential dwellings all oriented towards the south overlooking the River Lee. The local roads surrounding the site are well treed, contributing to a notable amount of canopy cover.

The subject site straddles two land use zonings in the Cork City Development Plan 2022-2028 (CDP) as shown in Figure 1. The site is primarily contained within 'ZO 01 Sustainable Residential Neighbourhoods' land use zoning, with the objective to; *"protect and provide for residential uses and amenities, local services and community, institutional, educational and civic uses."* The entirety of the site is contained within an 'Architectural Conservation Zone'.

The southwest part of the site is contained within 'ZO 17 Landscape Preservation Zones' with the objective; *"To preserve and enhance the special landscape and visual character of Landscape Preservation Zones."* Specifically, the site is located within the Landscape Preservation Zone NW17 – '(Former) Good Shepherd Convent'. There are no designated scenic views that specifically relate to views in the direction of the site.

In terms of townscape impacts, the proposed development will add markedly to the scale, intensity and extent of development on the site, whilst safeguarding its key assets in accordance with the NW17 specific zoning objectives. Those being the preservation of '*Tree Canopy';* '*Landmarks / Natural Features / Cultural Landscape'* and '*Public and Private Open Space footprint'*. The integrity of the site and its key assets is safeguarded by the subtle and incremental terracing of the site to mirror the underlying landform rather than attempting to 'flatten' broad areas of the site to maximise use through excessive excavation. The envelopment of the convent building by residential apartment buildings will slightly dilute the visual presence of the heritage structure as its current backdrop / framing when viewed from the south tends to be vegetation within a substantially open site. However, the added weight of built development also adds to the overall visual presence and intensity of the site whilst allowing the convent building to remain chief of these structures. It is also important to consider that this is ostensibly an urban setting and additional built development is not contrary to the nature and character of the study area and is also in line with the residential zoning of those portions of the site subject to built development proposals. Townscape impacts are not considered to be significant.

Twelve representative viewpoints (VPs) were used to inform the visual impact assessment and these ranged between Medium and Medium-low in terms of receptor sensitivity within this diverse urban context. The magnitude of visual impact ranged across the viewpoints from Medium to Negligible based predominately on viewing distance, the degree of screening and the manner in which the development integrates with the surrounding townscape fabric and visual context. The overall significance and quality of effect (derived from combining sensitivity and magnitude judgements) ranged between Moderate-slight / Negative for VP7 in close proximity to the site, down to Imperceptible from streets to the north where the proposed development is fully screened from view. The proposed development is generally found

to be well integrated into the surrounding built development and vegetation occupying the northern slopes above the River Lee. It does not unduly contribute to a sense of overbearing or overlooking for surrounding receptors and overall there is not considered to be any significant visual effects.

Cumulative effects were also assessed with the main consideration being the relationship of the proposed development to the St Kevin's Hospital site further along the northern slopes above the River Lee to the west where a redevelopment of a similar nature and scale is partially constructed. Cumulatively, the two developments add to the scale and intensity of modern built development in an area where large scale institutional heritage buildings and wooded sites are prevalent and a key contributor to townscape character. However, the design approach in both instances is a sensitive one that balances increased site utility with the long term preservation the heritage buildings in question and the mature tree canopy within the sites. No significant cumulative effects were assessed.

CHAPTER 11 | **Waste Management**

11.1 Introduction

AWN Consulting undertook the waste management assessment. The receiving environment is largely defined by Cork City Council (CCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

There will be waste materials generated from site clearance works, excavations, construction of the new development and from the operation of the new development. There is currently no waste generated at the proposed development site.

11.2 Potential Impacts and Mitigation Measures of the Proposed Development

Construction Phase

During the construction phase the mismanagement of waste, including the inadequate storage of waste, inadequate handling of hazardous waste, the use of inappropriate or insufficient segregation techniques, and the use of non-permitted waste contractors, would likely lead to negative impacts such as waste unnecessarily being diverted to landfill, litter pollution which may lead to vermin, runoff pollution from waste, fly tipping and illegal dumping of waste. In the absence of mitigation, the effect on the local and regional environment is likely to be **indirect, long-term, significant** and **negative.**

Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of waste management. In the absence of mitigation, the effect on the local and regional environment is likely to be **indirect, long-term, significant** and **negative**.

11.3 Residual Effect of the Proposed Development

Construction Phase

During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorised waste facilities, by appropriately licensed waste contractors. While the accurate keeping of waste records will be undertaken. All waste leaving the site will be recorded and copies of relevant documentation maintained.

This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 11.1) and Chapter 11 during the construction phase, this will ensure that the effect on the environment will be **short-term, neutral** and **imperceptible**.

Operational Phase

During the operational phase, waste will be generated by the residents and commercial tenants. Dedicated waste storage areas (WSAs) have been allocated throughout the development for the use of residents and separate WSAs for the commercial tenants. The WSAs have been appropriately sized to accommodate the estimated waste arisings from the development. The WSAs have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan has been prepared and included as part of this submission as Appendix 11.2, This OWMP provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, glass, mixed non-recyclables, garden/green waste, batteries, waste electrical equipment, printer cartridges, chemicals, lightbulbs, textiles, cooking oil, furniture and abandoned bicycles. This Plan/Strategy will be supplemented, as required, with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

Provided the mitigation measures outlined in Chapter 11 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be ***long-term, neutral*** and ***imperceptible.***

11.4 Cumulative Impact of the Proposed Development

Construction Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors in the CCC region, as provided from the National Waste Collection Permit Office and the EPA, there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all of the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the cumulative effect will be ***short-term, imperceptible*** and ***neutral.***

Operational Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate any potential cumulative impacts associated with waste generation and waste management. As such the cumulative effect will be a ***long-term, imperceptible*** and ***neutral****.*

CHAPTER 12 | Material Assets: Traffic and Transport

Chapter 12 – Material Assets: Traffic and Transport of this EIAR assesses the potential impact of the proposed development in terms of traffic and transport. Chapter 12 was written by Mr. David Murphy of MHL & Associates Ltd. Consulting Engineers. David holds an Honours Bachelor's Degree Civil, Structural and Environmental Engineering, with a Masters in Coastal Management and Geographical Information Systems and has been a Member of the Institution of Engineers of Ireland 2006. David has 14 years' experience working in the fields of transport planning, traffic engineering and traffic management.

The traffic and transport section of the Environmental Impact Assessment Report (EIAR) focuses on how the proposed development will impact local traffic, public transport, and road infrastructure. This assessment is crucial because changes in how people move around the area could affect daily life, safety, and the environment. The report evaluates the current traffic situation, looks at what will happen if the development goes ahead, and proposes ways to minimise any negative impacts.

12.1 Overview of the Traffic Assessment

The goal of this traffic assessment is to evaluate current traffic conditions, identify potential congestion points, and propose solutions to improve overall traffic flow and safety. By analysing traffic volume, speed, and patterns, the assessment aims to enhance transport efficiency, reduce delays, and support future urban planning. Additionally, it considers the impact of new developments, infrastructure changes, and policy implementations to ensure sustainable and effective traffic management. The findings help determine road usage, commuter experiences, and contribute to a safer and more accessible transport network. Additionally, it considers the impact of new developments, infrastructure changes, and policy implementations to ensure sustainable and effective traffic assessment. It also aims to support sustainable modes of transport, such as walking and the use of public transport, in line with national and local policies like Project Ireland 2040 and the Design Manual for Urban Roads and Streets (DMURS, 2019).

12.2 Current Traffic and Transport Conditions

The site of the proposed development is located on Convent Avenue, on the grounds of the former Good Shepherd Convent approximately 1.5km northwest of Cork City Centre. Walking and cycling infrastructure are available but could be improved, especially given the national push toward more sustainable transport solutions. Right now, the area experiences moderate traffic during peak times—morning and evening rush hours—but traffic flow is generally smooth outside these periods. Public transport services are in place, but some bus routes are nearing full capacity, especially during busy periods. The proposed development would be accessed via an existing priority junction with Convent Avenue, which will be the single point of access for vehicles, cyclists and pedestrians. Existing pedestrian infrastructure includes narrow footpaths on Convent Avenue and Sunday's Well Road and a pedestrian/cycle bridge in Daly's Bridge providing connection southwards in the direction of UCC. No designated cycle infrastructure is apparent in the area, with the exception of Daly's Bridge. The closest bus stops to the site are located on Sunday's Well Road, approximately 400m (5-minute walk) and on Western Road, approximately 800m (11-minute walk) from the proposed site access point. Key roads within the study area include Convent Avenue, Sunday's Well Road, Shanakiel Road, and Thomas Davis Bridge.

12.3 The Potential Impact of the Proposed Development

12.3.1 Construction Phase

When the new development is being built, there will be an increase in traffic from construction vehicles, such as trucks delivering materials and workers commuting to the site. This could lead to some temporary disruptions, like road closures or detours, but these will be managed carefully through traffic management plans. The main impacts during construction

are expected to be short-term. Once the development is complete and in use, it will generate additional traffic from residents, workers, and visitors. More cars will use the local roads, and there may be a higher demand for parking. Public transport services will also see an increase in usage, with more people needing to catch buses or trains, especially during peak times. This additional demand could cause congestion, particularly at key junctions or intersections.

12.3.2 Demolition & Construction Phase

The expected construction programme is anticipated to commence in 2026 pending successful grant of planning; however, the specific construction timelines are to be confirmed after the works contractor for the site is appointed. The project's schedule will be finalised following the completion of necessary approvals, planning processes, and any potential adjustments to the project scope. The successful contractor is to ensure that all key milestones are aligned with the required resources, regulatory requirements and ensuring coordination with the local authority during the works period.

HGV routing will be controlled within the local road network to minimise disruption. Heavy Goods Vehicles (HGVs) will not be permitted to operate during peak commuter hours and school times to ensure safety and reduce congestion. This restriction aims to protect road users, particularly pedestrians and cyclists, while maintaining efficient traffic flow during these high-traffic periods. The biggest impact during the construction phase is predicted on Convent Avenue, between the site access and Sunday's Well Road, but impacts will be suitably mitigated through the management of site traffic, safety measures (such as signage), and other measures such as wheel washing and street sweeping.

12.3.3 Operational Phase

The increase in traffic on the local network as a result of the development is all roads in the study area

The road network analysis indicates that the junctions in the area will generally operate efficiently with minimal impact from the proposed development. At most junctions, the increase in traffic flow and capacity usage is minimal, with maximum increases in traffic flow well below 5% during peak hours. Specifically, one junction operates at a maximum capacity of 44%, with a modest 7% increase in the RFC due to the development. The proposed development's own junction is expected to operate at a low level of demand, with only a 6% increase in RFC by 2042. Overall, the impact on the road network is considered to be insignificant.

A detailed traffic assessment has been undertaken for the road network, which has Driver Delay, Pedestrian Delay and Amenity (the 'pleasantness' of the pedestrian experience), and Accidents and Safety. The overall effect been assessed and is considered to be minor.

12.3.4 Managing and Reducing Traffic Impacts

Traffic impacts during the construction stage will be mitigated through the implementation of a Construction Traffic Management Plan (CTMP), which will be agreed with the local authority (CCC).

A Mobility Management Plan has also been prepared by MHL to accompany the planning application. The aim of the Mobility Management Plan is to minimise the proportion of single occupancy vehicle trips and address the forecast transport impacts of the end-users of the subject site.

As part of the proposed development, pedestrian improvement facilities will be provided and will comply with the Design Manual for Urban Roads and Streets (DMURS) standards. The pedestrian improvement infrastructure will comprise of a new uncontrolled pedestrian crossing at the development entrance with the provision of new footpath opposite the development access, in addition to the provision of a raised table at the junction of Convent Avenue/Sunday's Well

Road with footpath and pedestrian crossing facilities. These pedestrian connectivity improvement features are to tie into Cork City Councils "Shanakiel – Strawberry Hill Pedestrian Improvement Scheme", which aims to deliver a range of improvements in the area around the proposed development. Further pedestrian improvements as part of this CCC scheme include a new footway, shared footway/cycleway and controlled pedestrian crossing west of the development along Convent Avenue and the signalisation of Shanakiel Rd/Sunday's Well Rd junction to include controlled pedestrian crossings. The delivery of these street improvement works would see an overall improved pedestrian accessibility to the area and would promote active travel in the area. The traffic calming measures incorporated will enhance road safety, reduce vehicle speeds and improve safety for all road users. These improvements will ensure a more accessible, safe, and sustainable transport environment for the area.

The proposed development will also include amenities such as a café, convenience store and public open space which will be accessible to the general public as well as residents. These amenities will be accessed from the main entrance to the development which is off Convent Avenue. There is potential for full pedestrian and cycle access through the site with a possible future connection to Buxton Hill to the east of the site.

12.4 Benefits of the Proposed Development

The development is aligned with national and regional policies that aim to reduce dependency on private cars and promote more sustainable travel modes. By improving pedestrian infrastructure and ensuring that public transport services can meet future demand, the development will encourage people to use more environmentally friendly modes of transport. This is in line with the goals of the National Planning Framework, which promotes reducing car dependency and increasing the use of public and active transport.

12.5 Addressing Future Traffic and Transport Needs

The traffic assessment also considers future growth in the area. As the population increases and more developments are built, the demand for road space, public transport, and parking will rise. This EIAR evaluates how the proposed development fits into the broader picture of regional development, considering upcoming projects that could affect traffic, such as road upgrades or the expansion of public transport services. To prepare for this future, the design of the development includes space for future transport improvements, ensuring that any changes to the local transport network will not be hindered by the new development. The cumulative assessment considers how development might proceed in future years. It assumes an upgraded priority access junction onto Convent Avenue and a priority junction upgrade between Sunday's Well Road and Convent Avenue, which will be constructed, and will become the main point of entry.

12.6 Conclusion

The proposed development will have some impact on traffic and transport in the area, especially during construction and when the development becomes operational. However, with proper planning and mitigation measures in place, these impacts can be managed effectively. The inclusion of pedestrian improvements will not only reduce the negative effects on traffic but will also promote more sustainable and environmentally friendly travel options. In the long run, the development aligns with national and local goals for a more sustainable, connected, and safe transport system. With the Construction Traffic Management Plan (CTMP) and Mobility Management Plan (MMP) in place, the residual impact of the Proposed Development will be minor. Additionally, with the planned pedestrian connectivity enhancements on Convent Avenue, the residual impact of the development's cumulative effects will be minimal, ensuring accessible and convenient connections to both the surrounding area and the development site.

CHAPTER 13 | **Material Assets: Built Services**

This chapter of the EIAR was prepared by William O'Sullivan of Murphy Matson O'Sullivan Consulting Engineers and John Kelleher MSc., C.Eng., M.C.I.B.S.E., Managing Director at John Kelleher & Associates Building Services Engineers.

13.1 Baseline Environment and Proposed Development

There is an existing combined sewer under the public road to the southwest of the site. There is also an existing watermain under the public road near the site entrance. There will be a requirement to upgrade approximately 100m of the public watermain network at the client's expense. The nearest storm sewer is on Blarney Street to the northeast of the site. The storm water from the site will be attenuated on site with a reduced discharge to the combined sewer in compliance with Uisce Eireann's requirements.

The existing ESB and Eir infrastructure within the area is adequate to support the proposed development.

A new public lighting system shall be designed, installed and commissioned by the developer with a view to the system being taken in charge by Cork City Council on completion. The public lighting system shall be connected to the proposed electrical distribution system by way of micro pillars located adjacent to the proposed ESB mini pillars.

13.2 Potential Impacts

The potential significant impacts should be limited on the project. Groundwater contamination due to chemical spills is likely to be the only issue.

If the site rules and procedures are followed for the safe storage of materials, the risk of impact should be negligible.

There is no foreseeable impact following implementation of mitigation measures.

CHAPTER 14 | **Biodiversity**

14.1 Introduction

The process of identifying, analysing, and evaluating the potential impacts of a Large-scale Residential Development (LRD) at the former Good Shepherd Convent site in Sunday's Well, Cork City, was undertaken in accordance with guidance on ecological and environmental survey and assessment provided by the Heritage Council, the Environmental Protection Agency, Transport Infrastructure Ireland, and the Chartered Institute of Ecology and Environmental Management. These guidelines informed the planning and conducting of field survey work, as well as the analysis and evaluation of the potential impacts of the proposed development on Biodiversity, i.e. habitats, species, and designated sites.

The proposed development will include the conservation, conversion, and extension of the former Good Shepherd Convent, Home Building, Orphanage Building, Well Site, Gate Lodge, and Bakehouse to provide student accommodation and ancillary services ("the proposed development").

A desk study was undertaken to establish the "zone of influence" of the proposed development, i.e. the geographical area over which any effects are likely to be significant, and to examine any recent or historical records of features of ecological significance in this area, including any sites designated for nature conservation at the national or international level.

To establish the current baseline biodiversity within the planning boundary and adjacent areas, a series of site visits and specialist surveys were carried out specifically for the proposed development. The multi-disciplinary surveys included terrestrial ecology and habitat surveys, invasive plant species surveys, bird surveys, bat surveys, and non-volant mammal surveys (i.e., land-based mammals that cannot fly). Other sources of information used to inform the baseline included data from the National Biodiversity Data Centre, Bat Conservation Ireland, BirdWatch Ireland, and the National Parks and Wildlife Service.

14.2 Receiving Environment

It was determined that two European sites, namely the Cork Harbour Special Protection Area (SPA) and the Great Island Channel Special Area of Conservation (SAC), occur within the 15km "zone of influence." Given the location, scale, and nature of the proposed development, and the absence of ecological pathways, no likely significant effects have been identified for these designated sites. A Stage 1 Screening for Appropriate Assessment (AA) report has been prepared as a standalone document.

Other internationally designated sites, including the Cork Harbour Ramsar Site (Wetland of International Importance, WII) and the Cork Harbour Important Bird Area (IBA), have no connectivity to the proposed development. Some of these designated sites overlap the same areas. Sixteen nationally designated sites—the Lee Valley proposed Natural Heritage Area (pNHA), Ballincollig Cave pNHA, Cork Lough pNHA, Dunkettle Shore pNHA, Douglas River Estuary pNHA, Shournagh Valley pNHA, Blarney Lake pNHA, Blarney Castle Woods pNHA, Blarney Bog pNHA, Ardamadane Wood pNHA, Great Island Channel pNHA, Rockfarm Quarry (Little Island) pNHA, Monkstown Creek pNHA, Owenboy River pNHA, Lough Beg (Cork) pNHA, and Glanmire Wood pNHA—lie within the 15km "zone of influence."

Field survey work carried out to establish the ecological baseline included multi-disciplinary walkover surveys of the development site and its immediate surroundings to describe and map the habitats, species, and evidence of species present. Habitats were classified and mapped in accordance with guidelines published by the Heritage Council. Dedicated surveys for bats, breeding birds, and non-volant mammals were also undertaken.

Habitat Surveys

The habitats identified within and in close proximity to the study area were classified according to Fossitt Level 3 habitat categories. Detailed descriptions are provided in the EIAR Biodiversity Chapter:

- Buildings and artificial surfaces (BL3)
- Mixed broadleaved/conifer woodland (WD2)
- Scrub (WS1)
- Dry meadows and grassy verges (GS2)
- Amenity grassland (improved) (GA2)
- Treelines (WL2)
- Recolonising bare ground (ED3)
- Stone walls and other stonework (BL1)

Invasive Plant Species Survey

Invasive Alien Species (IAS) were documented during the ecological surveys, focusing on species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011).

Two Third Schedule species were recorded on-site: Gunnera tinctoria, observed in a stand located to the rear of Block A3 (Former Orphanage), and Allium triquetrum, which was found in small patches beneath sections of woodland at coordinate references W 65795 72096 and W 65801 71984. Additionally, Rhododendron ponticum was previously recorded along the edge of the woodland area.

Seven non-native invasive species, not listed on the Third Schedule, were observed in multiple locations. These species are not considered a significant risk to protected or rare species of conservation concern.

Non-volant Mammals

No evidence of Badger setts or Otter presence was found on-site, and the habitat was deemed unsuitable for Otters. However, evidence of small mammals such as Wood Mouse, Brown Rat, and Pygmy Shrew, was recorded. Wildlife cameras were set up on 14th March 2025 and collected on 20th March 2025, monitoring the site for six days and five nights. The cameras captured footage of red fox, song thrush, and blackbird, with red fox being the most frequently observed.

One camera, placed in the southern part of the site in grassland and scrub, recorded red fox on two nights, with the most activity on 17th March. Another camera recorded a red fox on 15th March and both a song thrush and a blackbird on 16th March. No other significant mammals were detected, and no protected species were recorded on the trail cameras.

The unmanaged grassland, woodland, and treeline habitats may support small mammals such as Pygmy Shrew and Hedgehog, with the local small mammal population considered to be of local importance (higher value).

Bats

Bat surveys conducted in September 2024 showed that ongoing fires and structural deterioration have reduced the site's suitability for roosting bats. No bats were observed roosting in buildings, trees, or stone walls, although some cracks and crevices provide low to moderate suitability for roosting. Common pipistrelle and Leisler's bat were identified foraging and commuting, particularly in woodland and grassland areas. The light from nearby roads and residences deters bats along the southeastern boundary. Local bat populations are considered of local importance (higher value) for foraging and commuting.

Birds

Bird surveys in August and September 2024 found a bird community dominated by small passerine, corvid, and pigeon species, typical of urban and suburban areas. Bird activity was concentrated in areas with suitable cover, such as treelines, woodland, and scrub. Common species observed included blackbirds, robins, and swallows, while black-headed and herring gulls were frequently seen flying overhead.

Certain species recorded are likely to use the site only for occasional foraging (e.g., black-headed gull) and are unlikely to be affected by the proposed development. However, other species, such as buzzard, swift, stock dove, barn owl, and kestrel, may also breed in or near the zone of Influence, with the latter known to breed regularly on-site (NPWS Conservation Ranger, pers. comm.).

While significant negative effects are unlikely, they cannot be entirely ruled out. No confirmed breeding, nests, or juveniles were recorded during the surveys. However, given the number of historic sightings and the availability of suitable foraging and breeding habitat within the site, these species are considered to have probable breeding status within the proposed development site or its immediate vicinity.

A breeding bird survey was carried out in March and April 2025. No species listed under Annex I of the EU Birds Directive were found on-site. However, two red-listed birds, Kestrel and Stock Dove, were recorded, along with five amber-listed species: Black-headed Gull, Lesser Black-backed Gull, Herring Gull, Mallard, and House Sparrow. Of these, only Kestrel, Stock Dove, and House Sparrow were seen interacting with the proposed development site.

The avifauna of the proposed development site is typical of similar suburban settings. The site contains good-quality foraging and nesting habitats, e.g., grassland, scrub, and treelines. For this reason, the bird fauna at the site is of Local importance (higher value) for terrestrial bird species that are relatively common in the Irish countryside.

While Special Conservation Interest (SCI) gull species, i.e., Lesser Black-backed Gull, and Black-headed Gull were regularly recorded overflying the site during the surveys, the habitats at the site do not provide regular roosting or foraging grounds for these or any other SCI species of the Cork Harbour SPA.

Reptiles and Amphibians

Field assessments conducted in August 2024 found the site to be unsuitable for reptiles and amphibians, with no evidence of common lizards, frogs, or newts. The absence of aquatic features makes the site unsuitable for breeding amphibians. Consequently, these species are considered to be of low ecological importance within the site, with no anticipated indirect effects on local populations.

Following the desk study and field surveys, Key Ecological Receptors (KERs) were identified. These are features of ecological significance at the local (higher level) scale or above and should be a material consideration in the decision-making process. A total of five Key Ecological Receptors were identified within the study area: Mixed broadleaved/conifer woodland, Dry meadows and grassy verges, Non-volant Mammals, Bats, and Birds. Each Key Ecological Receptor was evaluated in terms of its conservation value on a geographical scale.

14.3 Potential Impacts and Mitigation Measures

The key ecological potential impacts associated with the proposed development include habitat loss, habitat fragmentation, disturbance to species, direct mortality, the introduction and spread of invasive species, and a reduction in water quality. The biodiversity impact assessment analysed the potential impacts of the proposed development on the Key Ecological Receptors and characterised these impacts in terms of their magnitude, extent, duration, frequency, and reversibility, thereby evaluating their significance on a geographical scale.

Various elements of the construction and operational phases of the proposed development will result in habitat loss and fragmentation. The effect of these impacts will be a reduction in the overall habitat area within the footprint of the proposed development site. The proposed development will require some vegetation clearance to facilitate construction.

Disturbance will occur during the construction and operation of the proposed development as a result of noise, lighting, and vibration, affecting species both within and outside the construction footprint. Direct mortality is possible as a result of site clearance and vegetation removal. Although it is considered highly unlikely, water quality impacts arising from both the construction and operation of the proposed development have the potential to affect habitats and species directly and indirectly.

The assessment determined that, in the absence of mitigation, the construction and operation of the proposed development have the potential to result in significant negative effects on the Key Ecological Receptors. In light of this finding, appropriate mitigation measures were proposed to eliminate or minimise these effects. These mitigation measures include general and specific measures for each Key Ecological Receptor, covering both the construction and operational phases.

Key mitigation measures include the timing of works to avoid impacts on sensitive ecological receptors, the implementation of water quality protection measures, and measures to prevent the spread of invasive species. Pre-construction surveys for mammals, birds, and bats will be conducted to ensure that any species present are identified and appropriately protected. Measures to minimise habitat loss and vegetation removal have been devised. Specific measures for the protection of non-volant mammals, bats, and breeding birds have also been developed. Lighting will be designed to avoid and minimise impacts on bats.

In addition to mitigating the likely ecological effects of the proposed development, the biodiversity assessment also proposed a number of ecological enhancement measures aimed at having a positive impact on biodiversity wherever possible. These include the planting of native Irish tree, shrub, and wildflower species, as well as the installation of bat and bird boxes in suitable locations across the proposed development site.

14.4 Residual Effects

Overall, the development will primarily affect low-value, highly modified habitats. A small number of non-native trees will be lost, but this will not result in significant ecological impact. No impact on aquatic habitats is predicted, and no significant difficulties in implementing the prescribed mitigation measures have been identified.

With the exception of localised and short-term impacts during construction, no significant impacts on fauna are anticipated. It is expected that bats will utilise the newly created roosting habitat, while bird boxes will be installed for barn owl, kestrel, stock dove, and swift. The spread of invasive species will be actively managed and controlled, and any potential impact on air quality will be negligible. No adverse impacts on designated sites or their conservation objectives are anticipated.

For all Key Ecological Receptors, it was found that any residual effects, following the application of the proposed mitigation measures, would not be significant at any geographical scale. With the implementation of the mitigation measures outlined in the EIAR, there will be no significant residual effects on biodiversity within the zone of influence.

CHAPTER 15 | **Built Heritage**

The study is primarily focused on the impact of the proposed development on the existing historic buildings of the former Good Shepherd Convent site, which comprises three main blocks, a bakery, a coach house and a gate house (Protected Structures).

In addition, the assessment examines possible impacts of the proposed development on the character of the Architectural Conservation Area within which the site is located. Finally, possible impacts on the special cultural heritage of the site will be examined, in particular with reference to the cemetery within the grounds which contains the grave of Ellen Organ (a child known as Little Nellie of Holy God).

The assessment comprises a history and record of the buildings. The significance and character of these structures, and potential risks to this special character, are outlined. The potential impact of the proposed development on the character of the former Good Shepherd buildings and the area in which the site is located is assessed, and mitigation measures suggested.

On the basis of information resulting from the historical analysis and physical inspection of the buildings and site, the character of the historic buildings and potential risks to their character are described. This information has been summarised and compiled into the Matrix of Significance document, included in this report as an Appendix- Matrix of Significance. This understanding of the site has informed the understanding of the significance of the existing former Good Shepherd Convent buildings and allowed for the formulation of mitigation measures which are intended to help to protect the special character of these buildings and their setting within an Architectural Conservation Area.

The present proposal is based on an understanding of the history of the site and its evolution. On the basis of this understanding, the existing historic buildings recognised to be of greatest significance are to be retained, conserved and re-used. Extensive fire damage and a long period of disuse has meant that much historic building fabric is in very poor condition, but the proposed scheme has been guided by a principle of retention of historic fabric where feasible to do so.

The restoration of the principal facades of the three main historic buildings, and the retention and restoration of the gate lodge and carriage house/bake house, will have a long term positive physical and visual impact on the protected structures.

The construction of new PBSA blocks to the rear (north), south and southeast of the existing historic structures will impact on the setting and curtilage of the former convent buildings and to a lesser extent, on the setting of the City Gaol complex. These visual impacts will be long term and follow the pattern of intensification of development in the surrounding area since these institutional buildings were first developed on what was, at the time, the outskirts of the city.

The proposals for the former Good Shepherd site will result in the re-use and continued life and upkeep of historic structures, in additional to providing access to the cemeteries and a space to meaningfully acknowledge and engage with the history of the site.

CHAPTER 16 | **Archaeology**

This chapter examines potential effects of the proposed development on archaeological heritage. The proposed development area is located within the townland of Carrignaveagh, which translates from the Irish "Charraig na bhFiach" as the "rock of the ravens." There are no recorded archaeological sites within the proposed development boundary. Three recorded sites are located within 500 metres of the development site, but none will be impacted.

The Sunday's Well environs developed as a wealthy residential area in the nineteenth century and is characterised by a large number of fine nineteenth century villas. It is also the location of a number of striking public and religious buildings. Historically, the Good Shepherd complex was constructed on an artificially created terrace on the south-facing slope above Sunday's Well Road, overlooking the River Lee. The complex was developed in the 1870s and significantly altered the landscape, transforming it from undeveloped fields into a site for religious, educational, and industrial purposes.

A geophysical survey using Ground Penetrating Radar (GPR) was conducted on the site in July 2017 by Target Geophysics under licence from the National Monuments Service (Detection Licence 17R0115). The survey targeted areas within the curtilage of the wider development site that were suitable for investigation. It was carried out following consultation with Cork City Council's Executive Archaeologist, Ms. Ciara Brett. The survey aimed to identify any features of archaeological significance, but no significant findings were revealed.

Archaeological testing was conducted between 28th of September and 9th of October 2017 across four areas of the proposed development site under licence from the National Monuments Service (programme of archaeological testing (under Excavation Licence 17E0460). The testing aimed to identify unrecorded archaeological features (including any undocumented burial places and/or graves). Key findings include:

1. Area 1 (North-East Area of site): Significant infill material was found, likely introduced to level the terrain. Agricultural features were identified but were shallow and ephemeral. No human remains were found; all bone fragments were non-human.

2. Area 2 (South-East Area of the site): Heavily disturbed by demolition debris from fires in the 2000s. Original topsoil was truncated, and no archaeological features were identified.

3. Area 3 (South and Central Area of the site): Less disturbed, with shallow agricultural features and modern inclusions. No significant archaeological remains were found.

4. Area 4 (South-West Corner of the site): Testing revealed sterile subsoil with no archaeological features.

Overall, the testing revealed no artefacts, features, deposits, or remains of archaeological or cultural significance. The testing did not include the grounds of the convent hostel. The hostel, constructed in the latter half of the 20th century, was built on a terrace formed in the southwestern portion of the development site. The original ground level was reduced to create the terrace, significantly lowering the potential for archaeological remains in that area. The archaeological potential of the grounds of the hostel is considered to be very low.

In summary the entire site has been extensively disturbed by past construction, reducing the likelihood of archaeological remains. Nevertheless archaeological monitoring during construction is recommended to mitigate any residual undisturbed archaeological deposits and features that might survive within the development site. After mitigation, no residual impacts on archaeological heritage are expected.

CHAPTER 17 | Screening for Major Accidents

Chapter 17 of the EIAR has been prepared by Saoirse Kavanagh, Executive Planning Consultant at McCutcheon Halley Planning Consultancy. This chapter assesses the potential for the proposed development to give rise to or be affected by major accidents and disasters (MA&D), such as flooding, seismic activity, or proximity to SEVESO sites. The assessment includes both natural and human-related risks.

17.1 Flood Risk

A desktop study was undertaken by MMOS Consulting Engineers. While the River Lee, located approximately 300m south of the site, has a history of flooding, no flood events have been recorded at the subject site. Due to the site's elevated topography, it is classified as Flood Zone C. The risk of fluvial, pluvial, or tidal flooding is considered low, and the site is suitable for vulnerable residential development.

17.2 Seismic Activity

Seismic activity in Ireland is minimal, with events typically limited to magnitudes below 2.9 and generally occurring along the eastern and southern coasts. No significant seismic events have been recorded in the vicinity of the subject site. Therefore, seismic risk is not considered a concern.

17.3 COMAH/SEVESO Sites

There are six SEVESO sites within the Cork City administrative area, none of which are in close proximity to the proposed development. The nearest site, Grassland Agro, is 2.5km away and has been reclassified as a lower-tier establishment. Given the distances involved and the nature of these sites, no adverse impacts are anticipated during the construction or operational phases of the development.

17.4 Residual Impact Assessment

17.4.1 Demolition and Construction Phase

No scenarios of concern have been identified for the construction phase. The predicted impact is short term, imperceptible and neutral.

17.4.2 Operational Phase

As the site is not located in an area prone to flooding, seismic events, or close to COMAH/SEVESO sites, the predicted impact during the operational phase is considered long term, imperceptible and neutral.

17.4.3 Cumulative Impact

No cumulative effects are expected. Cumulative impacts are considered imperceptible and neutral.

CHAPTER 18 | **Significant Interaction of Impacts**

Chapter 18 of the EIAR has been prepared by Saoirse Kavanagh, Executive Planning Consultant at McCutcheon Halley Planning Consultancy. This chapter assesses the significant interactions of impacts between each of the separate disciplines.

In practice many impacts have slight or subtle interactions with other disciplines. During the preparation of this EIAR each of the specialist consultants engaged with each other with respect to the likely interactions between effects predicted as a result of the proposed development.

Mitigation measures to alleviate identified likely significant effects address identified interactions. This approach meets with the requirements of Part X of the Planning and Development Act 2000, as amended, and Part 10, and schedules 5, 6 and 7 of the Planning and Development Regulations 2001, as amended.

CHAPTER 19 | **Summary of Mitigation Measures**

Chapter 19 of the Environmental Impact Assessment provides a consolidated summary of the proposed mitigation and monitoring measures identified across all environmental disciplines throughout the EIAR. These measures are designed to avoid, reduce, or offset any likely significant adverse impacts associated with the proposed development.

Each specialist chapter has identified specific measures tailored to their area of assessment, including but not limited to population and human health, land and soils, water, biodiversity, noise and vibration, and traffic and transport. These measures have been integrated into the project design or will be implemented during construction and operation as appropriate.

Some disciplines have also recommended monitoring following the implementation of mitigation. Monitoring will take place post-consent to verify that the development performs as predicted and that mitigation measures function effectively. This monitoring will help ensure compliance with consent conditions and performance standards and will provide early detection of any unexpected impacts or mitigation failures.