

BEAK AND NEMESTOWN, KILMORE QUAY, CO. WEXFORD

Environmental Impact Assessment Report

Synergy Environmental Limited T/A DNV

Report no.: 1.0, Rev. 1.0

Document no.: 1.0

Date: 31/07/2025



RECEIVED: 05/08/2025

1 INTRODUCTION AND METHODOLOGY

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by Synergy Environmental Limited T/A DNV (hereinafter referred to as DNV) on behalf of Robert Roche, herein after referred to as 'the Applicant', who is seeking planning permission for an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The Proposed Development will be situated on a 20.3 hectares site consisting of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and providing 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

A detailed description of the Proposed Development is provided in Chapter 2 of this Environmental Impact Assessment Report.

This EIAR has been compiled in accordance with all relevant and current legislation and good practice guidance.

This chapter describes the methodology by which the Environmental Impact Assessment (EIA) was carried out.

1.2 Quality Assurance and Competency of Experts

Under Article 5(3)(a) of Directive 2014/52/EU it is a requirement that:

"the developer shall ensure that the environmental impact assessment report is prepared by competent experts"

This EIAR has been prepared by DNV. Technical chapters have been prepared by a multi-consultancy team of environmental specialists.

Founded in 2010, Enviroguide is an award-winning, multi-disciplinary environmental consultancy specialising in environmental compliance, ecology, planning, waste management, contaminated land, engineering, and sustainability. Providing end to end environmental consultancy services, Enviroguide consultants hold scientific, engineering, and/or legal qualifications with extensive technical knowledge and extensive practical experience within the environmental consultancy and management sectors. Professional memberships include the Chartered Institute of Ecology and Environmental Management, the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association, the Institute of Environmental Management and Assessment (IEMA), Engineers Ireland, the Institute of Geologists of Ireland, and the Royal Town Planning Institute.

Enviroguide was acquired by DNV in 2023. DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires solutions.

This chapter was prepared by Michelle Gaffney Senior EIA consultant with DNV, with over 4 years' experience in environmental consultancy. Michelle holds a B.A (Hons) in Earth Science from Trinity College and is currently advancing expertise through an MSc in Environmental Sustainability at University College Dublin. Michelle has been involved in the technical input into a range of Environmental Impact Assessment Report Chapters and has been involved in the project management and delivery of a range of EIARs of a similar scale and nature to the Proposed Development.

This chapter has been reviewed by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with 37 years' experience in consultancy, specialising in EIAs for large-scale residential, commercial developments, pharmaceutical, BESS and solar projects working closely with a range of developers, planning consultants and architects within the public and private sector. Catherine has a B.Sc. (Hons) in Analytical Science and a Post Graduate Diploma in Renewable Energy Technology Systems.

For each chapter of this EIAR, the author, qualifications, and experience of working on other development projects are detailed. The EIAR Project Team are identified in Table 1-1.

Table 1-1 EIAR Project Team

Chapter	Consultant Name and address	Specialist Area
1.0 Introduction and Non-Technical Summary	DNV, 3D Core C, The Plaza, Park West, D12F9TN Michelle Gaffney	Multidisciplinary Planning and Environmental Consultants
2.0 Description of the Proposed Development	DNV, 3D Core C, The Plaza, Park West, D12F9TN Michelle Gaffney	Multidisciplinary Planning and Environmental Consultants
3.0 Planning Context	DNV, 3D Core C, The Plaza, Park West, D12F9TN Rachel Redmond	Multidisciplinary Planning and Environmental Consultants
4.0 Population and Human Health	DNV, 3D Core C, The Plaza, Park West, D12F9TN Michelle Gaffney	Multidisciplinary Planning and Environmental Consultants
5.0 Biodiversity	DNV, Consulting, 3D Core C, The Plaza, Park West, D12F9TN Alice Clarke	Multidisciplinary Planning and Environmental Consultants
6.0 Land and Soils	DNV, 3D Core C, The Plaza, Park West, D12F9TN Gareth Carroll Nuria Manzananas	Multidisciplinary Planning and Environmental Consultants
7.0 Hydrology and Hydrogeology		

Chapter	Consultant Name and address	Specialist Area
	DNV, 3D Core C, The Plaza, Park West, D12F9TN Gareth Carroll Nuria Manzananas	Multidisciplinary Planning and Environmental Consultants
8a. Air Quality	DNV, 3D Core C, The Plaza, Park West, D12F9TN Laura Griffin	Multidisciplinary Planning and Environmental Consultants
8b Climate	DNV, 3D Core C, The Plaza, Park West, D12F9TN Aoife Gillen	Multidisciplinary Planning and Environmental Consultants
9.0 Noise and Vibration	Wave Dynamics, Unit 202, Nesta Business Centre, Old Airport Rd, Santry, Dublin, D09 HP96 James Cousins	Acoustic Consultancy Services
10.0 Landscape and Visual Impact Assessment	DNV, 3D Core C, The Plaza, Park West, D12F9TN Dara Hilliard	Multidisciplinary Planning and Environmental Consultants
11.0 Archaeology and Cultural Heritage	Horizon Archaeology Ltd., 106B Pembroke Road, Ballsbridge, Dublin 4, D04 X6V9 Colm Flynn	Archaeological Consultants
12.0 Material Assets: Waste and Utilities	DNV, 3D Core C, The Plaza, Park West, D12F9TN Rachel Redmond	Multidisciplinary Planning and Environmental Consultants
13.0 Traffic	Meinhardt, The Greenway, Block C Ardilaun Court, St. Stephens Green, Dublin 2 Brendan Mitchell Rachel Lee	Engineering Consultancy
14.0 Risk Management	DNV, 3D Core C, The Plaza, Park West, D12F9TN Lakshmi Priya Mohan	Multidisciplinary Planning and Environmental Consultants
15.0 Interactions	DNV, 3D Core C, The Plaza, Park West, D12F9TN Lakshmi Priya Mohan	Multidisciplinary Planning and Environmental Consultants

Chapter	Consultant Name and address	Specialist Area
16.0 Mitigation and Monitoring	DNV, 3D Core C, The Plaza, Park West, D12F9TN Lakshmi Priya Mohan	Multidisciplinary Planning and Environmental Consultants

1.3 Purpose of the Environmental Impact Assessment and the Environmental Impact Assessment Report

EIA is a systematic examination of the potential impacts of a proposed development on the environment. In assessing the environmental impacts, this Environmental Impact Assessment Report (EIAR) evaluates the existing situation and assesses any potential effects of the Proposed Development.

Where potential effects are identified proposed mitigation measures will be detailed. In addition, the in-combination effects of any other known plans or projects will be identified and assessed.

Under Schedule 5 of the Planning and Development Regulations 2001, as amended (the Planning Regulations), an EIAR is required to accompany planning applications for specified projects as part of the EIA process.

The EIAR describes the outcomes of the iterative EIA process which was progressed in parallel with the project design process. In doing so, it forms the first part of the EIA process that will be completed by Wexford County Council, as the competent authority, which in turn will be required to examine, analyse and evaluate the direct and indirect effects of the development on the various factors listed in Directive 2011/92/EU, as amended by 2014/52/EU (the EIA Directive).

Where likely significant environmental effects are identified that are unacceptable, the EIA process aims to quantify and minimise the effects that the specified development has on the environment through appropriate mitigation measures and where necessary, subsequent monitoring. This process is illustrated in Figure 1-1.

The purpose of the EIAR is to provide the Local Planning Authority with information on the likely and significant effects on the environment. This EIAR was prepared in parallel with the project design process and reflects the potential cumulative effect of other developments.

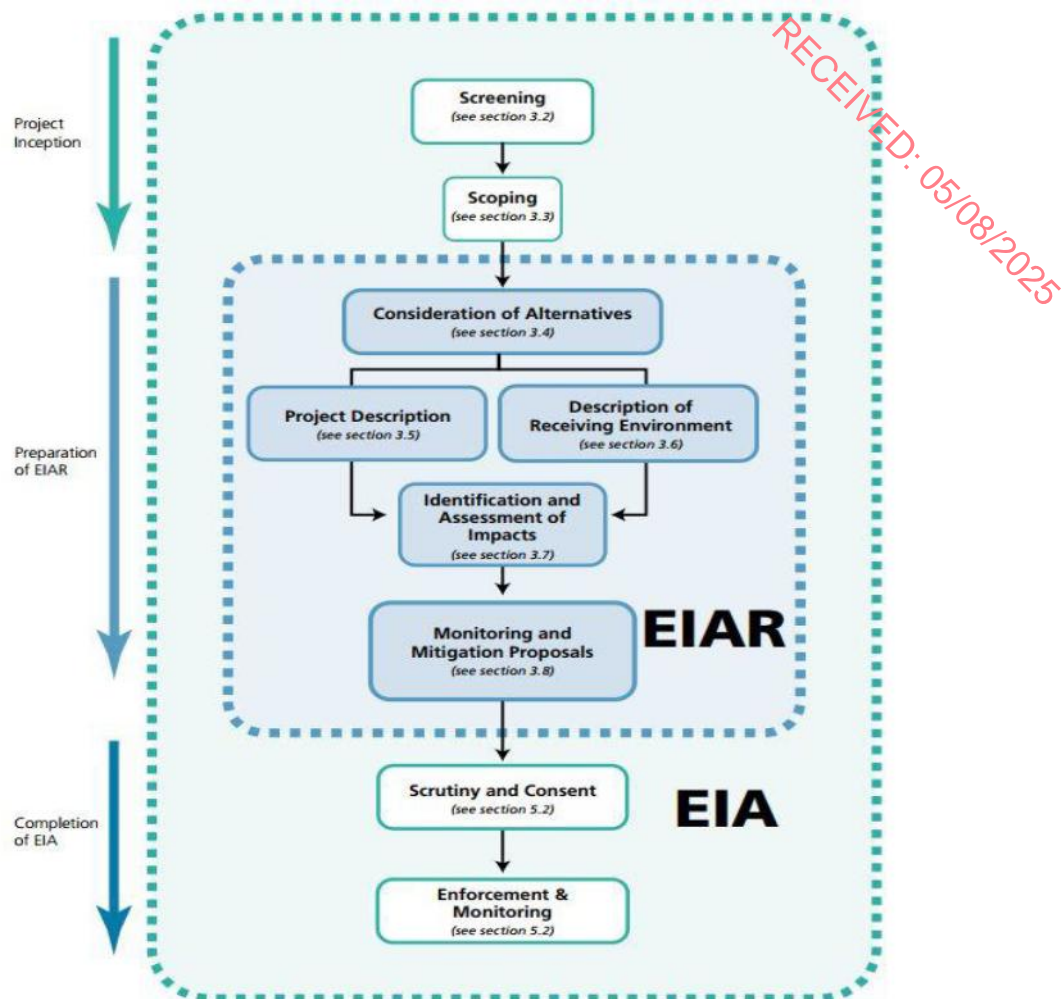


Figure 1-1 EIA Process

1.4 EIA Legislation

The EIA Directive requires EIA to be carried out for certain projects as listed in Annex I of the Directive. The EIA Directive is transposed into Irish law through the Planning and Development Act 2000, as amended, and the Planning and Development Regulations 2001, as amended.

1.5 EIA Guidance Used

This EIAR has been prepared in accordance with all relevant guidance. The documents listed below are common to all chapters. Additional specific guidelines will be referred to in each specific chapter.

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA May 2022);
- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA 2003);
- Environmental Assessments of Plans, Programmes and Projects – Rulings of the Court of Justice of the European Union (European Union 2017);
- Environmental Impact Assessment of Projects – Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU) (European Union 2017);

- Guidance of Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Union 2013);
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (European Union 2017);
- European Commission 2017. Environmental Impact Assessment of Projects Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU);
- EU Commission Guidance on Interpretation of definitions of project categories of annex I and II of the EIA Directive (2015);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Government of Ireland 2018);
- Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems; (Department of Housing, Planning, Community and Local Government 2017);
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Communities 1999);
- Circular PL 05/2018 - Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive), and Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government 2018);
- Implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (European Communities 2003); and
- Office of the Planning Regulator (OPR) Environmental Impact Assessment Screening Practice Note (2021).

The EIA Directive defines EIA as a process whereby Article 1(2)(g) states that EIA means:

“(i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);

(ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;

(iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;

(iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point;

(iii) and, where appropriate, its own supplementary examination; and

(v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a”.

The EIA Directive requires the EIAR to identify, describe and assess, in an appropriate manner and in light of each individual case, the direct, indirect and cumulative significant effects of the Proposed Development on factors of the environment including:

- a) population and human health
- b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC (respectively, the Habitats Directive and the Birds Directive)
- c) land, soil, water, air and climate
- d) material assets, cultural heritage and the landscape
- e) the interaction between the factors referred to in points (a) to (d)

RECEIVED: 05/08/2025

1.6 Screening for EIA

'Screening' is the term used to describe the process for determining whether a proposed development requires an EIA by reference to mandatory legislative threshold requirements or in the case of sub threshold development, by reference to the type and scale of the proposed development and the significance or the environmental sensitivity of the receiving baseline environment.

Annex 1 of the EIA Directive requires as mandatory an EIA for all development projects listed therein. Schedule 5, Part 1, of the Planning Regulations transposes Annex 1 of the EIA Directive directly into Irish planning legislation. An EIAR is required to accompany a planning application for development of a class set out in Schedule 5, Part 1 of the Planning Regulations which exceeds a limit, quantity or threshold set for that class of development.

Schedule 5, Part 2 of the Planning and Development Regulations 2001 as amended, defines projects that are assessed on the basis of set mandatory thresholds for each of the project classes including:

Schedule 5, Part 2 – 10. Infrastructure projects

(iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.

The Proposed Development is not located in a "business district" or "other parts of a built-up area" therefore the 20-hectare threshold of "elsewhere" applies. The site is 20.3 hectares in size and therefore a mandatory EIAR is required.

12. Tourism and leisure

(c) Holiday villages which would consist of more than 100 holiday homes outside built-up areas; hotel complexes outside built-up areas which would have an area of 20 hectares or more or an accommodation capacity exceeding 300 bedrooms.

The Proposed Development can be defined as a hotel complex outside a built-up area with a site area of 20.3 hectares and therefore a mandatory EIAR is required.

1.7 Scope of the EIAR

'Scoping' is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. It is defined in EC Guidance on EIA Scoping 2001 as

‘Determining the content and extent of the matters which should be covered in the environmental information to be submitted in the EIAR’.

The content of this EIAR was informed by a scoping process carried out by the applicant, design team and EIAR consultants to identify the core issues likely to be most important during the EIA process.

The EIAR prepared for the Proposed Development has endeavoured to be as thorough as possible and therefore all of the issues listed in Schedule 6, Sections 1 and 2 of the Planning Regulations have been addressed in the EIAR.

1.8 Purpose and Objective of the EIAR

The purpose of this EIAR is to assist in the EIA process, by identifying likely significant environmental effects resulting from the Proposed Development, to describe the means and extent by which they can be reduced or mitigated, to interpret and communicate information about the likely effects and to provide an input into the decision making and planning process.

The fundamental principles to be followed when preparing an EIAR are:

- Anticipating, avoiding and reducing significant effects;
- Assessing and pursuing preventative action;
- Maintaining objectivity;
- Ensuring clarity and quality;
- Providing relevant information to decision makers; and
- Facilitating public and stakeholder consultation.

EIA is an iterative process. The EIAR captures this assessment process and describes its outcomes. The EIAR documents the consideration of environmental effects and provides transparent, objective and replicable documentary evidence of the EIA evaluation and decision-making processes. The EIAR provides information on any identified effects arising as a consequence of the Proposed Development and which:

- Are environmentally based;
- Are likely to occur; and
- Have significant and adverse effects on the environment.

It also documents how the design of the Proposed Development incorporates measures for the purposes of impact avoidance, reduction or amelioration; as well as to explain how significant adverse effects will be avoided.

The key objective of this EIAR is to inform the Planning Authority on the acceptability of the Proposed Development, in carrying out an EIA, in order to reach a decision in the full knowledge of the Proposed Development’s likely significant effects on the environment, if any.

1.9 Format and Structure of this EIAR

The formation of an EIAR necessitates the co-ordination and collation of associated, yet diverse specialised areas of assessment. The EIA approach involves the examination of each environmental factor, describing the existing baseline environment, the Proposed

Development, its likely effects and direct and indirect significant effects pertaining to that environmental factor and mitigation measures, where appropriate.

Each technical assessment sets out the relevant legislation, policy, and guidance together with the methodology used to carry out the assessment of potential effects, including the criteria that are used to establish which effects are significant. The significance criteria follow that as defined in the EPA 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports 2022 as shown in Table 1-2.

Table 1-2 Description of Effects

Category	Type and Description
Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral.	Positive Effects 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 Effects 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)
Describing the Significance of Effects 'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i>).	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.

Category	Type and Description
	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.
Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	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.
Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.	Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	Momentary Effects Effects lasting from seconds to minutes.
	Brief Effects Effects lasting less than a day.
	Temporary Effects Effects lasting less than a year.
	Short-term Effects Effects lasting one to seven years.
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years.
	Reversible Effects Effects that can be undone, for example through remediation or restoration.
	Frequency of Effects

Category	Type and Description
	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).
Describing the Types of Effects	Indirect Effects (a.k.a. Secondary or Off-site Effects) Effects 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 insignificant 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).

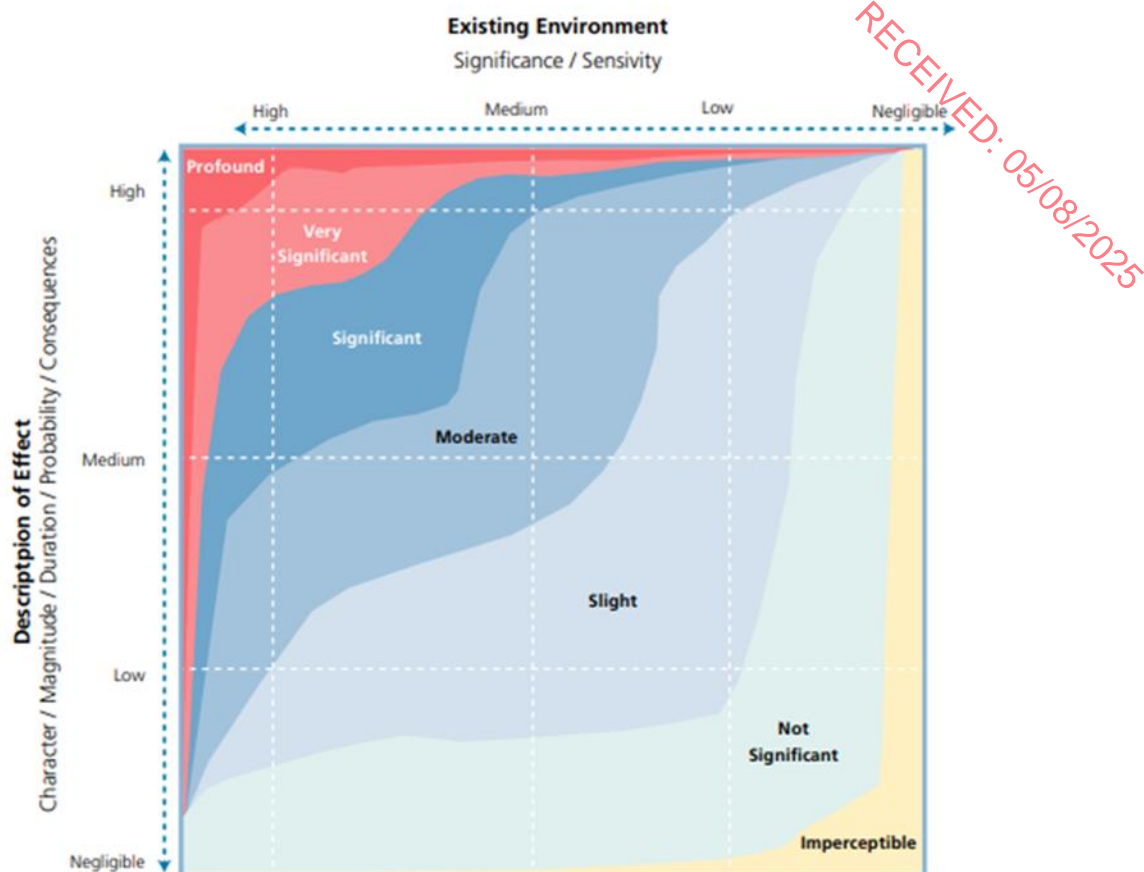


Figure 1-2 Chart Showing Typical Classifications of the Significance of Effects (EPA, 2022)

The topics examined in this EIAR are categorised under the environmental factors prescribed under the EIA Directive:

- Population and Human Health;
- Biodiversity;
- Land and Soils;
- Water;
- Air Quality and Climate;
- Material Assets;
- Cultural Heritage; and
- Landscape and Visual.

The potential likely significant effects caused by the vulnerability of the Proposed Development to risks of major accidents and/or disasters must also be examined. The structure of the EIAR is set out in Table 1-3.

Table 1-3 Structure of the Environmental Impact Assessment Report (EIAR)

Chapter	Title	Content
1	Introduction	Chapter 1 sets out the purpose, methodology and scope of the document.

Chapter	Title	Content
2	Description of the Proposed Development	As required under Article 5(1)(a) of the EIA Directive, Chapter 2 provides a description of the site, design and scale of Proposed Development, and as required under Article 5(d), an evaluation of the reasonable alternative design approaches.
3	Planning Context	Chapter 3 sets the national, regional and local policy framework for the Proposed Development.
4	Population and Human Health	Chapter 4 covers the requirement for assessment on potentially significant effects to population and human health as required under Article 3(1)(a) of the EIA Directive.
5	Biodiversity	Chapter 5 covers the requirement of Article 3(1)(b) to assess potentially significant effects on biodiversity (which previously referred only to 'fauna and flora'), having particular attention to species and habitats protected under the Habitats Directive and the Birds Directive.
6	Land and Soils	Chapter 6 covers the requirement under Article 3(1)(c) of the EIA Directive on Land and Soil to assess the type of soil and geology in the area of the Proposed Development and identifies any potentially significant effects.
7	Hydrology and Hydrogeology	Chapter 7 covers the requirement under Article 3(1)(c) of the EIA Directive to assess potentially significant effects to water quality arising from the Proposed Development. This chapter will assess any potential effects from pollution and discharges to surface water.
8A	Air Quality	Chapter 8A covers the requirement under Article 3(1)(c) of the EIA Directive on Air to assess potentially significant effects to air quality in the surrounding environment.
8B	Climate	Chapter 8B covers the requirement under Article 3(1)(c) of the EIA Directive to assess potentially significant effects on Climate Change (greenhouse gas emissions and its vulnerability to climate change).
9	Noise and Vibration	Chapter 9 covers the requirement to assess potentially significant effects from airborne noise and vibration as required under Article 3(1)(a) of the EIA Directive on Human Health.
10	Landscape and Visual Impact Assessment	Chapter 10 covers the requirement under Article 3(1)(d) of the EIA Directive to assess potentially significant effects on the landscape. This chapter will assess any potential visual impacts to landscape caused by the Proposed Development.
11	Archaeology and Cultural Heritage.	Chapter 11 covers the requirement under Article 3(1)(d) of the EIA Directive to assess potentially significant effects on cultural heritage.
12	Material Assets - Waste and Utilities	Chapter 12 covers the requirement under Article 3(1)(d) of the EIA Directive to assess potentially significant effects on

Chapter	Title	Content
		material assets. This chapter will identify impacts to existing utilities and infrastructure from the development of the Proposed Development. Article 5(1), Annex IV, point 1(d) requires estimates of quantities and types of waste produced during construction and operation phase. Chapter 12 will also present an assessment of how resources and waste will be managed for the Proposed Development.
13	Traffic	Chapter 13 sets out the transport and traffic effects that will be caused on nearby receptors due from increase vehicle movements during the construction phase and operational phase.
14	Risk Management	Chapter 14 covers the requirement under Article 3(2) of the EIA Directive, to include the expected effects deriving from the vulnerability of the Proposed Development to risks of major accidents and/or disasters.
15	Interactions	As required under Article 3(1)(e) of the EIA Directive, Chapter 15 provides an assessment of the interaction between all of the environmental aspects referred to in this EIAR.
16	Mitigation and Monitoring	Chapter 16 describes mitigation and monitoring as required under Article 5(1) of the EIA Directive in order to avoid, prevent, reduce, or if possible, offset any identified significant adverse effects on the environment and, where appropriate, describes any proposed monitoring arrangements.

1.10 Methodology Used to Produce this EIAR

The methodology employed to produce this EIAR is detailed in Table 1-3. The objective is to evaluate each environmental topic, both individually and collectively, in a systematic and objective manner.

The methodology will outline the methods used to describe the baseline environmental conditions as well as predict the likely effects on the environment of the Proposed Development. The data and survey requirements for each chapter will vary depending on the environmental topic and will be chosen by the particular specialist based on relevant legislation, best practice guidance, policy requirements, and professional judgement. Similarly, the study area is also defined for each environmental topic based on professional judgement and experience.

All environmental topics require desktop reviews of all relevant data at a minimum. These desktop studies are then supplemented by field studies and consultations with relevant stakeholders, for example interested parties, statutory bodies and local authorities, as required for each environmental topic.

An outline of the approach taken for each chapter of the EIAR to examine each environmental topic is provided in Table 1-4.

Table 1-4 Methodology undertaken to produce each EIAR Chapter

Chapter	Description of Section
Introduction	Provides an overview of the specialist area and specifies the specialist who prepared the assessment.
Study Methodology	This subsection outlines the method by which the relevant impact assessment has been conducted within that chapter.
The Existing Receiving Environment (Baseline Situation)	This section will describe and assess the receiving environment, the context, character, significance and sensitivity of the baseline receiving environment into which the Proposed Development will fit. This analysis also takes account of any other proposed developments that are likely to proceed in the immediate surroundings.
Characteristics of the Proposed Development	Consideration of the ' <i>Characteristics of the Proposed Development</i> ' allows for a projection of the ' <i>level of impact</i> ' on any particular aspect of the environment that could arise. For each chapter those characteristics of the Proposed Development which are relevant to the area of study are described; for example, the chapter on landscape and visual impact addresses issues such as height, design and impact on the surrounding landscape.
Potential Effect of the Proposed Development	This section provides a description of the specific, direct and indirect, effects that the Proposed Development may have. This analysis is provided with reference to both the Existing Receiving Environment and Characteristics of the Proposed Development sections, while also referring to the: (i) magnitude and intensity, (ii) integrity, (iii) duration and (iv) probability of effects. The assessment addresses whether the effects are direct, indirect, secondary or cumulative in nature. It also looks at the timescale of such effects e.g. are they short, medium, long-term, and are they of a temporary, permanent, continuous or intermittent nature, and are they positive or negative effects. The impact interactions are also addressed.
Avoidance, remedial and mitigation measures	This section of each chapter describes the mitigation measures which are required. The requirement to describe mitigation measures is laid out in the EIA Directive, as implemented by the Planning Act and the Planning Regulations. Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential effects of the Proposed Development. This includes avoidance, reduction and remedy measures as set out in Section 4.7 of the Development Management Guidelines 2007, to reduce or eliminate any significant adverse effects identified.

Chapter	Description of Section
Residual Effects of the Proposed Development	This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term, temporary, permanent, continuous, or intermittent, positive and negative effects as well as effect interactions which the Proposed Development may have, assuming all mitigation measures are fully and successfully applied.
Do Nothing Effect	In order to provide a qualitative and equitable assessment of the Proposed Development, this section considers the Proposed Development in the context of the likely effects upon the receiving environment should the Proposed Development not take place.
Monitoring	This involves a description of monitoring in a post-development phase, if required. This section addresses the effects that require monitoring, along with the methods and the agencies that are responsible for such monitoring.
Reinstatement	While not applicable to every aspect of the environment considered within the EIAR, certain measures may need to be proposed to ensure that in the event of the proposal being discontinued, there will be a minimal effect to the environment.
Interactions	This section provides a description of impact interactions together with potential indirect, secondary and cumulative effects.
Difficulties Encountered in Compiling Information	The EIA Directive requires that the EIAR includes ' <i>details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved</i> ' (EIA Directive, Annex IV, Part 6). Each chapter that contains an environmental baseline and assessment contains a section outlining any difficulties encountered in compiling that chapter.

1.11 Non-Technical Summary

A Non -Technical Summary of the EIAR has also been prepared. The EIA Directive states that one of the objectives of the EIA process is to ensure that the public are fully aware of the environmental implications of any decisions. EPA Guidelines note that the non-technical summary of the EIAR should facilitate the dissemination of the information contained in the EIAR and that the core objective is to ensure that the public is made as fully aware as possible of the likely environmental effects of projects prior to a decision being made Wexford County Council. A Non-Technical Summary of the EIAR has therefore been prepared which summarises the key environmental effects and is provided as a separately bound document.

1.12 Links between EIAR and Appropriate Assessment

A Screening Report for Appropriate Assessment (AA) has been carried out by DNV, for the Proposed Development to determine if there is a risk of effects to any Natura 2000 site.

Upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of the AA Screening report that, "*There*

is a requirement to proceed to Stage 2 of the Appropriate Assessment process; and the preparation of an NIS is required” .

Avoidance, design requirements and mitigation measures have been set out in the NIS and their implementation will ensure that effects on the conservation objectives of European sites will be avoided during the Construction and Operational Phases of the Proposed Development such that there will be no adverse effects on any European sites

While AA is required by the proposer of any plan or project likely to have an adverse effect on a Natura 2000 site, EIA is required for projects listed in Annex I of the EIA Directive. The requirement for EIA relative to projects listed in Annex II of the EIA Directive is determined on a case by case. While these two different types of assessment are independent and are required by separate legislation, namely the Birds and Habitat Directives (i.e. AA) and the EIA Directive (i.e. EIAR) there is a degree of overlap, particularly in the Biodiversity Chapter of the EIAR.

1.13 Availability of EIAR Documents

A copy of this EIAR document and Non-Technical Summary is available for purchase at the offices of Wexford County Council at a fee not exceeding the reasonable cost of reproducing the document.

1.14 Statement of Difficulties Encountered

No exceptional difficulties were experienced in compiling the necessary information for the Proposed Development. Where any specific difficulties were encountered these are outlined in the relevant chapter of the EIAR.

1.15 Quotations

The application is accompanied by a Non-Technical Summary of the EIAR, which is laid out in a similar, but condensed format to the main EIAR. The structure, presentation, and the Non-Technical Summary of the EIAR, as well as the arrangements for public access, all facilitate the dissemination of the information contained in the EIAR.

The core objective is to ensure that the public and local community are aware of the likely environmental effects of the Proposed Development prior to the granting of consent.

It is important to acknowledge that the EIAR by its nature contains statements about the Proposed Development, some of which are positive and some less than positive. Selective quotation or quotations out of context can provide a misleading impression of the findings of the study. Therefore, the EIAR team urge that quotations should, where reasonably possible, be taken from the conclusions of specialists' sections or from the Non-Technical Summary and not selectively.

The EIA Regulations require that difficulties such as technical deficiencies, lack of information or knowledge encountered in compiling any specified information for the EIAR be described. There were no such difficulties encountered in the production of this EIAR.

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Introduction

This chapter provides a detailed description of the Proposed Development together with details of the existing environment. In accordance with Article 5(1)(a) of the EIA Directive, the description of the project should comprise:

‘Information on the site, design, size and other relevant features of the project’.

The EIAR must contain information in relation to the environmental impact of both the Proposed Development and all other "reasonable" alternatives studied. An indication of the main reasons for the option chosen must be given, taking into account the effects of the Proposed Development on the environment.

2.1.1 Quality Assurance and Competence

This chapter was prepared by Michelle Gaffney, Senior EIA Consultant at DNV. With over four years of experience in environmental consultancy and a B.A. (Hons) in Earth Science from Trinity College, Michelle is currently furthering expertise through an MSc in Environmental Sustainability at University College Dublin. Michelle has provided technical expertise for numerous EIARs across a range of sectors, including renewable energy, strategic infrastructure, and residential projects.

This chapter has been reviewed by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with 37 years' experience in consultancy, specialising in EIAs for large-scale residential, commercial developments, pharmaceutical, BESS and solar projects working closely with a range of developers, planning consultants and architects within the public and private sector. Catherine has a B.Sc. (Hons) in Analytical Science and a Post Graduate Diploma in Renewable Energy Technology Systems.

2.2 Site Location and Description

The Applicant is applying for permission for development on a 20.3 hectare site at Beak and Nemestown, Kilmore Quay, Co. Wexford. The site is within the administrative jurisdiction of Wexford County Council and as such the Wexford County Development Plan 2022-2028 sets out the policies and objectives for the site.

The site is located adjacent to the core of the village of Kilmore Quay and is accessed from Kilmore Road (R739) which runs along the northern border of the site. The land use surrounding the site is predominantly agricultural with residential use to the east and west. The Irish Sea is located directly south of the site. The site location is outlined in Figure 2-1.

The site is currently not zoned under Wexford County Development Plan 2022-2028 and no Local Area Plan exists to cover the site.

The site is located in a coastal zone under the Wexford County Development Plan (2022-2028) (Map 3: Coastal Zone). The site is not located within Flood Zone A or B according to

Volume 11 Strategic Flood Risk Assessment of the Wexford County Development Plan (2022-2028) and is therefore assumed to be located in Flood Zone C.

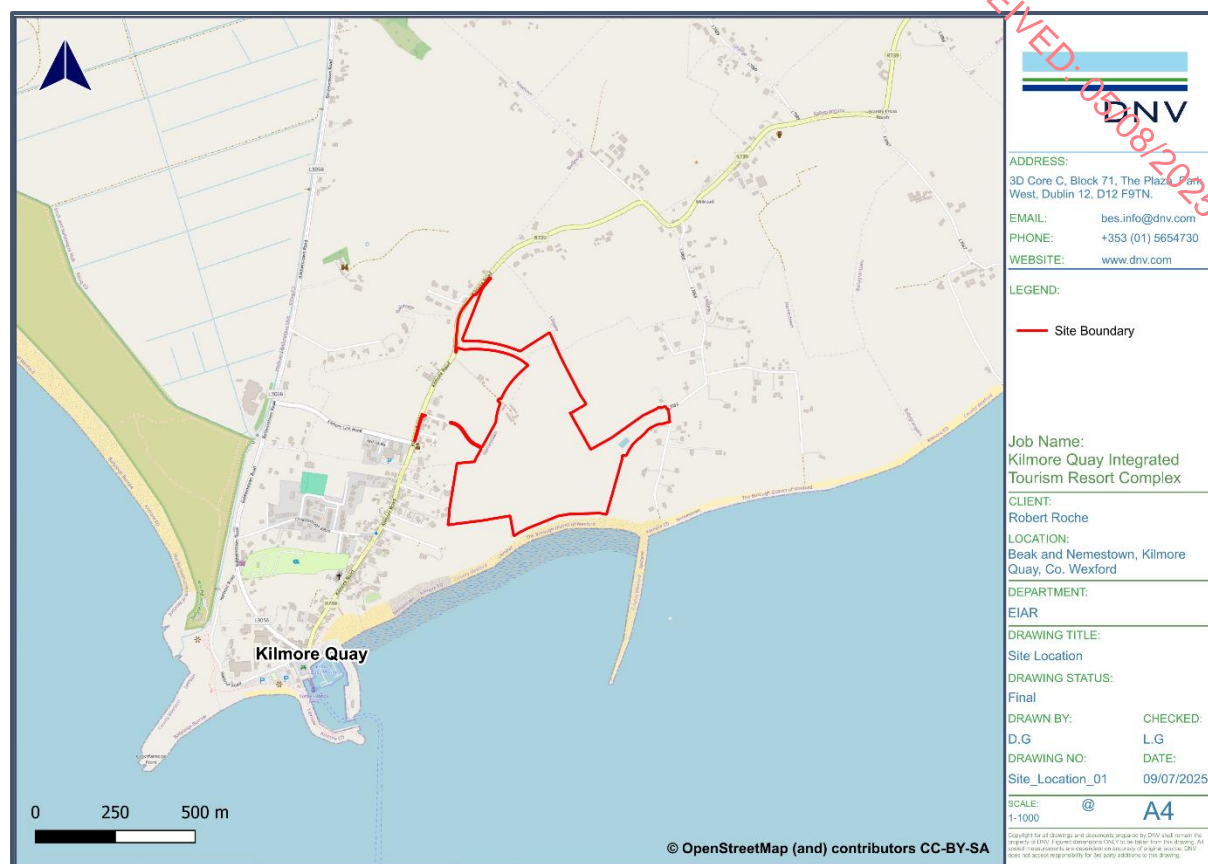


Figure 2-1 Site Location

2.3 Site Background and Site History

The site has historically been used as arable land and remains undeveloped. A planning history search for the site has been undertaken as summarised in Table 2-1 from data sources including:

- An Bord Pleanála website: <http://www.pleanala.ie/>
- Wexford County Council planning website: <https://www.wexfordcoco.ie/planning/search-planning-applications>
- EIA Portal: <https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1>

Table 2-1: Summary of Planning History at Site

Application Reg. Ref.	Location	Development Proposal	Decision
20001472	Beak and Nemestown,	Hotel development comprising function rooms, leisure centre, swimming pool, bar, restaurant, ancillary stores, staff facilities, 60 no. Bedrooms, and reed bed	Granted Permission 9 th March 2001 Appeal Lodged 5 th April 2001

Application Reg. Ref.	Location	Development Proposal	Decision
Amberglade Properties Limited	Kilmore Quay, Co. Wexford	effluent treatment system treatment and 4 no. corporate hospitality houses	Appeal decided and permission refused 22 nd October 2001

2.4 Description of the Proposed Development

The Proposed Development is for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites (84 no. bedrooms), bar and restaurants, function/conference centre facility and spa/leisure complex with swimming pool. 55 no. large family friendly tourist lodges, comprising 2 no. 8-bed, 2 no. 6-bed, 21 no. 4-bed and 30 no. 3-bed lodges, Pavilion restaurant, 11 no. staff accommodation apartments providing 55 no. bedrooms in 6 no. 2-storey buildings. There will also be external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site, PV panels, ESB substations and pumping station.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown. A section of c.85m of new footpath is proposed connecting Echo Beach to Ard Na Ba along the R739 and a new pedestrian crossing of the R739.

The Proposed Development will include for all associated site works and services.

The proposed Site layout is outlined in Figure 2-2.



Figure 2-2 Proposed Site Layout (SCA, 2025)

2.5 Construction of the Proposed Development

The construction of the Proposed Development is intended to take place in one phase over an estimated three-year period. Construction works are anticipated to commence with the hotel building as this is expected to have the longest construction duration within the overall development.

The preferred sequence of construction activities will depend on the final construction methodology, which will be established during the detailed design stage.

2.6 Cumulative Schemes

Cumulative effects are considered in this EIAR in line with Section 3.7.3 of the EPA Guidelines on the *Information to be Contained in Environmental Impact Assessment Reports* (2022). It is acknowledged that while a single activity may itself result in a minor effect, it may, when combined with other effects, minor or significant, result in a cumulative effect that is collectively significant. Similarly, a single activity which may on its own have a significant effect, may be reduced to an insignificant effect when combined with other effects.

“The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects. While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or insignificant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable; however, it may be necessary to assess the cumulative effects

taking account of traffic generated by other permitted or planned projects. It can also be prudent to have regard to the likely future environmental loadings arising from the development of zoned lands in the immediate environs of the proposed project."

The first step in determining cumulative effects for this EIAR involved the identification of a list of developments which may have the potential to overlap with the Proposed Development. A desktop study involving searches of Wexford County Council, An Bord Pleanála and the Department of Housing, Local Government and Heritage EIA Portal Map were conducted.

Extant permissions and current live planning applications that have been taken into consideration for the purposes of determining cumulative effects are detailed in **Error! Reference source not found..** Each of the technical chapters in this EIAR will assess the potential for cumulative effects with the projects set out above and in **Error! Reference source not found.** and with the Proposed Development.

Each of the technical chapters in this EIAR will assess the potential for cumulative effects with the projects set out Table 2-2 and with the Proposed Development.

Table 2-2 List of Cumulative Schemes

No.	Application Reg. Ref.	Address	Development Proposal
1	20241547 12th of December 2024	Riesk, Newtown, Richfield (Reclaimed), Richfield, and Inish and Ballyteigue Slob, County Wexford. Approximately 4.4km north	Continued operation of an existing wind farm for a further period of 20 years
2	20191633 10th December 2019	Crossfarnoge, Nemestown, Beak, Ballyteigue and Libgate, Kilmore, County Wexford. Directly Adjacent to the site	Ten-year planning permission to construct a new wastewater treatment plant in Kilmore quay in two phases. Phase 1 (a) wastewater treatment plant (WwTP) with a capacity of 850 population equivalent (P.E.) at Newmanstown; (b) 2 no. Wastewater pumping stations (WwPS) at Crossfarnogue; (c) 8.5 kms of pipeline Irish water intends to deliver this phase within 5 years. Phase 2 construction of modular expansion of the WwTP to provide a treatment capacity up to 1,900 P.E
3	20200063 22nd January 2020	INCH AND BALLYTEIGE SLOB, KILLAG Approximately 4.1km to the north west	Permission for the continuation of sand and gravel extraction and processing from an existing registered quarry

2.7 Description of Alternatives

2.7.1 Introduction

Consideration of reasonable alternatives is an important aspect of the EIA process and is necessary to evaluate the likely environmental consequences of a range of development strategies for the Site of the Proposed Development within the constraints imposed by environmental and planning conditions. This section provides a description of the reasonable alternatives that have been considered.

Article 5, paragraph 1(d) of the EIA Directive (2014/52/EU) requires that the EIAR contain:

“A description of the reasonable alternatives [for example, in terms of project design, technology, location, size and scale] studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, taking into account the effects of the project on the environment.”

This section of the EIAR provides an explanation of the reasonable alternatives examined throughout the design and consultation process. This serves to indicate the main reasons for choosing the Proposed Development, taking into account and providing a comparison of the environmental effects. The alternatives may be described at four levels:

- Alternative locations;
- Alternative designs;
- Alternative layouts; and
- Alternative processes.

Pursuant to Section 3.4.1 of the Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022), the consideration of alternatives also needs to be cognisant of the fact that *“in some instances some of the alternatives described below will not be applicable - e.g., there may be no relevant ‘alternative location’...”*

In accordance with EPA Guidelines (EPA, 2022), different types of alternatives may be considered at several key phases during the process. As environmental issues emerge during the preparation of the EIAR, alternative designs may need to be considered early on in the process or alternative mitigation options may need to be considered towards the end of the process.

The EPA Guidelines (EPA, 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.”

The following sections of this Chapter of the EIAR contains an analysis of the alternative development options for the Site, describing design options and changes which were

incorporated into the scheme as the proposals progressed. The key considerations and amendments to the design of the scheme, having regard to and comparing the key environmental effects, are set out and discussed.

2.7.1.1 Alternative Locations

As the Proposed Development Site is in the ownership of the Applicant, no alternative locations were considered by the Applicant for the purpose of this development.

Based on the nature and scale of the Proposed Development, site suitability was largely determined based on the land requirements of the resort development, the shape of the Kilmore Quay settlement and the compact holdings ownership pattern and the location adjacent to the village centre.

The subject lands, currently in the applicant's land holding, are located adjacent to the core of Kilmore Quay village, in the townlands of Beak and Nemestown, occupying a site area of 20 hectares. The development will connect to Kilmore Quay village by new and older rights of way but will also provide active travel linkages to the lands to the east at Nemestown linking into Ireland's Ancient East heritage trail "The Norman Way".

Kilmore Quay is defined in the Wexford County Development Plan (WCDP) 2022 to 2028, as a Level 3b Strategic Settlement, stating that *'there is a strategic imperative to prioritise the development of these villages'*. The economic regeneration objective for Kilmore Quay includes tourism, as follows: -

- *Promote economic and enterprise development appropriate in scale to the settlements, such as expanding the potential of the marine economy and tourism in Kilmore Quay and developing the tourism potential of Kilmuckridge and Wellingtonbridge.*

As detailed in the WCDP (2022), a number of settlements under the Level 3b Strategic Settlements *'have not been targeted for significant population growth over the lifetime of the plan but have been included on this level of the hierarchy in order to prioritise the growth of infrastructure, employment and community and amenity services and improve socio-economic outcomes'*.

Whilst the development is located adjacent to Kilmore Village, Section 7.7.4 of the WCDP, (2022) is relevant to the Proposed Development, which states that *'the Council recognises that some forms of tourism development, due to their self-contained nature or scale, may require a location outside of existing settlements'*.

This policy states:

The Council will give consideration to the development of a limited number of integrated tourism/leisure/recreation complexes at appropriate locations in the county. It must be demonstrated that the development is dependent on an existing local resource or a unique site characteristic or an overriding need is demonstrated for the development at that location. The use must be designed to respect the character of the area and any existing natural or built heritage features on the site. The proposal must not detract from the overall character and quality of the site's setting.

An integrated tourism/leisure/recreation complex may include a number of following uses: hotel and associated facilities, health/spa/wellness facilities, restaurant/café, conference

centre, golf course, equestrian centre, nature trails, walking trails, trekking courses, indoor/outdoor water facility, fishing facility, museums/art galleries and associated facilities.

The WCDP (2022), also considered tourism in coastal areas aiming to develop a contemporary coastal experience. As detailed in section 7.6.3 of the WCDP (2022), the coastal offering should be developed and promoted so that a number of communities benefit. However particularly focus is given to Kilmore Quay, among other townlands, which is named as an important 'leading light' within the experience offering.

Therefore, from a planning perspective, the site is considered highly suitable for the development of the proposed tourist resort. The applicant is committed to developing the lands in alignment with the strategic priorities outlined in the WCDP (2022), ensuring that the Proposed Development enhances local infrastructure, employment, community services and tourism offerings.

Furthermore, the Applicant considered the following elements in selection of the site for development:

- The site's proximity to the core of Kilmore Quay Village and its connection to mains water and wastewater treatment infrastructure make it an appropriate location for tourism development;
- The site is located in close proximity to the surrounding local and regional road network, with vehicular access from the regional Kilmore Road (R739), therefore contributing to reduced transport emissions and associated noise and air quality impacts arising during the construction phase;
- The vehicular entrance, located north of the village, ensures that visitor traffic will not negatively impact the Village Core; and
- The site is suitably located to provide benefits to the existing population in Kilmore Quay in relation to employment, the community uses, public open spaces and local facilities and amenities.

Throughout the design phase of the Proposed Development, multiple layout options and design alternatives were explored, as outlined below. The accompanying documentation submitted with this planning application illustrates that the chosen site and its surrounding context possess the environmental capacity to support the Proposed Development, without causing significant environmental effects.

The iteration of design considered input from preplanning meetings held with the local planning authority Wexford County Council. The first PAC meeting was remotely facilitated by Wexford County Council on 29th September 2023 and the second on the 12th November 2024.

Therefore, it is considered that the site is suitable for a development of this nature, and it was therefore not considered necessary to consider alternative locations.

2.7.1.2 Alternative Uses

If the Proposed Development is not advanced, the site will remain as arable agricultural land. Given Kilmore Quay's designation as a Level 3b Strategic Settlement in the WCDP (2022), which emphasizes the strategic imperative to prioritise the development of these villages, by expanding the potential of the marine economy and tourism and the focus on enhancing infrastructure, employment, and community services to improve socio-economic outcomes in

an area facing persistent employment decline due to the deterioration of the fishing industry, the use of a hotel in this area is considered highly appropriate.

The County Wexford Tourism Strategy 2019-2023, aims to make County Wexford one of Ireland's most compelling tourism destinations, thereby improving the quality of life for people and communities throughout the county. The strategy seeks to increase tourism revenue by 18.7% and visitor numbers by 12%, creating approximately 800 new jobs in the county. Core to the achievement of these targets will be Wexford's capacity to expand its international visitor base, which in doing so will require the need for a hotel resort.

Due to the nature of the current proposal, which includes the development of a 163-bedroom hotel with bar, restaurants, a function/conference facility, a leisure complex, accommodation suites, external sports, recreation and play facilities, 42 family suites, 55 tourist lodges, and hotel staff accommodation, it was not considered necessary to explore alternative uses for the Proposed Development.

2.7.1.3 Alternative Design and Layouts

The design team for the Proposed Development have consulted with the relevant departments in Wexford County Council, with Uisce Eireann, with Failte Ireland and conducted a local public information event prior to the submission of this application. A formal pre-application request, including draft design proposals, was submitted to the Planning Authority.

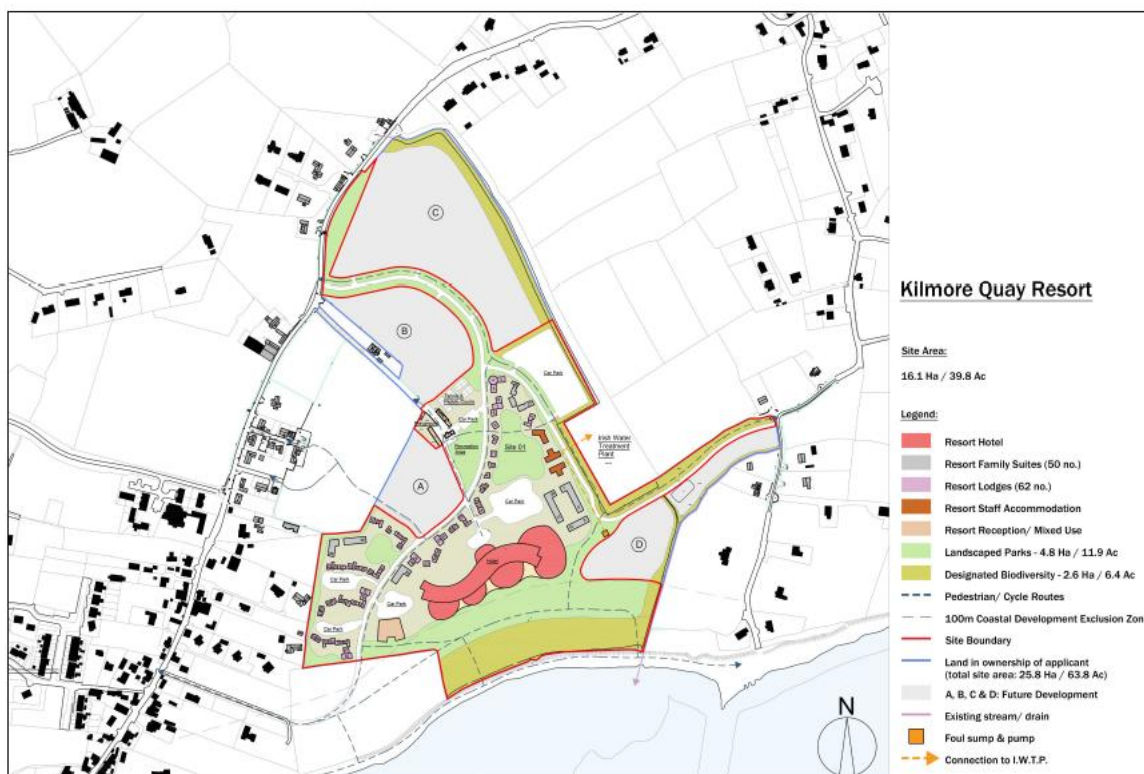


Figure 2-3 Pre-Planning Stage Concept Masterplan

The first Pre-Application Consultation (PAC) meeting, facilitated remotely by Wexford County Council, took place on 29th September 2023. Feedback received during this and subsequent engagements was carefully considered and integrated into the evolving design. This iterative process allowed the project to respond effectively to the site's unique characteristics and constraints, resulting in a more refined and context-sensitive proposal.

Further design refinements were informed by the second PAC meeting held on 12th November 2024 (PAC 2 – Pre-Planning Reference No. P20240238). The final application scheme reflects the feedback received and demonstrates a considered response to planning guidance and stakeholder input.

Throughout the design development process, the team explored a range of alternative layouts and massing strategies. These alternatives considered variations in building orientation, height, and access arrangements to optimise natural light, enhance privacy, and minimise visual impact on neighbouring properties. The design evolution was guided by planning policy, site context, and the client's objectives.

The Architectural Design Statement and Masterplan, prepared by Stephen Carr Architects (2025) and submitted under separate cover, provides a detailed account of the design evolution of the Integrated Tourism Resort. This includes the development of hotel massing, as illustrated in Figure 2-4.

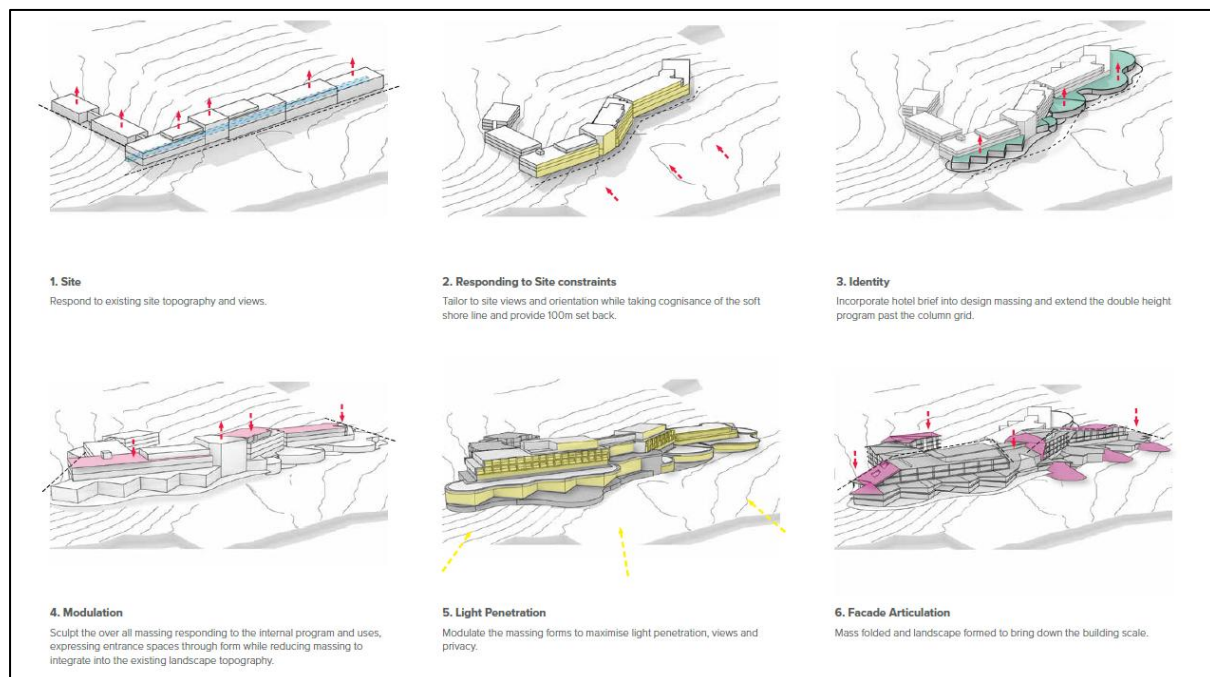


Figure 2-4 Hotel Massing Development (SC Architects, 2025)

The final layout represents a high-quality design solution that maximises the development potential of this strategically located and underutilised site adjacent to Kilmore Quay. The scheme achieves a careful balance between respecting the character of Kilmore Quay Village, preserving existing sea views, protecting local residential amenity, and enhancing the relationship between built form and landscape.

2.7.1.4 Alternative Process

Having regard to the nature of the Proposed Development in addition to the existing surrounding land use, alternative processes have not been considered, as it is deemed unlikely that an alternative process, other than that being proposed, would result in less of an impact to the surrounding environment.

2.8 The Existence of the Project

The primary likely significant environmental effects of the Proposed Development are fully addressed in the relevant specialist chapters of this EIAR. These effects relate to Population and Human Health, Biodiversity, Land and Soil, Hydrology and Hydrogeology, Air Quality and Climate, Noise and Vibration, Landscape and Visual, Archaeology and Cultural Heritage and Material Assets (Traffic, Built Services and Waste Management).

The Proposed Development also has the potential for cumulative, secondary and indirect effects, which in many instances can be difficult to quantify due to complex inter-relationships. The potential cumulative effects primarily relate to traffic, dust, noise and other nuisances from the Construction Phase of the Proposed Development, with other planned or existing projects, and each of the technical EIAR Chapters have regard to these in the assessment and mitigation measures proposed.

All cumulative, secondary and indirect effects are unlikely to be significant and have been fully addressed in the relevant specialist Chapters of this EIAR and recapitulated in Chapter 15 Interactions. As such, with the necessary mitigation for each environmental aspect, it is anticipated that the potential cumulative effect of the Proposed Development in conjunction with the other planned and permitted developments adjoining the Site of the Proposed Development will be minimal.

RECEIVED: 05/08/2025

3 PLANNING AND POLICY CONTEXT

3.1 Introduction

This chapter considers the Proposed Development in terms of legislative context and in relation to strategic, national, regional and local level planning policies and objectives.

3.1.1 Quality Assurance and Competence

This chapter has been prepared by Rachel Redmond, Environmental Consultant with DNV. Rachel has a Bachelor of Science (Hons) in Environmental Science from University College Cork. Rachel has worked as an Environmental Consultant with DNV since 2023 and has over 3 years of experience as an environmental consultant preparing Environmental Impact Assessment Reports of a similar scale and nature to the Proposed Development.

This chapter has been reviewed and approved by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with over 20 years' experience in consultancy, specialising in EIAs for large-scale residential and commercial developments, working closely with a range of developers, planning consultants and architects within the public and private sector.

3.1.2 Site Location

The Proposed Development subject of this EIAR is a large-scale integrated hotel resort on a site of 20.3ha at Kilmore Quay, a coastal resort in south Wexford -a tourism economic development on an agricultural site adjacent to the centre of Kilmore Quay village.

Please refer to Chapter 2 for a full description of the site.

In terms of planning and policy context the site is located at Beak and Nemestown, Kilmore Quay, Co. Wexford.

County Wexford is part of the southern region within the National Planning Framework (NPF). This region includes other counties such as Waterford, Kilkenny, and Carlow, and focuses on balanced regional development, enhancing connectivity, and promoting sustainable growth.

The site is within the administrative jurisdiction of Wexford County Council and as such the Wexford County Development Plan 2022-2028 sets out the policies and objectives for the county inclusive of Kilmore Quay.

The site is currently not zoned under Wexford County Development Plan 2022-2028 and no Local Area Plan exists to cover the site.

The site is located in a coastal zone under the Wexford County Development Plan (2022-2028) (Map 3: Coastal Zone). The site is not located within Flood Zone A or B according to Volume 11 Strategic Flood Risk Assessment of the Wexford County Development Plan (2022-2028) and is therefore assumed to be located in Flood Zone C, indicating a low probability of flooding.

3.2 European and National Policy and Legislation

Directive 2011/92/EU (as amended by Directive 2014 /52/EU) (together, the EIA Directive) was enacted as a means to assess the effects of projects on the environment, and to properly ensure that any potential significant effects are assessed before a project proceeds.

Article 1(2)(g) of Directive 2011/92/EU, as amended by Directive 2014/52/EU, defines Environmental Impact Assessment as a means of process consisting of:

- (i) *the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and*
- (ii) *the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;*
- (iii) *the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;*
- (iv) *the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination; and (v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a.'*

Annex 1 of the EIA Directive defines mandatory projects that require an Environmental Impact Assessment Report (EIAR) (formerly EIS) and Annex II of the EIA Directive lists projects which do not necessarily have significant effects but can be subject to case-by-case analysis or thresholds to be determined by member states.

Annex 1 of the EIA Directive defines mandatory projects that require an Environmental Impact Assessment Report (EIAR) (formerly EIS) and Annex II of the EIA Directive lists projects which do not necessarily have significant effects but can be subject to case-by-case analysis or thresholds to be determined by member states.

The EIA Directive requires the EIAR to identify, describe and assess, in an appropriate manner and in light of each individual case, the direct, indirect and cumulative significant effects of the Proposed Development on factors of the environment including:

- (a) *Population and human health*
- (b) *Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC (respectively, the Habitats Directive and the Birds Directive)*
- (c) *Land, soil, water, air, and climate*
- (d) *Material assets, cultural heritage, and the landscape*

(e) The interaction between the factors referred to in points (a) to (d)

The requirement for a statutory Environmental Impact Assessment (EIA) is set out in the mandatory and discretionary provisions of the Planning and Development Act, 2000 (as amended) (the Act) and in Schedule 5 of the Planning and Development Regulations, 2001 as amended (the Regulations).

Projects listed in Schedule 5, Part 1, of the Regulations, will be subject to mandatory assessment (Article 4(1) of Directive 2011/92/EU as amended by Directive 2014/52/EU (together, the EIA Directive) as they are deemed as projects which are likely to have a significant effect.

Others, listed in the Schedule 5, Part 2 of the Regulations, contain threshold levels and criteria and for projects that fall below these thresholds and criteria, it is the decision of the competent authority to decide if an EIA (and the associated Environmental Impact Assessment Report (EIAR)) is required.

Section 172 of the Planning and Development Act 2001, as amended, provides the legislative basis for mandatory EIA. It states the following:

“An environmental impact assessment shall be carried out by the planning authority or the Board, as the case may be, in respect of an application for consent for proposed development where either —

(a) the proposed development would be of a class specified in —

- i) Part 1 of Schedule 5 of the Planning and Development Regulations 2001, and either*
 - I) such development [would equal or exceed, as the case may be, any relevant quantity, area or other limit specified in that Part, or*
- (II) no quantity, area or other limit is specified in that Part in respect of the development concerned,*

or

- (ii) Part 2 [(other than subparagraph (a) of paragraph 2)] of Schedule 5 of the Planning and Development Regulations 2001 and either —*
 - (I) such development [would equal or exceed, as the case may be, any relevant quantity, area or other limit specified in that Part, or*
 - (II) no quantity, area or other limit is specified in that Part in respect of the development concerned,*

or

- (ii) Part 2 [(other than subparagraph (a) of paragraph 2)] of Schedule 5 of the Planning and Development Regulations 2001 and either —*
 - (I) such development [would equal or exceed, as the case may be,] any relevant quantity, area or other limit specified in that Part, or*
 - (II) no quantity, area or other limit is specified in that Part in respect of the development concerned,*

or

- (b) (i) *the proposed development would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 but [does not equal or exceed, as the case may be,] the relevant quantity, area or other limit specified in that Part, and*
- (ii) *it is concluded, determined or decided, as the case may be, —*
- (I) *by a planning authority, in exercise of the powers conferred on it by this Act or the Planning and Development Regulations 2001 (S.I. No. 600 of 2001),*
- (II) *by the Board, in exercise of the powers conferred on it by this Act or those regulations,*
- (III) *by a local authority in exercise of the powers conferred on it by regulation 120 of those regulations,*
- (IV) *by a State authority, in exercise of the powers conferred on it by regulation 123A of those regulations,*
- (V) *in accordance with section 13A of the Foreshore Act, by the appropriate Minister (within the meaning of that Act), or*
- (VI) *by the Minister for Communications, Climate Action and Environment, in exercise of the powers conferred on him or her by section 8A of the Minerals Development Act 1940,*

that the proposed development is likely to have a significant effect on the environment.”

In some cases, Member States have also established “*exclusion*” or “*negative*” lists specifying thresholds and criteria below which EIA is never required or below which a simplified EIA procedure applies. There may be exceptions to the negative thresholds, for example, for projects in defined sensitive locations. Such exceptions will apply in the case of Habitats Directive 92/43/EEC (as amended) assessments. The use of exclusion lists, defining thresholds below which EIA is never required, is very limited in the EU Member States.

Schedule 5 of the Planning and Development Regulations 2001, as amended outlines the legislative requirements deeming whether a project needs a mandatory EIA. Projects that automatically require an EIA included in Annex 1 of the EIA Directive are listed in Part 1 of Schedule 5 to the Planning and Development Regulations.

Projects that are assessed either on a case-by-case examination or on the basis of set mandatory thresholds are defined under Annex II of the EIA Directive, and these are transposed in Irish legislation in Schedule 5, Part 2 of the Planning and Development Regulations.

The Proposed Development meets Part (10) (a)(b)(iv) of the criteria set out in Schedule 5; Part 2 (10) *Infrastructure projects and Part (13) Changes, extensions, development and testing* as illustrated in Table 3-1.

Accordingly, an Environmental Impact Assessment Report is submitted with this Planning Application.

Table 3-1: Class of Activity as defined by Schedule 5, Part 2 (10) Infrastructure projects of the Planning and Development Regulations

Class of Activity as defined by Schedule 5, Part 2 (10) Infrastructure projects of the Planning and Development Regulations	Does the Proposed Development fall within this class of activity
(a) Industrial estate development projects, where the area would exceed 15 hectares	No
(b) (i) Construction of more than 500 dwelling units. (ii) Construction of a car-park providing more than 400 spaces, other than a car-park provided as part of, and incidental to the primary purpose of, a development. (iii) Construction of a shopping centre with a gross floor space exceeding 10,000 square metres. (iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares 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 use.)	<p>Yes</p> <p>The site of the Proposed Development does not meet the criteria of a business district given the predominant land use is not retail or commercial use and therefore the 2 hectares is not applicable.</p> <p>The site is additionally not located within a business district and therefore the 10 hectare is not applicable.</p> <p>It is therefore recommended the 20-hectare size threshold be applied for the proposes of the assessment.</p> <p>The size of the site, 20.3 hectares, and accordingly a mandatory EIA is required</p>
(c) All construction of railways and of intermodal transshipment facilities and of intermodal terminals not included in Part 1 of this Schedule which would exceed 15 hectares in area	No
d) All airfields not included in Part 1 of this Schedule with paved runways which would exceed 800 metres in length.	No
(dd) All private roads which would exceed 2000 metres in length.	No
(e) New or extended harbours and port installations, including fishing harbours, not included in Part 1 of this Schedule, where the area, or additional area, of water enclosed would be 20 hectares or more, or which would involve the reclamation of 5 hectares or more of land, or which would involve the construction of additional quays exceeding 500 metres in length.	No
(f) (i) Inland waterway construction not included in Part 1 of this Schedule which would extend over a length exceeding 2 kilometres. (ii) Canalisation and flood relief works, where the immediate contributing sub-catchment of the proposed works (i.e. the difference between the contributing catchments at the upper and lower extent of the works) would exceed 100 hectares or where more than 2 hectares of wetland would be affected or where the length of river channel on which works are proposed would be greater than 2 kilometres.	No
(g) Dams and other installations not included in Part 1 of this Schedule which are designed to hold water or store it on a long-term basis, where the new or extended area of water impounded would be 30 hectares or more.	No
(h) All tramways, elevated and underground railways, suspended lines or similar lines of a particular type, used exclusively or mainly for passenger transport.	No

Class of Activity as defined by Schedule 5, Part 2 (10) Infrastructure projects of the Planning and Development Regulations	Does the Proposed Development fall within this class of activity
(i) Oil and gas pipeline installations and pipelines for the transport of CO2 streams for the purposes of geological storage (projects not included in Part 1 of this Schedule).	No
(j) Installation of overground aqueducts which would have a diameter of 1,000 millimetres or more and a length of 500 metres or more.	No
(k) Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dikes, moles, jetties and other sea defence works, where the length of coastline on which works would take place would exceed 1 kilometre, but excluding the maintenance and reconstruction of such works or works required for emergency purpose.	No
(l) Groundwater abstraction and artificial groundwater recharge schemes not included in Part 1 of this Schedule where the average annual volume of water abstracted or recharged would exceed 2 million cubic metres.	No
(m) Works for the transfer of water resources between river basins not included in Part 1 of this Schedule where the annual volume of water abstracted or recharged would exceed 2 million cubic metre.	No
Class of Activity as defined by Schedule 5, Part 2 (12) Tourism and Leisure of the Planning and Development Regulations	Does the Proposed Development fall within this class of activity
(c) Holiday villages which would consist of more than 100 holiday homes outside built-up areas; hotel complexes outside built-up areas which would have an area of 20 hectares or more or an accommodation capacity exceeding 300 bedrooms.	Yes The site of the Proposed Development is deemed to be located outside of a built-up area and the 20-hectare size threshold be applied for the proposes of the assessment. The size of the site, 20.3 hectares, and accordingly a mandatory EIA is required
Class of Activity as defined by Schedule 5, Part 2 (13) Changes, extensions, development and testing, of the Planning and Development Regulations	Does the Proposed Development fall within this class of activity
(a) Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in Part 1) which would:- (i) result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and (ii) result in an increase in size greater than – - 25 per cent, or - an amount equal to 50 per cent of the appropriate threshold, whichever is the greater.	No

3.3 National Planning Framework

The National Planning Framework (NPF) is the Government's high-level strategic plan for shaping the future growth and development of Ireland to the year 2040. The National Planning Framework is published together with a 10-year national investment plan as one vision – Project Ireland 2040, meaning that implementation of the Framework will be fully supported by the Government's investment strategy for public capital investment and investment by the State sector in general.

Ireland 2040 includes a vision and strategy that is supported by a series of National Policy Objectives and will be aligned with the Government's ten-year National Investment Plan. The Strategy promotes:

- Compact Growth;
- Enhanced Regional Accessibility;
- Strengthened Rural Economies and Communities;
- Sustainable Mobility;
- A Strong Economy, supported by Enterprise, Innovation and Skills;
- High-Quality International Connectivity;
- Enhanced Amenities and Heritage;
- Transition to a Low Carbon and Climate Resilient Society;
- Sustainable Management of Water, Waste and other Environmental Resources; and
- Access to Quality Childcare, Education and Health Services

A draft revision of The National Planning Framework has been undertaken to take account of changes that have occurred since it was published in 2018 and to build on framework that is in place.

In the period between 2022 and 2040, it is expected that there will be roughly an extra one million people living in Ireland.

Population projections for the southern part of Ireland, which includes Wexford, anticipates a large increase in the 15-24 year (+26%), 45–64 year (+14%) and 65+year (+56%) age groups between 2016 and 2031. The 0-14 year and 25-44 year age groups are projected to decrease by approximately 14% (Southern Regional Assembly, 2020).

Projected employment growth in Ireland to 2040, although significant, is subject to capacity to accommodate it. The NPF acknowledges that sustainable enterprise thrives in supportive business environments that enhance competitiveness and productivity with good supporting infrastructure. There is a critical link between the quality of urban place-making and business investment and job creation.

National Policy Objective 3

The targeted pattern of growth within the Southern Region estimates an increase of between 340,000 and 380,000 people (2 million people in total) with an increase in employment by 225,000 (880,000 in total).

National Policy Objective 11

Planned growth at a settlement level shall be determined at development plan-making stage and addressed within the objectives of the plan. The consideration of individual development

proposals on zoned and serviced development land subject of consenting processes under the Planning and Development Act shall have regard to a broader set of considerations beyond the targets including, in particular, the receiving capacity of the environment.

3.4 Guidelines for Planning Authorities on ‘The Planning System and Flood Risk Management (November 2009)’

The Planning System and Flood Risk Management Guidelines were published by the Minister for the Environment, Heritage & Local Government in November 2009 under Section 28 of the Planning & Development Acts 2000 to 2022.

The Planning System and Flood Risk Management Guidelines require the planning system at all levels to avoid development in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere; adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals.

The Proposed Development has been subject to separate Site Specific Flood Risk Assessment (SSFRA) (DNV, 2025) and a Coastal Erosion Assessment (IE Consulting, 2025).

The Preliminary Coastal Erosion Assessment Report prepared by IE Consulting concluded that:

- *A preliminary assessment of the coastal erosion potential at this location has been undertaken, and in particular focusing on the reach length of the coastal foreshore location adjacent to the southern boundary of the site of the proposed development.*
- *This assessment has included a review of existing available data sources for this location and a visual assessment and survey of the coastal foreshore undertaken by a hydrological engineer from IE Consulting.*
- *Reference to the OPW Irish Coastal Protection Strategy Study (ICPSS) erosion potential mapping for this location indicates that a ‘Medium Confidence’ erosion potential line is mapped adjacent to the southern boundary of the proposed development site.*
- *The southern boundary of the proposed development site does not encroach this erosion potential line.*
- *There are no 2050 erosion potential lines mapped adjacent to or in the immediate vicinity of the southern boundary of the site.*
- *The visual survey and assessment of the coastal foreshore adjacent to the southern boundary of the site indicates that the majority of the soft coastal foreshore at this location is densely vegetated and does not indicate any evidence of significant coastal erosion or accretion.*
- *Some evidence of foreshore embankment face erosion and slippage was observed at a number of localised points, however there was no evidence to suggest a significant embankment displacement or rotational slippage at these locations.*
- *A 100m building exclusion zone is incorporated from the coastal foreshore embankment adjacent to the southern boundary of the site. No development structures are proposed within the 100m building exclusion zone.*

- *No development is proposed within the OPW Irish Coastal Protection Strategy Study (ICPSS) erosion potential line. There is no evidence to suggest that the development as proposed will be at risk of coastal erosion over its lifetime*

The SSFRA (DNV, 2025) concluded as follows:

- *The Proposed Development comprises the construction of an Integrated Tourism Resort complex. The Proposed Development is considered to be a 'Less Vulnerable Development' in accordance with Table 3.1 of The Guidelines.*
- *All proposed structures are within Flood Zone C. The findings of this SSFRA indicate that flood risk to the site can be managed without increasing flood risk elsewhere.*
- *Residual risk to users has been considered and can be appropriately managed.*
- *The Proposed Development is considered to be appropriate in accordance with guidelines set out in 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities'.*

3.5 Local Planning Policy

Under Section 9(1) of the Planning and Development Act 2000, as amended, every planning authority is obliged to make a development plan every six years. The Wexford County Development Plan 2022 – 2028 is the current statutory plan for the region, against which planning applications will be considered.

Section 10(1) of the Planning and Development Act 2000, as amended, states that the purpose of a development plan is to set out “an overall strategy for the proper planning and sustainable development” in a particular functional area.

The Core Strategy Vision for the Wexford County Development Plan 2022 - 2028 is:

- *Be a self-sustaining, low carbon, climate resilient and healthy county where people want to live, work and play.*
- *Offer high quality sustainable employment opportunities and high-quality residential developments.*
- *Have sustainable urban and rural environments supported by excellent physical and social infrastructure.*
- *Continue to value its unique natural environment, built and cultural heritage, be a county where biodiversity is restored and flourishes and which offers a range of high-quality experiences to both residents and visitors.*

Kilmore Quay is defined in the Wexford County Development Plan (WCDP) 2022 to 2028, as a Level 3b Strategic Settlement, stating that ‘there is a strategic imperative to prioritise the development of these villages’. The economic regeneration objective for Kilmore Quay includes tourism, as follows: -

- *Promote economic and enterprise development appropriate in scale to the settlements, such as expanding the potential of the marine economy and tourism in Kilmore Quay and developing the tourism potential of Kilmuckridge and Wellingtonbridge.*

As detailed in the WCDP (2022), a number of settlements under the Level 3b Strategic Settlements 'have not been targeted for significant population growth over the lifetime of the plan but have been included on this level of the hierarchy in order to prioritise the growth of infrastructure, employment and community and amenity services and improve socio-economic outcomes'.

Whilst the development is located adjacent to Kilmore Village, Section 7.7.4 of the WCDP, (2022) is relevant to the Proposed Development, which states that 'the Council recognises that some forms of tourism development, due to their self-contained nature or scale, may require a location outside of existing settlements'.

This policy states:

The Council will give consideration to the development of a limited number of integrated tourism/leisure/recreation complexes at appropriate locations in the county. It must be demonstrated that the development is dependent on an existing local resource or a unique site characteristic or an overriding need is demonstrated for the development at that location. The use must be designed to respect the character of the area and any existing natural or built heritage features on the site. The proposal must not detract from the overall character and quality of the site's setting.

An integrated tourism/leisure/recreation complex may include a number of following uses: hotel and associated facilities, health/spa/wellness facilities, restaurant/café, conference centre, golf course, equestrian centre, nature trails, walking trails, trekking courses, indoor/outdoor water facility, fishing facility, museums/art galleries and associated facilities.

The WCDP (2022), also considered tourism in coastal areas aiming to develop a contemporary coastal experience. As detailed in section 7.6.3 of the WCDP (2022), the coastal offering should be developed and promoted so that a number of communities benefit. However particularly focus is given to Kilmore Quay, among other townlands, which is named as an important 'leading light' within the experience offering.

3.5.1 Development Plan Objectives for Tourism Development

Chapter 7 of the Wexford County Development Plan 2022 - 2028 details the objectives for tourism development in Wexford, of which the following objectives are relevant to the Proposed Development.

Objective TM01

To protect and sustain the natural, built and cultural features that form the basis of the county's tourism industry including landscapes, historic buildings and structures, habitats, species and areas of natural heritage value and water quality.

Objective TM02

To facilitate, where appropriate, proposals to improve access for all at existing tourism sites and facilities, and to require all new tourism related developments to ensure the development is accessible to everyone, regardless of their age, size or ability.

Objective TM03

To facilitate the development of a sustainable diversified tourism industry at appropriate locations and at a suitable scale, subject to compliance with the objectives of this chapter and normal planning and environmental criteria.

Objective TM04

To implement the County Wexford Tourism Strategy 2019-2023 subject to compliance with the Habitats, SEA, EIA and Water Framework Directives and normal planning and environmental criteria.

Objective TM05

To continue to develop tourism products and tourist related infrastructure and to carry out enhancements to the public realm in towns and villages and environmental improvements to ensure that the county is an attractive place to visit and stay.

Objective TM08

To develop a tourism cluster in the South-East focused around key tourist sites and attractions in conjunction with adjoining local authorities, Fáilte Ireland, Tourism Ireland and other key stakeholders.

Objective TM16

To facilitate the development of a variety of high quality tourist accommodation within towns and villages, subject to compliance with Section 7.7.5 Tourist Accommodation and Chapter 4 Sustainable Housing, and normal planning and environmental criteria.

Objective TM17

To facilitate the development of tourist attractions and tourist related commercial and retail developments such as craft and design and artisan food shops, that are appropriate in scale and design for its host town or village.

Objective TM45

To facilitate the development of tourist related resorts and amenities in towns and villages, subject to compliance with normal planning and environmental criteria.

Objective TM47

To consider the development of new tourist related resorts and amenities and the development of a limited number of high quality integrated tourism/leisure/recreation complexes and resorts and amenities outside of existing settlements where it is demonstrated that the development is dependent on an existing local resource or a unique site characteristic or where an overriding need is demonstrated for the development at that location. The development must be in accordance with Section 7.7.4 and is subject to compliance with the Habitats Directive and normal planning and environmental criteria.

Objective TM48

To facilitate the provision of proportionate high quality accessible tourist accommodation and the expansion/upgrade of existing hotels, guesthouses, hostels and B&Bs where the use and

scale of the tourist accommodation is appropriate to and in keeping with the scale and character of the settlement.

3.6 Summary

Having regard to the policies and objectives of

- European and National Policy
- National Planning Framework (Draft Revision 2025)
- Regional and Spatial and Economic Strategies
- Wexford County Council

It is considered that the Proposed Development fully complies with the relevant national and regional and local planning policy context. As such, it is considered that the Proposed Development accords with the proper planning and sustainable development of the area.

3.7 References

Directive 2011/92/EU (as amended by Directive 2014 /52/EU) (together, the EIA Directive)

National Planning Framework (Draft Revision 2025)

Planning and Development Act 2000, as amended

Planning System and Flood Risk Management Guidelines 2009

Preliminary Coastal Erosion Assessment Report, IE Consulting 2025

Regional Spatial and Economic Strategy (RSES) for the Southern Region

Site Specific Flood Risk Assessment, DNV 2025

Wexford County Development Plan 2022-2028

RECEIVED: 05/08/2025

4 Population and Human Health

4.1 Introduction

This chapter considers the potential effects of the Proposed Development on human beings, living, working and visiting in the vicinity of the site. The chapter details the potential direct and indirect effects of the Proposed Development on the local population and human health.

The section on population and human health is broad ranging and covers the existence, wellbeing, and activities of people through the format of considering people as 'groups' or 'populations'. The assessment of impacts on human beings involves the identification of relevant key populations that may be affected by the Proposed Development and quantifiable documentary research. Health, as defined by the World Health Organization (WHO), is *"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"*.

Key populations have been identified as persons residing and engaging in activities near the site, persons with a stake in the general economy of the local and regional area, and persons enjoying the recreational and cultural amenities of the area.

4.1.1 Quality Assurance and Competency of Experts

This chapter was prepared by Michelle Gaffney, Senior EIA Consultant at DNV. With over four years of experience in environmental consultancy and a B.A. (Hons) in Earth Science from Trinity College, Michelle is currently furthering expertise through an MSc in Environmental Sustainability at University College Dublin. Michelle has provided technical expertise for numerous EIARs across a range of sectors, including renewable energy, strategic infrastructure, and residential commercial developments.

This chapter was reviewed by Rachel Redmond, Environmental Consultant with DNV. Rachel has a Bachelor of Science (Hons) in Environmental Science from University College Cork. Rachel is employed by DNV as an Environmental Consultant preparing Environmental Impact Assessment Reports of a similar scale and nature to the Proposed Development

This chapter has been approved by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an Environmental Consultant with 37 years' experience in consultancy, specialising in EIAs for large-scale residential, commercial developments, pharmaceutical, BESS and solar projects working closely with a range of developers, planning consultants and architects within the public and private sector. Catherine has a B.Sc. (Hons) in Analytical Science and a Post Graduate Diploma in Renewable Energy Technology Systems.

4.2 Study Methodology

A desk-based study was undertaken in July 2025 to assess information regarding population, age structure, economic activity, employment, and unemployment within the vicinity of the Proposed Development. This study was undertaken in accordance with the *Guidelines on the information to be contained in Environmental Impact Assessment Reports*, EPA (2022).

The 2022 Census of Population was held on Sunday the 3rd of April 2022. The preliminary results were released on the 23rd of June 2022 with the remaining results being published

over several months starting in April 2023. The complete set of results has now been published.

The scope of this evaluation is based on a review of data available from the Central Statistics Office (CSO), legislation, guidance documents and EIARs.

The potential effects of the Proposed Development on the local population is assessed in this EIAR in relation to:

- Population demographics;
- Socio economic effects;
- Hydrology-water quality;
- Air quality and climate;
- Noise and vibration;
- Traffic and transport;
- Human health;
- General amenity and tourism; and
- Landscape and visual impact.

4.2.1 Study Area

No formal national guidance is available on the appropriate study area to focus the assessment of population and human health. The Institute of Public Health in Ireland has issued a document "*Health Impact Assessment Guidance*" (2021) which describes a number of different geographic scales that health can be measured within varying from neighbouring community to international. As such, professional judgement has been applied in determining the appropriate study areas. Due to the wide reaching and often transient nature of people, the potential effects of the Proposed Development can be experienced at different scales. For example, the effect of air quality on human health will be experienced at a much smaller radius when compared to socio-economic effect which can be experienced at a community or regional level.

When choosing an appropriate study area for the potential effects on population and human health in this chapter, the extent of the area assessed varies. In order to assess baseline population and human health conditions in the wider area, Electoral Divisions (EDs) have been considered.

The Proposed Development is located adjacent to the village of Kilmore Quay and the Electoral Division (ED) of Kilmore has been selected to comprise the study area as shown in Figure **Error! No text of specified style in document.-1**.

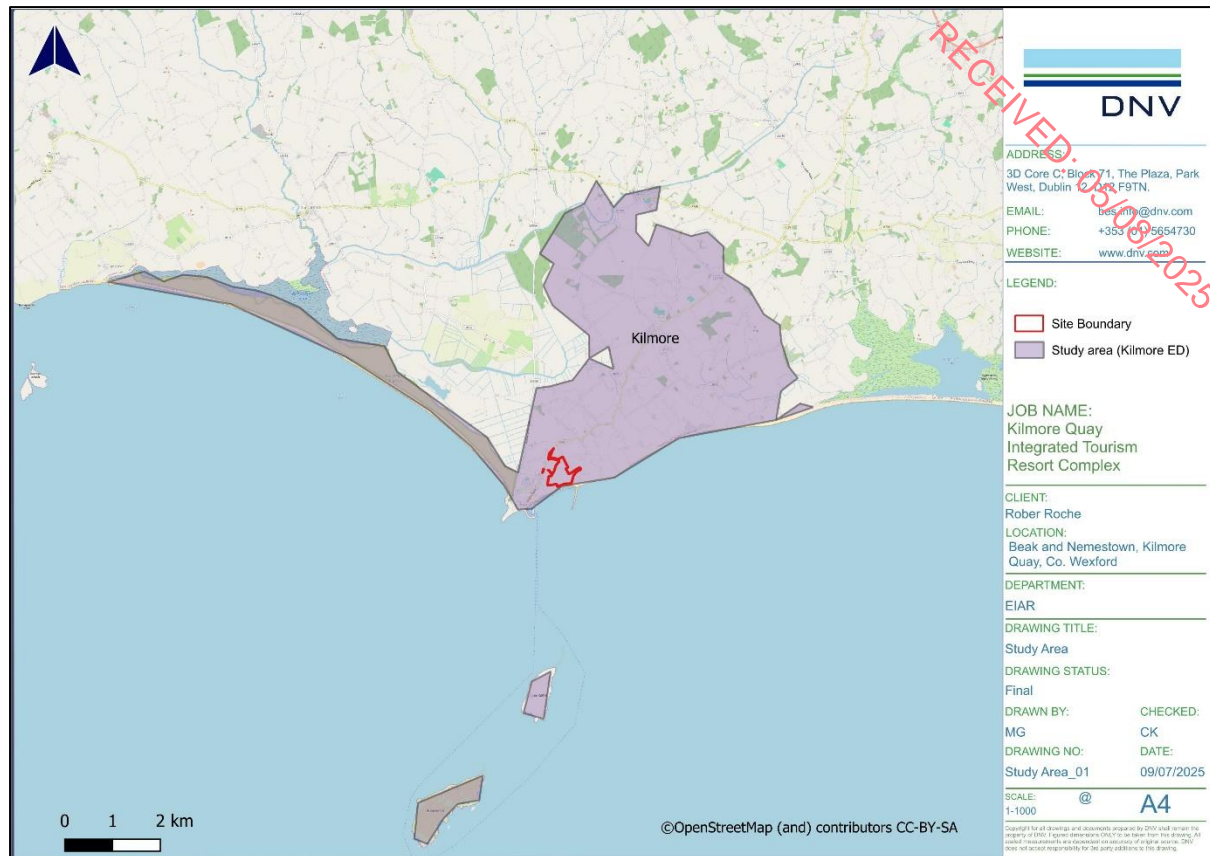


Figure Error! No text of specified style in document.-1 Study Area

4.2.2 Information Sources

The principal sources of information are as follows.

- Census and employment information published by the Central Statistics Office (CSO);
- Wexford County Development Plan 2022 - 2028; and
- Ordinance Survey Ireland (OSI) mapping and aerial photography.

The Institute of Public Health in Ireland has issued a document “*Health Impact Assessment Guidance*” (2021) which details the link between human health and the built environment (Figure Error! No text of specified style in document.-2). This document also details the negative health impacts associated with unemployment. Unemployment affects both physical and mental health and is an important determinant of health inequalities in adults of working age. Unemployed people have a higher risk of lower levels of psychological wellbeing ranging from symptoms of depression and anxiety to self-harm and suicide. Unemployment can also impact other health determinants for example housing and nutrition. Based on this information, employment generated as a result of the Proposed Development has been assessed throughout this chapter.



Figure **Error! No text of specified style in document.-2:** Health impact of the built environment (source: Institute of Public Health in Ireland)

The European Commission (EC) has published the “Guidance on The Preparation Of The Environmental Impact Assessment Report” (EC, 2017). This document defines human health as “a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air”.

Technical chapters within the EIAR have also been reviewed when assessing the likely effects on population and human health. These include the relevant chapters relating to air quality, climate, noise and vibration, hydrology, traffic and transport and landscape and visual.

In line with the Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022) (the EPA Guidelines (EPA, 2022)), the terms used when quantifying the quality of effects have been detailed in Chapter 1.

4.3 The Existing and Receiving Environment (Baseline Situation)

4.3.1 Population and Demographic Analysis

The most recent population figures published by the Central Statistics Office (CSO) indicate that the combination of a net inward migration and high birth rates have resulted in the

population of Ireland exceeding five million for the first time since 1851. Population projections for Ireland up to 2046 anticipate a population of approximately five million under the most pessimistic scenario and over 6.7 million under the most optimistic scenario. Population projections for Northern Ireland up to 2034 anticipate a population of approximately two million.

County Wexford has experienced population growth of 3.03% from 2011 to 2016 and 9.48% from 2016 to 2022 (CSO, 2022) as shown in Table Error! No text of specified style in document.-1.

Table Error! No text of specified style in document.-1: Population Change in County Wexford from 2011 to 2022 (CSO, 2022)

County	Population 2011 Census Data	Population 2016 Census Data	Population 2022 Census Data
Wexford	145,320	149,722	163,919
	Change in Number of Persons	Percentage change in Population	
From 2011 to 2016	4402	+ 3.03	
From 2016 to 2022	14,197	+ 9.48	

Table Error! No text of specified style in document.-2 shows the breakdown of the population of Kilmore ED based on their age range during the 2022 Census against the County Wexford and State average. This table is further broken down into percentages of the population within these age ranges.

The population of Kilmore ED is comparable to the demographic age profile of County Wexford and Ireland. No age category in the study area deviates from the average figures in Wexford or Ireland by more or less than 2.5%.

The study area has a higher percentage of people aged 65 and over (18.47%) when compared with the average for Wexford (16.72%) and the State (15.08%).

The number of children and young adults aged 0-24 years in the study area (30.74%) is slightly lower than the average for Wexford (31.66%) and the State (32.18%). The number of people aged 25-34 in the study area (10.53%) is similar to the average for Wexford (10.54%) and slightly lower than the State (12.20%).

People aged 35-44, 45-54 and 55-64 in the study area is broadly similar to the number of people in Wexford and the State.

Table Error! No text of specified style in document.-2 ED, County and National Population Categorisation by Age (CSO, 2022)

Age Range	Kilmore ED		Wexford		Ireland	
	No. of People	% of People	No. of People	% of People	No. of People	% of People
0-4 years	118	4.78	9,156	5.59	295,415	5.74

Age Range	Kilmore ED		Wexford		Ireland	
	No. of People	% of People	No. of People	% of People	No. of People	% of People
5-24 years	641	25.96	42,726	26.07	1,361,643	26.44
25-34 years	260	10.53	17,272	10.54	628,031	12.20
35-44 years	348	14.09	23,661	14.43	794,393	15.43
45-54 years	356	14.42	23,245	14.18	713,507	13.86
55-64 years	290	11.75	20,456	12.48	579,835	11.26
65-74 years	257	10.41	15,633	9.54	441,028	8.57
75 years and over	199	8.06	11,770	7.18	335,287	6.51
Total	2,469		163,919		5,149,139	

4.3.2 Economic Activity and Employment

The labour force is defined as the number of people above the legal working age that are available to work. Table **Error! No text of specified style in document.-3Error! Not a valid bookmark self-reference.** shows the percentage of the population who were in the labour force during the 2022 Census.

The portion of people at work in the study area (52.19%) is similar to the average for Wexford (52.87%) and significantly lower than the average for the State (56.09%). This is in line with the study area having a lower percentage of people of working age (i.e., aged 16-64 years) in comparison to the State average.

The number of people who are retired in the study area (20.08%) is higher than in Wexford (17.75%) and even higher than the figure for the State (15.90%). This is line with the study area also having a higher than state average of people aged 65 years and over.

Table Error! No text of specified style in document.-3 Economic Status of the Population Aged 15+ in 2022 (CSO, 2022)

Principle Economic Status	Kilmore ED		Wexford		Ireland	
	No. of People	Percent	No. of People	Percent	No. of People	Percent
At work	1,037	52.19	69,485	52.87	2,320,297	56.09
Looking for first regular job	16	0.81	1,147	0.87	34,526	0.83
Short term unemployed	43	2.16	2,408	1.83	70,217	1.70
Long term unemployed	72	3.62	4,031	3.07	106,059	2.56
Student	160	8.05	12,444	9.47	459,275	11.10
Looking after home/family	151	7.60	10,305	7.84	272,318	6.58

Principle Economic Status	Kilmore ED		Wexford		Ireland	
	No. of People	Percent	No. of People	Percent	No. of People	Percent
Retired	399	20.08	23,334	17.75	657,790	15.90
Unable to work due to permanent sickness or disability	93	4.68	7,310	5.56	189,308	4.58
Other	16	0.81	973	0.74	27,062	0.65
Total	1,987		131,437		4,136,852	

The closest social welfare office to the Proposed Development which has figures available for the number of people on the Live Register / Unemployed is the Wexford Intreo Office. The areas that this office provides services for are Wexford, Kilmore Quay, Blackwater, Rosslare and Taghmon.

The monthly unemployment release contains a series of monthly unemployment rates and volumes. These statistics are the definitive measure of monthly unemployment. The Live Register is used to provide a monthly series of the numbers of people (with some exceptions) registering for Jobseekers Benefit or Jobseekers Allowance or for various other statutory entitlements at local offices of the Department of Social Protection. At the time of carrying out this baseline assessment, the most recent information available is from May 2025.

As detailed in Table **Error! No text of specified style in document.-4**, the number of people on the live register has remained relatively constant with a slight decrease in May 2025 when compared to 8 months previous in September 2024.

Table Error! No text of specified style in document.-4 Number of Persons on Live Register in Wexford Intreo Office (CSO, 2025)

Month	2024 September	2024 October	2024 November	2024 December	2025 January	2025 February	2025 March	2025 April	2025 May
Number of Persons on Live Register	2300	2327	2289	2448	2392	2306	2265	2266	2188

Table **Error! No text of specified style in document.-5** shows the industries the people in the study area work in when compared with the figures for Wexford and Ireland. The top three groups which account for 58.63% of the study area in total are:

- Commerce and trade;
- Professional services; and
- Other.

Table Error! No text of specified style in document.-5 Persons at work based on Industry (CSO, 2022)

Industry	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Agriculture, forestry and fishing	103	9.93	4,217	6.07	82,228	3.54
Building and construction	59	5.69	5,282	7.60	134,482	5.80
Manufacturing industries	154	14.85	8,361	12.03	552,642	23.82
Commerce and trade	208	20.06	16,150	23.24	273,102	11.77
Transport and communications	69	6.65	4,513	6.49	365,716	15.76
Public administration	44	4.24	3,936	5.66	568,105	24.48
Professional services	194	18.71	15,816	22.76	131,639	5.67
Other	206	19.86	11,210	16.13	212,383	9.15
Total	1,037		69,485		2,320,297	

Table Error! No text of specified style in document.-6 shows the occupation of the people in the study area work in when compared with the figures for Wexford and the State. The top two occupations the study area are Skilled Trades and Occupations (19.27%) and Process, Plant and Machine (12.15%).

Table Error! No text of specified style in document.-6 Persons at work based on Occupation (CSO 2022)

Occupation	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Managers, Directors and Senior Officials	77	6.68	5,587	7.36	229,737	9.20
Professional Occupations	120	10.42	11,545	15.21	292,273	11.71
Associate Professional and Technical Occupations	110	9.55	7,469	9.84	183,584	7.35
Administrative and Secretarial Occupations	69	5.99	6,493	8.55	203,532	8.15
Skilled Trades Occupations	222	19.27	12,935	17.04	192,679	7.72
Caring, Leisure and Other Service Occupations	91	7.90	6,156	8.11	247,044	9.90
Sales and Customer Service Occupations	72	6.25	5,339	7.03	172,521	6.91

Occupation	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Process, Plant and Machine Operatives	140	12.15	6,673	8.79	507,044	20.31
Elementary Occupations	126	10.94	7,114	9.37	154,238	6.18
Not stated	125	10.85	6,613	8.71	313,921	12.57
Total	1,152		75,924		2,496,573	

4.3.3 Deprivation Indices

In addition, the Pobal HP Deprivation Indices was reviewed for the study area as detailed in Table **Error! No text of specified style in document.-7**. The site is located within the Kilmore Electoral Division (Small Area ID: 247076003). The study area is described as 'Marginally Below Average' deprivation levels.

Table Error! No text of specified style in document.-7 Pobal HP Deprivation Indices

Pobal Deprivation Indices	Small Area 247076003
Pobal HP Index 2022	-3.70
Pobal HP Description 2022	Marginally Below Average
Population 2022	244
Age Dependency Ratio 2022	38.11%
Lone Parent Ratio 2022	9.52%
Proportion Primary Education Only 2022	12.50%
Proportion at Third Level Education 2022	35.71%
Unemployment Rate – Male	9.86%
Unemployment Rate - Female	14.55%

4.3.4 Travel and Commuting

An assessment of commuter duration and commuter times are summarised in Table **Error! No text of specified style in document.-8**, Table **Error! No text of specified style in document.-9** and Table **Error! No text of specified style in document.-10**.

The time period that most people leave for work, school or college is 08:31 – 09:00 (21.51%) followed by 08:01 – 08:30 (15.96%) and 07:31 – 08:00 (15.61%) (Table **Error! No text of specified style in document.-8**).

Table Error! No text of specified style in document.-8 Time Leaving Home (CSO,2022)

Duration of Travel Times	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Before 06:30	132	9.16	8,118	8.347	312,861	9.82
06:30 - 07:00	125	8.67	8,663	8.908	299,508	9.40
07:01 - 07:30	142	9.85	9,147	9.405	564,895	17.73
07:31 - 08:00	225	15.61	17,817	18.320	716,822	22.49
08:01 - 08:30	230	15.96	21,458	22.064	479,703	15.05
08:31 - 09:00	310	21.51	15,635	16.076	89,676	2.81
09:01 - 09:30	31	2.15	2,768	2.846	184,515	5.79
After 09:30	83	5.76	4,966	5.106	212,439	6.67
Not stated	163	11.31	8,682	8.927	326,542	10.25
Total	1,441		97,254		3,186,961	

The majority of people travel 45 minutes or less to work, school or college (79.19%) indicating that most people live and go to work, school or college within 45-minute drive time radius (Table Error! No text of specified style in document.-9).

Table Error! No text of specified style in document.-9 Journey Time (CSO, 2022)

Journey Time	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Under 15 mins	497	34.49	34,512	35.49	936,520	29.39
1/4 hour - under 1/2 hour	454	31.51	26,698	27.45	894,844	28.08
1/2 hour - under 3/4 hour	190	13.19	13,635	14.02	550,229	17.27
3/4 hour - under 1 hour	44	3.05	4,010	4.12	186,834	5.86
1 hour - under 1 1/2 hours	33	2.29	5,211	5.36	195,397	6.13
1 1/2 hours and over	52	3.61	4,031	4.14	80,867	2.54
Not stated	171	11.87	9,157	9.42	342,270	10.74
Total	1,441		97,254		3,186,961	

As detailed in Table Error! No text of specified style in document.-10, the most utilised means of transport is by car either as a driver (38.36%) or as a passenger (22.11%). This represents 60.47% of people in the study area that rely on private car usage. The next most utilised mean of transport is bus, minibus or coach (10.32%).

Table Error! No text of specified style in document.-10 Means of Travel (CSO, 2022)

Means of Travel	Kilmore ED		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
On Foot	102	6.30	10,283	9.40	97,212	2.69
Bicycle	12	0.74	810	0.74	323,923	8.96
Bus, minibus or coach	167	10.32	8,137	7.44	1,254,419	34.72
Train, DART or LUAS	3	0.19	334	0.31	691,044	19.12
Motorcycle or scooter	4	0.25	145	0.13	9,150	0.25
Car Driver	621	38.36	43,113	39.39	266,412	7.37
Car passenger	358	22.11	25,925	23.69	456,291	12.63
Van	95	5.87	6,369	5.82	14,092	0.39
Other (incl. lorry)	8	0.49	577	0.53	85,316	2.36
Work mainly at or from home	111	6.86	7,157	6.54	148,823	4.12
Not stated	138	8.52	6,590	6.02	266,726	7.38
Total	1,619		109,440		3,613,408	

4.3.5 Human Health

According to the World Health Organization (WHO), health is described as "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." The Healthy Ireland Framework 2013-2025 expands on this by defining health as the ability of each individual to achieve their full potential in terms of physical, mental, and social well-being. It emphasises that healthy individuals contribute positively to the health and quality of the society in which they live, work, and play. The framework also highlights that health encompasses more than just the absence of disease or disability, and that the health of individuals and the nation as a whole significantly impacts the quality of everyone's lived experience.

Health is an essential resource for everyday life, a public good and an asset for health and human development. A healthy population is a major asset for society and improving the health and wellbeing of the nation is a priority for Government. Healthy Ireland Framework 2013-2025 is a collective response to the challenges facing Ireland's future health and wellbeing.

Statistics for general health in the study area, Wexford and Ireland are presented in Table Error! No text of specified style in document.-11. This shows that 82.55% of people in the study area have self-identified themselves as having "very good" or "good" health.

Table Error! No text of specified style in document.-11 General Health Status (CSO, 2022)

General Health	Kilmore		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Very Good	218	48.77	86,460	52.75	2,740,994	53.23

General Health	Kilmore		Wexford		Ireland	
	No. of people	Percent	No. of people	Percent	No. of people	Percent
Good	151	33.78	49,884	30.43	1,527,027	29.66
Fair	47	10.51	15,979	9.75	444,895	8.64
Bad	8	1.79	2,713	1.66	72,556	1.41
Very Bad	4	0.89	602	0.37	16,843	0.33
Not Stated	19	4.25	8,281	5.05	346,824	6.74
Total	447		163,919		5,149,139	

4.3.6 Social Health

According to the World Health Organisation, poor social and economic circumstances affect health throughout life. Good health involves reducing levels of educational failure, reducing insecurity and unemployment, and improving housing standards. Health is influenced, either positively or negatively, by a variety of factors. Some of these factors are genetic or biological and are relatively fixed. '*Social determinants of health*' arise from the social and economic conditions in which people live. They are not so fixed such as type of housing and environments, access to health or education services, incomes generated and the type of work people do, can all influence a person's health, and the lifestyle decisions people make.

A range of factors have been identified as social determinants of health. These can include the wider socio-economic context, inequality, poverty, social exclusion, socioeconomic position, income, public policies, health services, employment, education, housing, transport, the built environment, health behaviours or lifestyles, social and community support networks and stress.

People who are less well off or who belong to socially excluded groups tend to fare badly in relation to these social determinants. Being at work on the other hand provides not only an income, but also access to social networks, a sense of identity and opportunities for development or progression.

Figure Error! No text of specified style in document.-3 presents the social determinants of health adapted from Dalghren and Whitehead (1991) and Grant and Barton (2006) as presented in Healthy Ireland.

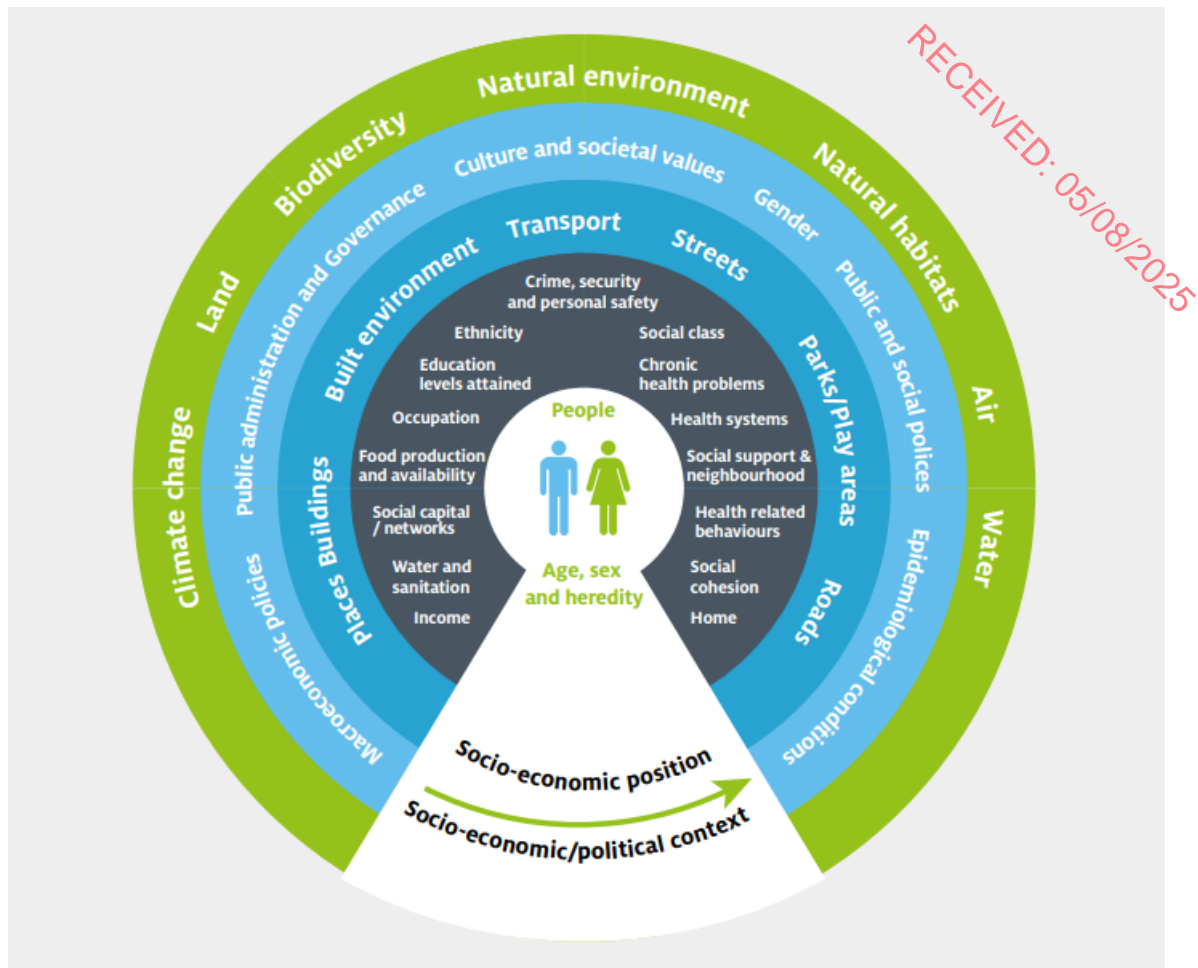


Figure **Error! No text of specified style in document.-3** Social Determinants of Health
(Healthy Ireland, DOH 2013)

According to the baseline assessment, 52.19% of the population within the study area are at work which is lower than the state average however this can be accounted for by the higher-than-average number of people who are retired rather than unemployment issued.

As detailed in Table **Error! No text of specified style in document.-11**, the majority of people in the study area (82.55%) and Wexford (83.18%) have self-identified themselves in the 2022 Census as having 'very good health' or 'good health'. The employment levels, coupled with the self-identification of health status in both Kilmore and Wexford, indicate that positive social health conditions exist.

4.3.7 General Amenity and Tourism

Healthcare Facilities

The closest hospital to the site is Wexford General Hospital, located approximately 26km to the northeast of the site. Bridgetown Health Centre is a healthcare facility located approximately 6.8km to the north of the site.

Education Facilities

The closest national school to the site is Scoil Realt na Mara-Kilmore Ns, located 3.7km to the northeast of the site. The closest secondary school is Bridgetown College, located approximately 6.3km to the north of the site.

Sports and Recreation

There are a number of sporting activities based around the sea at Kilmore Quay including angling, sailing, diving, snorkelling and swimming along with a number of shore-based activities such as walking and cycling.

Kilmore Quay harbour has a busy 60 berth marina, supporting the local fishing industry.

Tourism

Tourism is pivotal to the national economy, providing substantial full-time and seasonal employment. The National Tourism Development Authority (Fáilte Ireland) compiles statistics on overseas visitors to Ireland and its regions. The latest Fáilte Ireland Annual Report (2023a) indicates that Ireland welcomed 6.3 million overseas tourists, who stayed an average of 8.2 nights, spending €5.4 billion (excluding fares). Domestic tourism saw 14.3 million trips in 2023, a 23% increase from 2019.

Wexford is central to Ireland's Ancient East, launched in 2015 to unify the region as a marketable tourism proposition. Fáilte Ireland (2023b) reports that Ireland's Ancient East attracted 2.4 million overseas tourists, generating €889 million, and 4.0 million domestic tourists, generating €663 million, with 269,000 visitors from Northern Ireland contributing €87 million.

The County Wexford Tourism Strategy 2019-2023 aims to make Wexford a leading tourism destination, enhancing quality of life and creating approximately 800 new jobs. The Wexford County Development Plan (WCDP) 2022-2028 focuses on developing coastal tourism, particularly in Kilmore Quay, a picturesque village known for its scenic beauty and attractions like the Saltee Islands and annual Seafood Festival, which have significant potential to boost tourism in Wexford.

Tourism Benefit Statement

The importance and contribution of the Proposed Development to both the local and national tourism sectors are outlined in a 'Tourism Benefit Statement' prepared by O'Connell Marketing (2025), submitted as part of this application.

In summary, Kilmore Quay Integrated Resort Hotel is designed to be a 5-star low-impact destination poised to elevate County Wexford as a premier hub for business, tourism, and leisure. Strategically integrated into the historic village of Kilmore Quay, the development of this world-class resort offers a dynamic blend of hospitality, business, and recreational services, designed to attract domestic and international visitors year-round to this rural corner of Ireland.

This integrated resort plan meets, and in many ways exceeds, the need to develop a contemporary coastline experience in Wexford as stated in the Wexford CDP 2022-2028. The tourism development strategy for Wexford supports and promotes the development of

beachfront accommodation in coastal towns and villages, blue and greenways, coastal drives, and walks.

Kilmore Quay Integrated Resort Hotel will be a key economic driver for the region, bringing a new level of business and investment to Wexford. The resort is strategically designed to operate year-round, complementing the village's day-to-day life and offering numerous opportunities to boost its economic growth.

4.3.8 Summary of Baseline Environment

- The population of Kilmore ED is comparable to the demographic age profile of County Wexford and Ireland. No age category in the study area deviates from the average figures in Wexford or the Ireland by more or less than 2.5%. However, the study area has a higher percentage of people aged 65 and over when compared with the average for Wexford and the State.
- The number of people at work in the study area is lower than the average for the State which aligns with the higher-than-average number of people who are retired and is supported by the number of people aged 65 years and over.
- There is a relatively high reliance on private car usage in the study area however more sustainable means of travel such as public transport (bus, minibus or coach) is the next most utilised mean of transport.
- Most people travel 45 minutes or less to work, school or college indicating that most people live and go to work, school or college within 45-minute drive time radius.

4.3.9 Summary of Receptors and Sensitivity

A number of sensitive receptors were identified based on the baseline assessment.

Table Error! No text of specified style in document.-12 Summary of Receptor Sensitivity

Receptor	Description	Sensitivity
Population demographics of the study area and local community	The baseline population demographics show the study area has a balanced population, with a higher proportion of older adults compared to Wexford and the State. The number of children and young adults in the study area is slightly lower than the averages for Wexford and the State.	Medium
Local economy	The number of people at work in the study area is lower than the state average and the number of retired people is higher than the state average, indicating a low number of people in the workforce. The number of people who are short term and long term unemployed are in line with those for the county and state.	Medium
Local population (water quality)	Safe, clean drinking water is essential for population and human health.	Medium
Local population (air quality)	Nuisance dust emissions from operational activities, including traffic can negatively impact air quality.	Medium
Local population (noise and vibration)	Noise exposure can cause a variety of human health effects including annoyance, sleep disturbance, raised stress levels, work impacts for commercial receptors or individuals who work from home.	Medium
Local road network	Operational vehicle movements to and from the site can affect the capacity of the local road network to support these additional journeys.	Low

Receptor	Description	Sensitivity
Local amenities	Amenities including tourism sites and community infrastructure contribute to a sense of community and the social health of the surrounding population.	Medium

4.4 Characteristics of the Proposed Development

The Proposed Development will include an Integrated Tourism Resort consisting of a central hotel with 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site. Refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces. A detailed description can be found in Chapter 2 of this EIAR.

The operational phase will involve the day to day running of an integrated tourism resort including the movement of people both visiting and working in the Proposed Development.

4.5 Potential Effect of the Proposed Development

4.5.1 Construction Phase

4.5.1.1 Population demographics

The construction phase will create short term employment and on average there will be approximately 75 employees for the external infrastructure and site development works for a period of 9 months, and approximately 50 employees for the building works for an average of 36 months. Due to the fact that employees may either be already residing in the local area or may travel to and from the site from surrounding towns and that the majority of people in the study area travel 45 minutes or less to work, school or college, the effect on population demographics has been assessed at a county level. The sensitivity of the receptor has been identified as low. The magnitude of the effect is low.

Based on the mobile nature of employees and the baseline population assessment, the likely effect on population demographics as result of the Proposed Development will be direct, short term, positive and not significant.

4.5.1.2 Socio-economic

Employment and income are among the most significant determinants of long-term social health. The Proposed Development has the potential to provide health improvements due to the creation of additional employment.

The Proposed Development will allow for the creation of direct short term related employment during the construction phase, with a maximum of 75 employees for the external infrastructure and site development works for a period of 9 months, and approximately 50 employees for the building works for an average of 36 months, during construction, over a period of three years. This is an average number of employees and in practise the number will vary across the

construction period depending on the type and intensity of construction activities. Employment creation will have a direct effect on the local economy but also an indirect effect through daily spending by employees in local businesses.

The Proposed Development will also create additional indirect employment for suppliers, drivers delivering supplies to and from the site and workers utilising local shops and other businesses in the surrounding areas which will benefit the local economy.

Due to the fact that employees may either be already residing in the local area or may travel to and from the site from surrounding towns, the socio-economic effect has been assessed at both a local scale (the study area) and a county level.

The sensitivity of the receptor in the study area has been identified as medium. The magnitude of the effect is low. The sensitivity of the receptor at a county level has been identified as low. The magnitude of the effect is low. Based on the transient nature of vehicles transporting material from the site and the baseline assessment of economic activity, the likely effect on the economy on a local scale will be both direct and indirect, short term, positive and slight. At a county scale, the likely effect on the economy will be both direct and indirect, short term, positive and not significant.

4.5.1.3 Hydrology – Water Quality

During the construction phase there is potential for excavation and construction works to effect ground water and surface water quality. Surface water runoff with cementitious materials used during the construction of foundations, pavements and other structures, suspended solids or other potentially deleterious materials, could enter the underlying groundwater at the site.

Surface water runoff will be managed during the construction phase to ensure there will be no direct discharge to groundwater or surface water. The mitigation measures outlined in Chapter 7 Hydrology of this EIAR combined with the mitigation measures within the Construction Environmental Management Plan (CEMP) (DNV, 2025) will ensure that there will be no significant effect on the receiving groundwater and surface water environment.

The effect of the Proposed Development on water quality and human health will be neutral, short term and not significant.

4.5.1.4 Air Quality and Climate

The greatest potential effect on air quality during this phase is from construction dust emissions and the potential for nuisance dust. Construction vehicles and machinery during the construction phase will also temporarily and intermittently generate exhaust fumes and consequently potential emissions of volatile organic compounds, nitrogen oxides, sulphur oxides, and particulate matter (dust). Fine particles from these sources are recognised as a potential significant cause of pollution and can be damaging to the health of the surrounding population during the construction phase.

According to the Health Service Executive (HSE), the health effects associated with the main pollutants of concern are:

- Nitrogen Dioxide, Sulphur Dioxide, Ozone - Irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases.

- Particles (PM10, PM2.5) - Can be carried deep into the lungs where they can cause inflammation and a worsening of heart and lung diseases.
- Carbon Monoxide - Prevents the uptake of oxygen by the blood and poses a greater risk to those suffering from heart disease.

There are several high-sensitivity receptors (residential dwellings) located within 250m of the site boundary; these are situated to the north, east and west of the site. Appropriate mitigation and monitoring measures have been recommended in Chapter 8A Air Quality and the CEMP (DNV, 2025) and will be implemented at the site in order to minimise the risk of dust emissions arising during the construction phase.

Construction traffic is not expected to result in a significant change in Annual Average Daily Traffic (AADT) flows near to sensitive receptors and according to Institute of Air Quality Management (IAQM) guidance is unlikely to have a significant effect on local air quality.

As such, the likely effects of air quality on population and human health will be negative short term and slight during the construction phase.

There is potential for the release of various greenhouse gas emissions during the construction phase of the Proposed Development. Climate change can potentially exacerbate health issues such as heat stress, respiratory conditions, and vector-borne diseases, as outlined in Chapter 8b Climate, of this EIAR. As detailed in Chapter 8b, the total GHG emissions generated as a result of the construction of the Proposed Development are 24,742,000 kg of CO₂eq (24,742 tonnes CO₂eq).

Climate change effects during the construction phase have been thoroughly addressed in Chapter 8b.

It is considered that the effects of Climate on the surrounding population will be negative, not significant and short term in nature.

4.5.1.5 Noise and Vibration

Noise exposure can cause a variety of human health effects including annoyance, sleep disturbance, raised stress levels, work impacts for commercial receptors or individuals who work from home. Noise associated with traffic movements and construction phase activities can negatively impact the population and human health of the surrounding residents. During the construction phase all operations will comply with the BS5228:2009 "*Noise and Vibration Control on Construction and Open Sites*".

The nearest noise sensitive locations (NSL) in relation to population and human health are residential properties which are located to the north, west and east of the Proposed Development site. Noise from onsite plant and equipment has been assessed in Chapter 9 Noise and Vibration and it is not envisaged that any excessively noisy activities will be carried out over extended periods of time during the construction stage.

Site working hours for the construction phase of the Proposed Development will be 08:00 and 19:00, Monday to Friday, and 08:00 to 14:00 on Saturdays. Special construction operations may need to be carried out outside these hours to minimise disruption to the surrounding area, which will be subject to agreement with the Local Authority. No activities will be permitted

onsite outside of these hours unless by prior agreement with the Local Authority. These set working hours will minimise the short-term noise effects on the surrounding population.

It is not anticipated that the adopted noise criteria will be exceeded during the construction phase at the closest Noise Sensitive locations. It is considered that the effects of Noise and Vibrations on the surrounding population and human health will be negative, not significant and short term in nature.

4.5.1.6 Traffic and Transport

During the construction phase there will be an increase in the number of vehicles transporting materials and construction works to and from the site, which has the potential to cause congestion on the local road network causing annoyance to the road users.

The construction phase will generate traffic in the form of HGVs and staff vehicles as detailed in Chapter 13 of this EIAR. The Construction Environmental Management Plan (DNV 2025), details a number of traffic control measures to ensure any potential effects on the adjacent local and strategic road network are minimised. Furthermore, as outlined in Chapter 13, a detailed Construction Traffic Management Plan (CTMP) would be prepared prior to commencement on site, in order to reduce the effect of construction traffic, in particular HGVs during the construction phase.

It is considered that the effects of Traffic and Transport on the surrounding population and human health during the construction phase will be not significant and short term in nature.

4.5.1.7 General Amenity and Tourism

As set out in Section 4.3.7, there are a number of tourist attractions and public amenities within the vicinity of the Proposed Development. No designated tourist sites or amenities were identified as intersecting with the Proposed Development. It is concluded therefore that the construction phase of the Proposed Development is not expected to give rise to any significant effects on the general amenity and tourist attractions.

4.5.1.8 Landscape and Visual Impact

During the construction phase the site landscape will undergo a change which will have a visual impact. This will potentially impact on the visual amenity of the nearby visual receptors. These landscape impacts will reduce rapidly with distance from the site boundaries, and a range of materials and building typologies are proposed to complement the existing types found in the surrounding built environment and landscape. The set back of the larger buildings from the site boundary mitigates the impact on local adjoining residents.

It is concluded that the Proposed Development will, therefore, have a minor, negative and short to medium-term effect on the landscape character of the Site during the construction phase.

4.5.2 Operational Phase

The operational phase of the Proposed Development includes for the operation of the Integrated Tourism Resort Complex, to include the hotel, lodges, a resort shop, café/restaurant. The Proposed Development includes all associated landscape and boundary treatments, surface water drainage infrastructure, plant and all other ancillary works.

4.5.2.1 Population demographics

The Proposed Development will include an Integrated Tourism Resort Complex, consisting of a central hotel with 163 no. bedrooms, 42 no. family suites, 55 no. large family-friendly tourist lodges and hotel staff accommodation and will cater for a wide range of people including families, older persons and young couples. Once operational, the Proposed Development will provide an increase in employment opportunities, resulting in population retention in the local area.

Furthermore, it will provide an influx of new short- and long-term residents into the area, causing changes in population trends and density.

In relation to the existing population in the Kilmore ED and the baseline demographic assessment completed in Section 4.3, the Proposed Development will have a positive, long term and slight effect on population demographics.

4.5.2.2 Socio-economic

The operational phase of the Proposed Development will create medium to long term employment. The Proposed Development will allow for the creation of new employment in the hotel including the bar and restaurant and leisure complex. Refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, along with the resort shop and café will also create medium to long term employment.

It is proposed that approximately 150 people will be directly employed during the operational phase having a positive effect, both directly and indirectly to the local economy and employment. The development will have positive effects in terms of generating economic activity with spinoff economic activity created for local retail and service providers. This employment will come from the hotel staff requirements, maintenance services required for the buildings, grounds and security and the commercial/retail units. Furthermore, the multiplier effect arising from tourists staying in the hotel using local services and purchasing goods at local business will also result in an increase in employment in those businesses to meet the demand.

The Proposed Development will have a positive, slight, long term socio-economic effect.

4.5.2.3 Hydrology Water Quality

During the operational phase of the Proposed Development the water supply will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), there are no human health issues for site workers associated with groundwater quality beneath the site.

Furthermore, as detailed in Chapter 7 of this EIAR, there will be no direct discharges to discharges to ground from drainage and only rainfall on public open spaces will infiltrate to ground.

Based on the implementation of the mitigation measures outlined in Chapter, the likely effect on water quality and subsequently human health will be direct, long term, neutral and not significant.

4.5.2.4 Air Quality and Climate

During the operational phase, the Proposed Development may lead to minor changes in local air quality due to potential traffic and activities associated with the development. Chapter 8A of this EIAR indicates that there will be an imperceptible effect on air quality in the vicinity of the Proposed Development due to associated traffic flows of the Proposed Development. Existing residents in the area and future tourists in the area will not experience significant air quality effects.

Therefore, the overall effect of the Proposed Development on air quality and subsequently human health will be direct, neutral, imperceptible and long-term, which is overall not significant.

Sustainable modes of transport are encouraged through the pedestrian and cycle links to the surrounding area and the provision of bicycle parking.

During the operational phase of the Proposed Development, there is potential for the release of a number of greenhouse gas emissions to the atmosphere with the main emission sources arising from heating, domestic hot water, and lighting.

The Proposed Development has been designed to reduce the effect to climate where possible. A number of measures have been incorporated into the design to ensure the operational phase emissions are minimised, as summarised in Chapter 8b. It is therefore considered that the effects of GHG emissions during the operational phase and as a consequence, on Population and Human Health is considered to be direct, long term, negative and slight which is considered overall not significant.

Based on the above assessment, the likely effect of the Proposed Development on air quality and climate, and subsequently population and human health will be direct, long term, negative and slight which is overall not significant.

4.5.2.5 Noise and Vibration

Noise associated with traffic movements and operational phase activities can negatively impact the population and human health of the surrounding residents. Noise sensitive receptors relevant to population and human health have been identified as residential properties and have been listed in Chapter 9 of this EIAR. The main potential source of operational noise from the Proposed Development is plant and equipment, operation of the padel court and crazy golf, breakout noise from the event spaces and leisure centre, noise from leisure centre outdoor seating and events centre outdoor patio, traffic movements, car parking and external/public amenity spaces. The potential effect of the Proposed Development is fully assessed in Chapter 9 of this EIAR.

It is considered that the predicted noise and vibration effects on the receiving environment and noise sensitive locations during the operational phase are likely to be not significant and long-term.

4.5.2.6 Traffic and Transport

A full assessment of traffic and transport effects during the operational phase are presented in Chapter 13 of this EIAR. The chapter concluded that the effect of development traffic on the local road network will be likely, moderate and permanent.

The Proposed Development has the potential to cause additional traffic, during the operational phase. However, there is currently significant extant capacity on junctions within Kilmore Quay to accommodate the developmental traffic that will arise during the operational phase of the Proposed Development.

There is currently only one public bus which passes the site and provides bus stops within a 400m walk of the Proposed Development. This is the 390 Wexford Bus service from Wexford to Kilmore Quay. There are approximately 5 services per day (reduced to 3 on Sundays). Chapter 12 of this EIAR Traffic provides further detail in relation to the existing transport facilities serving the Proposed Development Site.

Mitigation, in the form of a detailed Mobility Management Plan (MMP) is proposed in Chapter 12, in order to manage the effect of the Proposed Development during the operational phase. A Framework MMP (Meinhardt, 2025) has been prepared as part of the planning submission for the Proposed Development, and this would be subject to regular updates including at the commencement of operation.

It is therefore considered that the effects of Traffic and Transport on the surrounding population and human health will be direct, long term, neutral and not significant.

4.5.2.7 General Amenity and Tourism

Once operational, the Proposed Development will have a number of positive effects on general amenity and tourism. The operation stage will fully support the policies and objectives outlined in the WCDP (2022), and the County Wexford Tourism Strategy 2019-2023, detailed in section 4.3.7, to promote the development of tourism within Kilmore Quay and County Wexford overall.

The Proposed Development will contribute to augmented tourist numbers in the area providing a wide range of local employment opportunities both directly and indirectly in the Kilmore Quay and Wexford region. Furthermore, the Proposed Development will offer services such as leisure facilities and additional experiences that will enhance daily life for the community as outlined in the Tourism Benefit Statement submitted as part of this application.

It is therefore anticipated that there will be a long term, significant positive effect on general amenity and tourism in the local area associated with the Proposed Development.

4.5.2.8 Landscape and Visual Impact

The potential landscape and visual effects of the Proposed Development are fully assessed in Chapter 10 of this EIAR. The Proposed Development has the potential to cause visual impact during the operational phase. The site is currently a greenfield site. The surrounding area is predominantly agriculture to the north and east, with the coastal foreshore to the south and residential to the west.

As detailed in Chapter 10, when the proposed landscaping matures, the larger growing tree species such as oak, alder and pine can be expected to grow in this coastal location to significant heights of approximately 10-15m and will grow to be significant landscape features that will counterbalance the tallest part of the Proposed Development. The smaller growing tree species can be expected in this coastal location to reach 5-10m in height and will counterbalance the smaller scale parts of the Proposed Development.

A range of high-quality public and communal open spaces have been included in the landscape design for the recreational and amenity requirements of guests staying in the hotel and for the wider community. This, in conjunction the pedestrian / cycle links provided through the site, will enhance the amenity of Kilmore Quay village.

The Proposed Development will make a positive contribution to the surrounding area by developing a key underutilised site and providing a high-quality integrated tourism resort complex.

The effect of the Proposed Development on landscape in relation to Population and Human Health will be negligible, neutral, and long term for the operational phase.

4.5.3 Potential Cumulative Effects

Cumulative effects are defined as “The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.” (EPA, 2022). Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

The list of cumulative schemes has been detailed in Chapter 2. Cumulative effects are summarised below.

Table Error! No text of specified style in document.-13 Cumulative Assessment

Topic	Description
Population demographics	The cumulative schemes along with the Proposed Development will result in an increase in the number of people in the surrounding area through construction and operational employees, future residents, future tourists and service users (creche, retail, commercial, café). At this stage the number of future residents and tourists has not been accurately estimated. The cumulative effects on population demographics will be neutral, moderate and long term.
Socio-economic	The Proposed Development in combination with existing and approved developments will continue to support the local economy both directly and indirectly through job creation and continued support of existing businesses. The cumulative effects on the socio-economic status of the surrounding area will be both direct and indirect, short to long term and positive.
Water quality, air quality and climate, noise and vibration, traffic and transport, Landscape and visual impact	Cumulative effects relating to hydrology (water quality), noise and vibration, air quality and climate and traffic and transport have been assessed in their respective chapters. It is expected that the control and mitigation measures implemented through the Proposed Development combined with those associated with the cumulative schemes will ensure there are no direct or indirect, long term, adverse, major / significant effects on population and human health.

4.5.4 “Do Nothing” Effect

If the Proposed Development were not to proceed, the site would remain as a greenfield site and there would be no immediate effect on the existing population, or economic activity for

residents living in the area. There would be no positive effect on the socio-economic environment and local employment in the Kilmore area and surrounds. Furthermore, the area would not attract volumes of tourists or visitors, nor would it benefit from the associated utilisation of local services and amenities. This would be an under-utilisation of serviceable lands from a planning and development perspective.

4.6 Avoidance, Remedial & Mitigation Measures

4.6.1 Construction Phase

No specific mitigation measures are required during the construction phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

4.6.2 Operational Phase

No specific mitigation measures are required during the operational phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

4.6.3 “Worst Case” Scenario

A worst-case scenario could occur in the event that mitigation measures fail to minimise and / or prevent potential adverse effects. Although there are no specific mitigation measures relating to population and human health, the following possibilities may occur where mitigation measures fail in relation to air quality, noise and traffic.

- An increase in the production of dust that can be carried throughout the site and create adverse effects on the neighbouring environment.
- An increase in noise caused during the operational phase can cause a disturbance any residential dwellings in close proximity to the site.
- An increase of traffic within the surrounding roads and junctions of the site.

However, it is imperative that such mitigation measures are implemented to ensure that the worst-case scenario does not occur. When considering the mitigation measures that will be in place, the event of a worst-case scenario is deemed to be unlikely.

4.7 Residual Effects

Residual effects are defined as

‘The degree of environmental change that will occur after the proposed mitigation measures have taken effect.’ (EPA, 2022). No negative residual effects in the context of population and human health are anticipated regarding this Proposed Development.

It is considered that the Proposed Development will have a positive residual effect on population and socioeconomic aspects securing future employment and contributing positively to economic activity for residents living in the area.

4.8 Monitoring

4.8.1 Construction Phase

No specific monitoring measures are required during the construction phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

4.8.2 Operational Phase

No specific monitoring measures are required during the operational phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

4.9 Interactions

4.9.1 Hydrology- Water Quality

Pollution events can impact the water quality and thus impact the human health of the surrounding population. Appropriate surface water control measures will be implemented as part of the Proposed Development. No public health issues associated with the water conditions at the site have been identified for the construction phase or operational phase of the Proposed Development. There are no likely significant adverse effects as a result of Hydrology and as such there will be no significant effects on population and human health. Hydrology has been fully assessed in Chapter 7 of this EIAR.

4.9.2 Air Quality and Climate

Interactions between air quality and climate, and population and human health have been considered as the operational phase has the potential to cause health issues as a result of effects on air quality from dust nuisances and potential traffic derived pollutants. Chapters 8a and 8b note that the effect of the Proposed Development on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long term. Traffic-related pollutants which may affect population and human health have been deemed as having an overall insignificant effect therefore will not have a significant effect on population and human health.

4.9.3 Noise and Vibration

Construction activities such as site clearance, building construction works, and trucks and vehicles entering and exiting the site have the potential to interact with the surrounding population and human health and cause noise disturbance. The impact assessment of noise and vibration has concluded that additional noise associated with the construction and operational phase will not cause a significant adverse effect.

Operational phase noise effects have also been assessed in relation to traffic and plant equipment and no significant adverse effects will be experienced. As such, there will be no significant effect on population and human health.

4.9.4 Traffic and Transport

Construction and operational activities will result in an increased number of traffic movements. There is a potential effect on population and human health in relation to the capacity and operation of the surrounding road network. The overall effect of the Proposed Development on the transportation infrastructure in the local area will not be significant and subsequently there will be no significant effect on population and human health.

4.9.5 Landscape and Visual

The Proposed Development will alter the visual appearance of the site which is predominantly a greenfield site. It is not considered that the Proposed Development by virtue of its visual appearance will cause any significant effects and as such there will be no significant effect on population and human health.

4.10 Difficulties Encountered When Compiling

Overall, there were no difficulties encountered when compiling this Chapter of the EIAR. All research was conducted through a desktop study.

4.11 References

The Central Statistics Office (CSO) 2022

Wexford County Development Plan 2022-2028;

The Regional Planning Guidelines of the Greater Dublin Area 2010-2022

Ordinance Survey Ireland (OSI)

WHO. Ottawa Charter for Health Promotion First International Conference on Health Promotion Ottawa, 21 November 1986 - WHO/HPR/HEP/95.1. 1986.

WHO. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. 1946.

Healthy Ireland Framework 2013-2025

Fáilte Ireland 2023a Fáilte Ireland Annual Report 2023. Accessed online:
<https://online.flippingbook.com/view/100577959/>. Date Accessed:18.03.2025

Fáilte Ireland 2023b Fáilte Ireland TOURISM FACTS 2019: Ireland's Ancient East. Accessed online:
https://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/2_Regional_SurveysReports/IAE-Tourism-Facts-FINAL.pdf?ext=.pdf Date accessed: 18.03.2025

Farrell, C., McAvoy, H., Wilde, J. and Combat Poverty Agency (2008), Tackling Health Inequalities – An All-Ireland Approach to Social Determinants. Dublin: Combat Poverty Agency/Institute of Public Health in Ireland.

Wilkinson, Richard; Marmot, Michael, eds. (2003). The Social Determinants of Health: The Solid Facts (PDF) (2nd ed.). World Health Organization Europe.

Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Communities 1999).

RECEIVED: 05/08/2025

5 BIODIVERSITY

5.1 Introduction

DNV was commissioned by Stephen Carr Architects on behalf of Robert Roche to undertake an Ecological Impact Assessment (EclA) incorporated into a Biodiversity Chapter in relation to a Proposed Hotel Development, entitled 'Kilmore Quay Integrated Tourism Resort Complex' in Kilmore Quay, Co. Wexford, hereafter referred to as 'Proposed Development' or 'Site' when referring to the site area of the Proposed Development.

This Biodiversity Chapter assesses the potential effects of the Proposed Development on habitats and species; particularly those protected by national and international legislation or considered to be of particular nature conservation importance on or adjacent to the Site. This report will describe the ecology of the Site, with emphasis on habitats, flora and fauna, and will assesses the potential effects of the Construction and Operational Phases of the Proposed Development on these ecological receptors. The report follows Guidelines for Ecological Impact Assessment in the UK and Ireland, by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2024) and supplemented by the National Roads Authority (2009) guidelines for Assessment of Ecological Impacts of National Road Schemes. The purpose of this Chapter is to:

- Set out the methodologies used to inform the assessment.
- Identify Key Ecological Receptors (KERs) within the Zone of Influence (ZOI).
- Assess the impacts from the Proposed Development on the KERs and the resulting significant effects.
- Set out measures to avoid or mitigate negative effects.
- Assess the residual effects after the incorporation of agreed avoidance or mitigation measures to ensure legal compliance.
- Set out agreed measures to offset significant residual effects.
- Set out opportunities for ecological enhancement.

5.1.1 Quality Assurance and Competency of Experts

DNV is a multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

DNV as a company remains fully briefed in European and Irish environmental policy and legislation. DNV staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. Alice Clarke, Ecologist with DNV authored this report and Bryan Thompson, Nicola Byrne, Yumi Mhara, William Stapleton, Alice Clarke and Brian McCloskey, Ecologists with DNV undertook the field surveys for this Report.

Alice Clarke is a skilled general ecologist with five years' experience; she is an Associate member of CIEEM (ACIEEM) with an MSc in Ecological Management and Conservation

Biology from Queen's University Belfast. Alice has a wealth of experience authoring and reviewing Screenings for Appropriate Assessment (AA), Natura Impact Statements (NIS), Ecological Impact Assessments (EclA) and Biodiversity Chapters for Environmental Impact Assessment Reports (EIAR). Subsequently, she is very familiar with the process of ecological assessment and the relevant legislation. She is knowledgeable in a range of survey techniques, including bats, mammals, birds, amphibians, invasive species and habitat surveys.

Bryan Thompson has two years' experience in Environmental Consultancy. Bryan has a B.Sc. in Environmental Biology (Hons) and a PhD in Marine Ecology from University College Dublin, and a wealth of experience in desktop research, literature scoping-review and report writing as well as practical field experience (Habitat surveys, intertidal surveys, winter bird surveys, bat surveys, vantage point surveys and non-volant mammal surveys). Bryan has experience in compiling Biodiversity Chapters of Environmental Impact Assessment Reports (EIARs), AA screening and Natura Impact Statement (NIS) reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments.

Brian McCloskey is an Ecologist and experienced Ornithologist with 14 years of bird survey experience. He is a longstanding and active member of Bird Watch Ireland and has provided Ornithology survey work for ecological consultancies, e.g., vantage points surveys of gulls, terns, raptors, waders and wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds. BMCC is highly experienced with all survey methodologies and with surveying all species groups of Irish birds and migrants.

Nicola Byrne is an Ecologist with DNV, with a B. Sc. (Hons) in Microbiology, an M. Sc. (Hons) in Environmental Microbiology from NUI, Galway and an M. Sc. (Hons) in Biodiversity and Conservation from Trinity College, Dublin. Her experience includes coordinating phytoplankton and zooplankton surveys in the Aquaculture Industry and coordinating research in Teagasc Food Research Centre. She has experience in laboratory management and university teaching, having coordinated and delivered material to a master's Microbiology course in University College Dublin. Nicola has extensive experience completing mammal, habitat, and invasive species surveys, as well as in desktop research, including the production of peer reviewed publications, grant proposals, literature reviews and ecological/environmental reports.

Yumi Mhara is an Ecologist with DNV and has a B.Sc. in Botany from Tokyo University of Agriculture and a M.Sc. in Botany from Hokkaido University. Yumi has practical field experience and provided flora surveys, rare and protected plant species surveys, phytosociological vegetation surveys, habitat assessments/mapping and invasive species surveys. She has prepared several reports for AA screening, habitat assessment and Invasive Species Management Plan. Yumi is also a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

William Stapleton is a near-graduate UCD Environmental Science Masters student and was a postgraduate student intern at DNV from June until September of 2024. William has training in ecological assessment, GIS, ecology, and environmental engineering. This training is coupled with experience working in the UCD Energy Institute and UCC Biological, Earth and Environmental Sciences school. William excels in client interactions and hold a first-class honours undergraduate degree in Psychology from Trinity College Dublin, as well as undergraduate certificates in innovation and entrepreneurship. He has excellent

organisational, analytical and report writing skills, honed during his time working in academia, non-governmental organisations, and the private sector.

5.1.2 Relevant Legislation and Policy Context

An ecological impact assessment is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species and ecosystems (CIEEM, 2018). The Proposed Development is sub-threshold for an Environmental Impact Assessment (EIA) under the Planning and Development Regulations 2001-2023, as amended.

When an EcIA is undertaken as part of an EIA process it is subject to the EIA Regulations (under the Planning and Development Regulations 2001-2023). An EcIA is not a statutory requirement, however it is a best practice evaluation process. This EcIA is provided to assist the Competent Authority with its decision making in respect of the Proposed Development.

There is a number of pieces of legislation, regulations and policies specific to ecology which underpin this assessment. These may be applicable at a European, National or Local level. Legislation at the International level relevant to the Proposed Development are listed below:

- *Council Directive 92/43/EEC* on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter the 'Habitats Directive'.
- *Directive 2009/147/EEC*, hereafter the 'Birds Directive'.
- *Directive 2011/92/EU*, hereafter the 'EIA Directive'.
- EU Regulation 1143/2014, on Invasive Alien Species.
- *Convention on the Conservation of European Wildlife and Natural Habitats 1982*, hereafter the 'Bern Convention'.
- *The Convention on the Conservation of Migratory Species of Wild Animals 1983*, hereafter the 'Bonn Convention'.
- *Ramsar Convention on Wetlands 1971*, hereafter referred to as 'Ramsar'.
- *Water Framework Directive 2000/60/EC*, hereafter the 'WFD'.

National legislation and policy relevant to the Proposed Development are listed below:

- Wildlife Act 1976, as amended in 2000.
- Flora (Protection) Order 2022.
- The Planning and Development Act 2000 as amended.
- National Biodiversity Plan 2023-2030.

Additionally, Natural Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of Conservation (SAC) and/or Special Protection Area (SPA) sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

Local plans and policies relevant to the Proposed Development are listed below:

- Wexford County Development Plan 2022-2028
- Wexford Biodiversity Action Plan (BAP) 2013-2018 (Present)

Further details on legislation and policy relevant to the Proposed Development are detailed in Appendix I.

5.2 Study Methodology

This Biodiversity Chapter has been undertaken to support and assess the Proposed Development planning application and assesses the potential impacts that the Proposed Development may have on the ecology of the Site and its environs. Where potential for a risk to the environment is identified, mitigation measures are proposed on the basis that by deploying these mitigation measures the risk is eliminated or reduced to an insignificant level.

This section details the steps and methodology employed to undertake an ecological impact assessment of the Proposed Development.

5.2.1 Scope of Assessment

The specific objectives of the study were to:

- Undertake baseline ecological surveys and evaluate the nature conservation importance of the Site;
- Identify and assess the direct, indirect and cumulative ecological implications or impacts of the Proposed Development during its lifetime; and
- Where possible, propose mitigation measures to remove or reduce significant effects at the appropriate stage of the Proposed Development.

5.2.2 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources pertaining to the Site's natural environment. The desk study, completed in December 2023 and updated in November 2024 and June 2025, relied on the following sources:

- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at maps.biodiversityireland.ie;
- Information on Floral Protection Order (FPO) Bryophytes database at dahq.maps.arcgis.com;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at gis.epa.ie;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at www.gsi.ie;
- Information on the network designated conservation sites, site boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at www.npws.ie;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland;
- Information on the existence of permitted development, or developments awaiting decision, in the vicinity of the Proposed Development from the National Planning Application Database available at: <https://housinggov.ie/maps/arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de>; and

- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team.

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 7, References.

5.2.2.1 Bats

The Bat Conservation Ireland Landscape Suitability Model (Lundy *et al.*, 2011) provides a habitat suitability index for bat species across Ireland. The model divides the country into grid squares and ranks the habitat within the squares according to its suitability for various bat species. The scores are divided into five qualitative categories of suitability, namely:

- 0.0000000 - 13.000000: Low.
- 13.000001 - 21.333300: Low – Medium
- 21.333301 - 28.111099: Medium
- 28.111100 - 36.444401: Medium – High
- 36.444402 - 58.555599: High

Additionally, the NBDC website (www.nbdc.ie) was also interrogated for historical records of bats within the R55 10km grid square. According to Collins (2023), Irish bats typically have a Core Sustainance Zone (CSZ) of under 5km. A CSZ is defined as “*the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost*”. A study by Sheil *et al.*, (1999) found Leisler’s bats (*Nyctalus leisleri*) had a maximum foraging range of 13.4km. A similar study by Waters *et al.*, (1999) found Leisler’s bats flew a mean maximum distance of 4.2km from the roost. The NBDC database offers a maximum search range of 10km. Therefore, this distance was chosen as the most suitable range to assess the effects on bat foraging and commuting.

5.2.2.2 Zone of Influence

The ZOI for a project is the area over which ecological features may be affected by changes as a result of the Proposed Development and associated activities. This is likely to extend beyond the development site, for example where there are ecological or hydrological links beyond the site boundaries (CIEEM, 2024). The ZOI will vary with different ecological features, depending on their sensitivities to an environmental change.

Furthermore, ZOI in relation to European sites is described as follows in the ‘OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management’ (OPR, 2021):

“The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km).”

5.2.2.3 Identification of Relevant Designated Sites

To determine the ZOI of the Proposed Development for designated sites, reference was made to the OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management’ (OPR, 2021), a practice note produced by the Office of the Planning Regulator,

Dublin. This note was published to provide guidance on screening for AA during the planning process, and although it focuses on the approach a planning authority should take in screening for AA, the methodology is also readily applied in the preparation of EclA reports such as this to identify all relevant designated sites potentially linked to the Proposed Development.

As noted above, the most recent guidance advises against the use of arbitrary distances that serve as precautionary ZOI (e.g., 15km), and instead recommends the application of the Source-Pathway-Receptor (S-P-R) model in the identification of designated sites, stating that *"This should avoid lengthy descriptions of European sites, regardless of whether they are relevant to the proposed development, and a lack of focus on the relevant European sites and issues of importance"*. Although this statement refers to European sites, it is also applicable to other designated sites.

Thus, the methodology used to identify relevant designated sites comprised the following:

- Identification of potential sources of effects based on the Proposed Development description and details;
- Identification of potential pathways between the Site of the Proposed Development and any designated sites within the ZOI of any of the identified sources of effects.
 - Water catchment data from the EPA (www.epa.ie) were used to establish or discount potential hydrological connectivity between the Proposed Development and any designated sites.
 - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any designated sites.
 - Air and land connectivity assessed based on Proposed Development details and proximity to designated sites.
 - Consideration of potential indirect pathways, e.g., effects to flight paths, *ex-situ* habitats, etc.
- Review of Ireland's designated sites to identify those sites which could potentially be affected by the Proposed Development in view of the identified pathways, using the following sources;
 - European sites and nationally designated sites (e.g., NHAs and pNHAs) from the NPWS (www.npws.ie);
 - Ramsar sites from the Irish Ramsar Wetland Committee (<https://irishwetlands.ie/irish-sites/>);
 - Other internationally designated sites e.g., UNESCO Biospheres; and
- Regional development plans to identify any remaining sites or areas designated for nature conservation at a local level.

5.2.3 Field Surveys

To determine the likely ecological constraints at the Site, a multidisciplinary walkover survey was carried out on the 5th of December 2023 and updated on the 7th of June 2024. This survey covered the following aspects:

- Habitat mapping to level 3 (Fossitt 2000)
- Preliminary Bat Roost Assessment and Habitat Suitability Survey
- Bird Scoping Survey
- Invasive Flora Survey
- A search for signs of protected fauna (e.g., mammals, reptiles, amphibians)

Details of the survey methods are given in the below sections.

5.2.3.1 Habitats and Invasive Flora

Habitat surveys of the Site were conducted by DNV on the 5th of December 2023 and updated in June 2024. Habitats were categorised according to the Heritage Council's '*A Guide to Habitats in Ireland*' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2010) published by the Heritage Council. The habitats at the Site were also assessed for their potential to support protected and/or notable fauna.

In addition, the Site was searched for invasive flora with a particular focus on those listed on the Third Schedule of SI No. 477/2011, and their location and extent recorded.

5.2.3.2 Bats

5.2.3.2.1 Preliminary Habitat and Roost Suitability

A daytime inspection of the Site was undertaken on the 5th of December 2023. The aim of the inspection was to search for indication of the presence of roosting bats, and to assess the habitat for its ability to support commuting and foraging bats. Buildings and trees on Site were visually assessed from the ground with the aid of a torch and binoculars.

The roost inspection comprised a detailed inspection of structures and trees on Site. These were subject to exterior and interior inspections (where possible) to search for evidence of bat use. This includes live and dead specimens, droppings, feeding remains, oil staining and noise (Collins 2023). Buildings were assessed for cracks and crevices, or entry points to the roof that might support roosting bats, while trees were searched for Potential Roosting Features (PRFs) such as hollow trunks, knot holes, peeling bark, splits, cracks, and crevices (Collins 2023; Andrews 2018).

Collins (2023) recommends that structures and trees are assessed for their ability to support roosting bats under separate categorisations using professional judgement and sub-categories as presented in Table 4.1 (Collins, 2023):

- Negligible – No suitable features observed, however, a small element of uncertainty remain;
- Low – A structure with one or more roost features as used by individual bats opportunistically at any time of year;

- Moderate – A structure with one or more roost features that could be used by bats on a regular basis or by a larger number of bats; and
- High – A structure with one or more roost features that are obviously suitable for use by a larger number of bats on a regular basis, and potentially for longer periods of time. These features have the potential to support high conservation status roosts.

Trees are categorized separately according to Table 4.2 of Collins (2023). These classifications are:

- NONE – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree; and
- PRF – A tree with at least one PRF present.

Where a tree contains at least one PRF, each PRF is further assessed according to Table 6.2 (Collins 2023). PRFs are scored as either:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.



FIGURE 5-1. LOCATIONS OF BUILDINGS SURVEYED FOR ROOSTING POTENTIAL AT THE SITE

5.2.3.2.2 Bat Roost Surveys

Three emergence surveys were conducted at the Site, focused on the cluster of four derelict buildings, as seen in Figure 5-1 above, on the 7th of June 2024, the 17th of August 2024 and

the 3rd of September 2024 in accordance with best practice guidelines as outlined by the Bat Conservation Trust (Collins, 2023).

The surveys were conducted by experienced surveyors who were situated in locations that gave good views of the PRFs identified within the Site. The methodology of the emergence/re-entry surveys followed best practice guidelines (Collins, 2023 and Marnell et al., 2022) with dusk surveys commencing 15 minutes before sunset and lasting until approximately 1.5 hours after sunset. Details of the date, times and weather conditions are presented below in Table 5-1.

TABLE 5-1. SURVEY EFFORT FOR DUSK EMERGENCE SURVEYS UNDERTAKEN AT THE SITE

Survey no.	Date	Sunset Time	Start Time	Finish Time	Weather Conditions
Survey 1	07/06/2024	21:44	21:29	23:00	12°C, no rain, cloud cover 2/4, wind speed: 2m/s
Survey 2	17/08/2024	20:46	20:31	22:01	17°C, no rain, cloud cover 1/4, wind speed: 0.5m/s
Survey 3	03/09/2024	20:08	19:53	21:20	14-15°C; no rain; cloud cover: 3/4; wind speed: 2m/s.

5.2.3.2.3 Bat Activity Surveys

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The surveys were undertaken to best practice guidance (Collins, 2023 and Marnell et al., 2022) during times of suitable weather conditions, as detailed below in Table 5-2. Transect surveys were undertaken on the same dates as the emergence surveys; commencing after or just before the end of the emergence surveys as per best practice guidance, which states that while surveyors should be on-Site at sunset, walking surveys should not commence until up to an hour after sunset (Collins, 2023).

TABLE 5-2. SURVEY EFFORT FOR DUSK ACTIVITY SURVEYS UNDERTAKEN AT THE SITE

Survey no.	Date	Sunset Time	Start Time	Finish Time	Weather Conditions
Survey 1	07/06/2024	21:44	22:30	23:30	12°C, no rain, cloud cover 2/4, wind speed: 2m/s
Survey 2	17/08/2024	20:46	21:14	22:41	17°C, no rain, cloud cover 1/4, wind speed: 0.5m/s
Survey 3	03/09/2024	20:08	20:38	21:45	14-15°C; no rain; cloud cover: 3/4; wind speed: 2m/s.

The surveyor was equipped with a Elekon Batlogger M2 detector and powerful L.E.D. torch and head torches. Surveys started at sunset and continued for 1-2 hours, along a predesigned transect route with regular point counts, as presented in Figure 5-2 below.

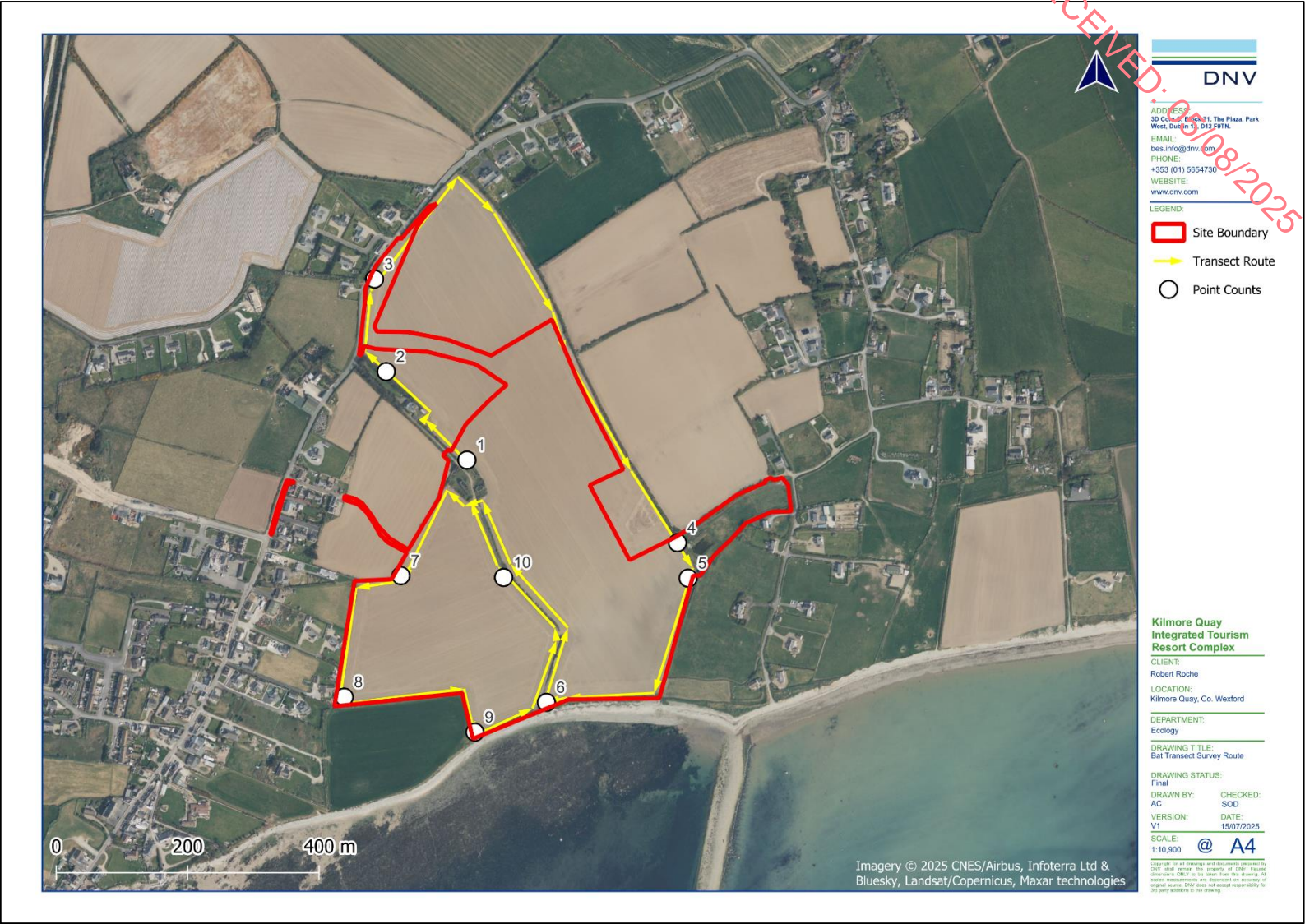


FIGURE 5-2. BAT TRANSECT SURVEY ROUTE AND POINT COUNT LOCATIONS

5.2.3.2.4 Data Analysis

Species were identified from recordings using Elekon's BatExplorer software (Version 2.1.10.1) and Kaleidoscope Pro software. Bat data was analysed, and species assigned to each record with reference to species identification guides such as Russ (2012).

Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some bats such as *Pipistrelle* species may continuously fly around a habitat or feature, therefore, it is possible that a series of bat passes within a similar time frame is representative of an individual bat. On the other hand, Leisler's bats (*Nyctalus leisleri*) tend to travel through an area quickly, and as such, an individual sequence or bat pass is more likely to be indicative of individual bats.

5.2.3.3 Birds

The survey methodology employed was based on that recommended in standard literature used by for example the British Trust for Ornithology (BTO) (Gillings et al, 2007; Bibby et al, 1992 and Gilbert et al, 1998), which has subsequently been adapted into guidelines for ecological consultants by the Bird Survey & Assessment Steering Group. (2022). During the surveys, the Site was walked slowly, approaching all habitat within and adjacent to the Proposed Development and scanning and listening for birds. The locations of birds seen and heard were mapped using standard BTO codes and activity symbols.

5.2.3.3.1 Bird Scoping Survey

A bird scoping survey was carried out on the 5th of December 2023 to scope out the breeding and non-breeding bird potential at the Site based on habitats. Additionally, all bird species encountered during the survey were recorded and activity noted where possible.

The survey methodology employed was based on that recommended in standard literature used by for example the British Trust for Ornithology (BTO) (Gillings et al, 2007; Bibby et al, 1992 and Gilbert et al, 1998), which has subsequently been adapted into guidelines for ecological consultants by the Bird Survey & Assessment Steering Group (2022). During the surveys, the Site was walked slowly, approaching all habitats within and adjacent to the Proposed Development and scanning and listening for birds.

5.2.3.3.2 Breeding Bird Surveys

To inform an evaluation of the on-site habitats for bird species, three breeding bird survey visits were undertaken on a monthly basis between April and June 2024. All survey visits to the Site were completed in the early morning, commencing at or near dawn and lasting approximately 1.5 to 2.5 hours in duration. Survey dates and weather conditions are presented below in Table 5-3.

TABLE 5-3. DATES, DURATION AND WEATHER CONDITIONS DURING THE BREEDING BIRD SURVEYS AT THE PROPOSED DEVELOPMENT SITE.

Date	Duration (Hrs)	Weather Conditions
11/04/2024	3	Wind: F5; Light drizzle; 12°C; Visibility: good-excellent; Cloud: 4/4
28/05/2024	3	Wind: F3; no rain; 14°C; Visibility: excellent; Cloud: 2/4

27/06/2024	3	Wind: F5; no rain; 16°C; Visibility: excellent; Cloud: 3/4 – 4/4
------------	---	--

5.2.3.3.3 Wintering Bird Surveys

To inform an evaluation of the on-site habitats for wintering bird species, six bird survey visits were undertaken on a bi-monthly basis between December 2024 and February 2025. The surveys were carried out in suitable weather conditions and within daylight hours. Each transect lasted up to 3 hours in length. The transect routes were reversed during each visit in order to reduce the potential for time bias. Details of dates, weather conditions and timings are presented below in Table 5-4.

TABLE 5-4. DATES, DURATION AND WEATHER CONDITIONS DURING THE WINTERING BIRD SURVEYS AT THE PROPOSED DEVELOPMENT SITE.

Date	Duration (Hrs)	Weather Conditions
05/11/2024	3	Wind: F4; No rain; 15°C; Visibility: Excellent; Cloud: 100%
19/11/2024	2.5	Wind: F3; No rain; 5°C; Visibility: Excellent; Cloud: 50%
11/12/2024	2.5	Wind: F3; No rain; 7°C; Visibility: Excellent; Cloud: 100%
03/01/2025	2.5	Wind: F2; No rain; 3°C; Visibility: Excellent; Cloud 25%
15/01/2025	2	Wind: F3; No rain; 10°C; Visibility: Excellent; Cloud: 25%
07/02/2025	3	Wind: F5; No rain; 6°C; Visibility: Excellent; Cloud: 100%

5.2.3.4 Mammal Surveys

A systematic search for signs of badgers (*Meles meles*) was conducted on 5th of December 2023. Furthermore, any incidental observations of evidence for badgers were recorded whenever on Site. The surveys followed standard guidelines (Harris, Cresswell & Jeffries, 1989 and NRA, 2005) and included a thorough search for setts or for signs of badger activity, including tracks, latrines, hairs and snuffle holes.

All waterbodies and adjacent habitats within 150m of the Site were assessed for the presence of otter (*Lutra lutra*) and for the suitability to support otters. This involved searching for associated field signs, such as spraints, footprints, anal jelly, holts and couches to best practice guidelines (NRA, 2008). A particular focus was placed on the wet drainage ditch along the eastern boundary of the Site, as well as a check along Saltee beach to the south of the Site.

5.2.3.5 General Faunal Surveys

A general fauna survey of the Site was carried out in conjunction with the other field surveys on the 5th of December 2023 and updated on 7th of June 2024. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area, such as reptiles or amphibians (as per HGBI, 1998). Furthermore, the Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and the National Road Authority (NRA, 2005). This survey considers protected or notable fauna that may occur within the Site or in the adjacent lands, but for which no historical records from the relevant grid square exist or no targeted surveys were carried out.

5.2.4 Ecological Assessment

This Biodiversity Chapter has been undertaken following the methodology set out in Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018); and with reference to the National Roads Authority 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009) and the Environmental Protection Agency (EPA) 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (EPA, 2022) and BS 42020:2013 Biodiversity: Code of practice for planning and development (BSI, 2013).

The evaluation of significant effects should be based on available scientific evidence. Based on the precautionary principle, if the available information is not sufficient, then a significant effect may be assumed likely to occur.

5.2.4.1 Evaluation of Ecological Features

The value of the ecological features, i.e., the habitats and species present or potentially present, was determined using the ecological evaluation at different geographical scales (NRA, 2009), presented in Appendix II. This evaluation scheme, with values ranging from locally important to internationally important, seeks to provide value ratings for habitats and species present that are considered ecological receptors of impacts that may ensue from a proposal. Based on best practice (CIEEM, 2018), any features considered to be less than of local value are not assessed within this EclA.

5.2.4.2 Impact Assessment

As per the NRA guidelines, impact assessment is only undertaken of Key Ecological Receptors (KERs). The assessment of the potential impact of the Proposed Development on the identified KERs was carried out with regard to the criteria outlined in the EPA Guideline (EPA, 2022), presented in Appendix III. These guidelines set out a number of parameters that should be considered when determining which elements of the Proposed Development could constitute impact or sources of impacts. These include;

- Positive, neutral or negative effect;
- Significance;
- Extent;
- Probability;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process, or feature, e.g., the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to an adverse effect of a sensitive habitat.

5.2.4.3 Assessment of Cumulative Impacts and Effects

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a Proposed Development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Relevant plans and policies (see section 5.1.2) were reviewed to identify any potential for negative cumulative impacts with the Proposed Development. Additionally, existing planning permissions from the past five years (from 2018 onwards) within the ZOI of the Proposed Development were reviewed, with particular focus on potential cumulative impacts on the identified KERs. Long-term developments were also considered where applicable.

5.2.4.4 Avoidance, Mitigation, Compensation and Enhancement Measures

Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM Guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement. When seeking mitigation or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

It is important for the EcIA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g., through changes in scheme design. In practice, avoidance measures are typically implemented during the design stage via discussions and re-design (e.g., avoiding a sensitive habitat by relocating a building). Avoidance measures are therefore rarely reported within an EcIA, which focuses on assessing the final design.
- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ.
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible.
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.

5.2.5 Limitations

Every effort has been made to provide a comprehensive description of the site; however, the following specific limitations apply to this assessment:

- An extensive search of available datasets for records of rare and protected species within proximity of the Proposed Development has been undertaken as part of this

assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.

RECEIVED: 05/08/2025

5.3 The Existing and Receiving Environment (Baseline Situation)

This section sets out the baseline conditions for the ecological features within the Site using the findings of the desk study and field surveys.

5.3.1 Geology, Hydrogeology and Hydrology

The Proposed Development at Kilmore Quay is located within the Kisha_SC_010 sub catchment, within the Ballyteige-Bannow catchment. The nearest mapped watercourse to the Proposed Development, namely the Ballyteige_Barrow_010 (IE_SE_13B330460) stream is located approx. 1.5km to the north. This watercourse is classified as being of 'Poor' quality for the survey period 2016-2021. However, it has also been highlighted that there is an unmapped wet ditch running along the eastern boundary of the Site in a southerly direction and discharging into the Irish Sea. As this wet ditch is unmapped and unmonitored, a water quality status is not available. There are no Q-values available for any of the watercourses within the vicinity (5km) of the Proposed Development. The Site is located directly north of the Eastern Celtic Sea coastal waterbody (IE_SE_050_0000), which lies downstream via the unmapped wet ditch along the eastern boundary of the Site.

The groundwater body underlying the Site is Bridgetown (IE_SE_G_022), classed as being of 'Good' water quality for the 2016-2021 survey period. The bedrock aquifer identified beneath the Site is mapped as "*Poor Aquifer – Bedrock which is Generally Unproductive except for Local Zones*" (PI). The Groundwater Vulnerability Rating assigned to groundwater beneath the northern portion of the Site is mapped as "*Low*" (L) beneath the Site (GSI, 2025).

The soil beneath the Site comprises "*Coarse loamy drift with siliceous stones*". The quaternary sediments beneath the Site are mapped as "*Till derived from Metamorphic Rocks*" (TMp) while the subsoils beneath the Site are similarly mapped as "*Metamorphic Till*" (TMp) (GSI, 2025).

The Waterbody Status for river, groundwater, transitional and coastal water bodies relevant to the Site as recorded by the EPA (2025) in accordance with European Communities (Water Policy) Regulations 2003 (SI no. 722/2003) are provided in Table 5-5.

TABLE 5-5. WFD RISK AND WATERBODY STATUS

Waterbody Name	Water body; EU code	Distance from Site (km)	WFD water body status (2016-2021)	WFD 3 rd cycle Risk Status	Hydraulic Connection to the Site
Surface Water Bodies					
Ballyteige-Bannow_010	IE_SE_13B330460	1.5km NW	Poor	Review	None
Coastal Water Bodies					
Eastern Celtic Sea	IE_SE_050_0000	14m S	High	Not at Risk	Downstream
Groundwater Bodies					
Bridgetown	IE_SE_G_022	N/A	Good	Not at Risk	Underlying groundwater-body

5.3.2 Designated Sites

All European sites potentially linked to the Proposed Development have been identified and fully assessed in the AA Screening Report (Stage 1 AA) and Natura Impact Statement (NIS)

(Enviroguide, 2025a) accompanying this submission under separate cover. A summary of the AA conclusions is given below in section 5.3.2.1.

Other nationally or internationally designated sites potentially linked to the Proposed Development are identified in section 5.3.2.2.

5.3.2.1 European Sites

The following is extracted from the AA Screening for this Site (Enviroguide, 2025a):

“The Proposed Development at Kilmore Quay, Co. Wexford has been assessed taking into account:

- *The nature, size and location of the proposed works and possible impacts arising from the Site during construction and operation.*
- *The QIs and conservation objectives of the European sites.*
- *The potential for in-combination effects arising from other plans and projects.*

*In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that the possibility **cannot be excluded** that the Proposed Development will have a significant effect on any of the European sites listed below:*

- *Seas off Wexford SPA (004237);*
- *Saltee Islands SAC (000707);*
- *Saltee Islands SPA (004002);*
- *Ballyteige Burrow SAC (000696); and,*
- *Ballyteige Burrow SPA (004020).*

*On the basis of the screening exercise carried out above, it can be concluded, on the basis of the best scientific knowledge available and objective information, that the possibility of any significant effects on the above five listed European sites, whether arising from the project itself or in combination with other plans and projects, **cannot be excluded** in light of the above listed European sites’ conservation objectives. Thus, **there is a requirement to proceed to Stage 2 of the Appropriate Assessment process; and a NIS has been prepared and accompanies this submission under separate cover**”.*

The following is extracted from the Natura Impact Statement (NIS) for the Site:

“This Natura Impact Statement details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential direct and indirect impacts of the Construction and Operational Phases of the Proposed Development on the following European sites:

- *Saltee Islands SAC (000707);*
- *Saltee Islands SPA (004002);*
- *Ballyteige Burrow SAC (000696);*
- *Ballyteige Burrow SPA (004020); and*
- *Seas off Wexford SPA (004237).*

The above sites were identified by a screening exercise that assessed likely significant effects of a range of impacts that have the potential to arise from the Proposed Development. The Appropriate Assessment investigated the potential direct and indirect effects of the proposed

works, during the Construction Phase, on the integrity and qualifying interests of the above European Site, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives. There is no potential for significant effects during Operation.

Where potentially significant effects were identified, a range of mitigation and avoidance measures have been suggested to avoid them. This NIS has concluded that, once the avoidance and mitigation measures are implemented as proposed, the Proposed Development will not have an adverse effect on the integrity of the above European sites, individually or in combination with other plans and projects. Where applicable, a suite of monitoring surveys has been proposed to confirm the efficacy of said measures in relation to ensuring no adverse impacts on the habitats of the relevant European sites have occurred.

As a result of the complete, precise and definitive findings in of this NIS, it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of Saltee Islands SAC (000707), Saltee Islands SPA (004002), Ballyteige Burrow SAC (000696), Ballyteige Burrow SPA (004020) and Seas off Wexford (004237).

Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site”.

As such, European sites are not considered further within this Chapter.

5.3.2.2 Other Designated Sites

Potential impact pathways are discussed in the following sections in the context of the Proposed Development as described in section 5.2.2.2.

5.3.2.2.1 Hydrological Pathways

The nearest designated site is Ballyteige Burrow pNHA (000696) located c. 650m west of the Site of the Proposed Development, and overlaps entirely with the associated European sites, namely, Ballyteigue Burrow SAC and Ballytiegue Burrow SPA. As such, this pNHA can be screened out by proxy as per the screening decisions and mitigation measures outlined in the accompanying NIS (Enviroguide, 2025a). The potential for the propagation of effects via the hydrological pathway between the Proposed Development and the Irish Sea to two other nearby designated sites, namely Saltee Islands pNHA (000707) and Tacumshin Lake pNHA (000709) is considered to be insignificant, due to the assimilative capacity of the considerable marine buffer between the Proposed Development and these designated sites.

5.3.2.2.2 Hydrogeological Pathways

Potential discharges to ground could potentially migrate vertically downward to the underlying bedrock aquifer and laterally within the aquifer to the downgradient receiving surface waterbodies, i.e., the Irish Sea, contributing to the hydrological pathway to the Ballyteige Burrow pNHA (000696) downstream of the Site. However, given the Low productivity of the aquifer below the Site, the Low vulnerability of the aquifer, and Low permeability of the soil below the Site, it is not anticipated that any designated sites have the potential to be affected by accidental discharges or spills breaching the aquifer during Construction. Furthermore, even if there were the potential for impacts, given the overlap between this pNHA and the associated European sites (Ballyteigue Burrow SAC and Ballytiegue Burrow SPA), this pNHA

is screened out by proxy as per the accompanying NIS (Enviroguide, 2025a). There are no hydrogeological pathways between the Proposed Development and any designated sites during the Operational Phase.

5.3.2.2.3 Air/Land Pathways

The nearest designated site is located c. 650m west of the Site of the Proposed Development, and overlaps entirely with the associated European sites, namely, Ballyteigue Burrow SAC and Ballyteigue Burrow SPA. As such, this pNHA can be screened out by proxy as per the screening decisions and mitigation measures outlined in the accompanying NIS (Enviroguide, 2025a). The potential for the propagation of effects via an air/land pathway between the Proposed Development and Saltee Islands pNHA (000707) and Tacumshin Lake pNHA (000709) is considered to be insignificant, due to the separation distance (>3.5km).

5.3.2.3 Relevant Designated Sites

A designated site will only be at risk from likely significant effects where an S-P-R link of note exists between the Proposed Development and the designated site. All designated sites considered as part of the S-P-R method are listed in Table 5-6 and their relative location to the Site is shown in Figure 5-3. Those sites with notable S-P-R links to the Proposed Development are assessed further in this report as KERs of 'National Importance' (pNHAs and NHAs) or 'International Importance' (SACs/SPAs, UNESCO sites, Ramsar sites, etc.).

As no other designated sites (e.g., Ramsar sites) with notable S-P-R links to the Proposed Development were identified in the preceding steps, no further assessment of potential impacts on designated sites is required in this report.

TABLE 5-6. DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD TO ESTABLISH NOTABLE LINKS BETWEEN THE SOURCES OF EFFECTS ARISING FROM THE PROPOSED DEVELOPMENT AND ANY RELEVANT DESIGNATED SITES. THOSE SITES WITH NOTABLE S-P-R LINKS THAT ARE FURTHER ASSESSED IN THIS REPORT ARE HIGHLIGHTED IN GREEN (IF ANY).

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
Internationally Designated Sites			
Saltee Islands SAC (000707)	14m S	<ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide [1140] • Large shallow inlets and bays [1160] • Reefs [1170] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • Submerged or partially submerged sea caves [8330] • <i>Halichoerus grypus</i> (Grey Seal) [1364] 	Mitigation provided within NIS to include water quality protection measures, protection from (human) visual & noise disturbance to species and biosecurity measures to prevent the spread of invasive species.
Ballyteigue Burrow SAC (000696)	670m W	<ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Coastal lagoons [1150] • Annual vegetation of drift lines [1210] • Perennial vegetation of stony banks [1220] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) [1420] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] 	Mitigation provided within NIS to include water quality protection measures.

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		<ul style="list-style-type: none"> Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) [2150] Humid dune slacks [2190] 	
Seas off Wexford SPA (004237)	14m S	<ul style="list-style-type: none"> Red-throated Diver (<i>Gavia stellata</i>) [A001] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Gannet (<i>Morus bassanus</i>) [A016] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Common Scoter (<i>Melanitta nigra</i>) [A065] Mediterranean Gull (<i>Larus melanocephalus</i>) [A176] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Sandwich Tern (<i>Sterna sandvicensis</i>) [A191] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Little Tern (<i>Sterna albifrons</i>) [A195] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204] 	Mitigation provided within NIS to include water quality protection measures, protection from noise, light and other visual disturbance to species and biosecurity measures to prevent the spread of invasive species.
Saltee Islands SPA (004002)	3km S	<ul style="list-style-type: none"> Fulmar (<i>Fulmarus glacialis</i>) [A009] Gannet (<i>Morus bassanus</i>) [A016] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] Herring Gull (<i>Larus argentatus</i>) [A184] Kittiwake (<i>Rissa tridactyla</i>) [A188] Guillemot (<i>Uria aalge</i>) [A199] 	Mitigation provided within NIS to include water quality protection measures and protection from light disturbance to species.

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		<ul style="list-style-type: none"> Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204] 	
Ballyteigue Burrow SPA (004020)	1.9km W	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Wetland and Waterbirds [A999] 	Mitigation provided within NIS to include water quality protection measures and protection from (human) visual & noise disturbance to species.
Nationally Designated Sites			
Ballyteige Burrow pNHA (000696)	650m W	<p>The Conservation Objectives for this pNHA are not specified, and as such the QIs/SCIs for the overlapping Ballyteige Burrow SAC (000696) and Ballyteige Burrow SPA (004020) are referred to as outlined below:</p> <p>Habitats</p> <ul style="list-style-type: none"> Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] <i>Salicornia</i> and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] 	Yes. However, given the overlap between this pNHA and the associated European sites, this pNHA can be screened out by proxy as a result of the implementation of mitigation measures outlined within the accompanying NIS.

Site Name & Code (Receptor)	Distance to Site of Proposed Development	Designation Rationale / Site Description	Potential Pathway to receptors
		<ul style="list-style-type: none"> • Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocor-netea fruticosi</i>) [1420] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) [2150] • Humid dune slacks [2190] <p>SCI Birds</p> <ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] • Pintail (<i>Anas acuta</i>) [A054] • Teal (<i>Anas crecca</i>) [A052] • Wigeon (<i>Anas penelope</i>) [A050] • Mallard (<i>Anas platyrhynchos</i>) [A053] • Dunlin (<i>Calidris alpina</i>) [A149] • Ringed plover (<i>Charadrius hiaticula</i>) [A137] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130] • Black-headed gull (<i>Larus ridibundus</i>) [A179] • Red-breasted merganser (<i>Mergus serrator</i>) [A069] • Curlew (<i>Numenius aquata</i>) [A160] • Little tern (<i>Sterna albifrons</i>) [A195] • Redshank (<i>Tringa tetanus</i>) [A162] • Shelduck (<i>Tadorna tadorna</i>) [A048] • Golden Plover (<i>Pluvialis apricaria</i>) [A140] • Grey Plover (<i>Pluvialis squatarola</i>) [A141] • Lapwing (<i>Vanellus vanellus</i>) [A142] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] • Wetland and Waterbirds [A999] 	

RECEIVED: 05/08/2025

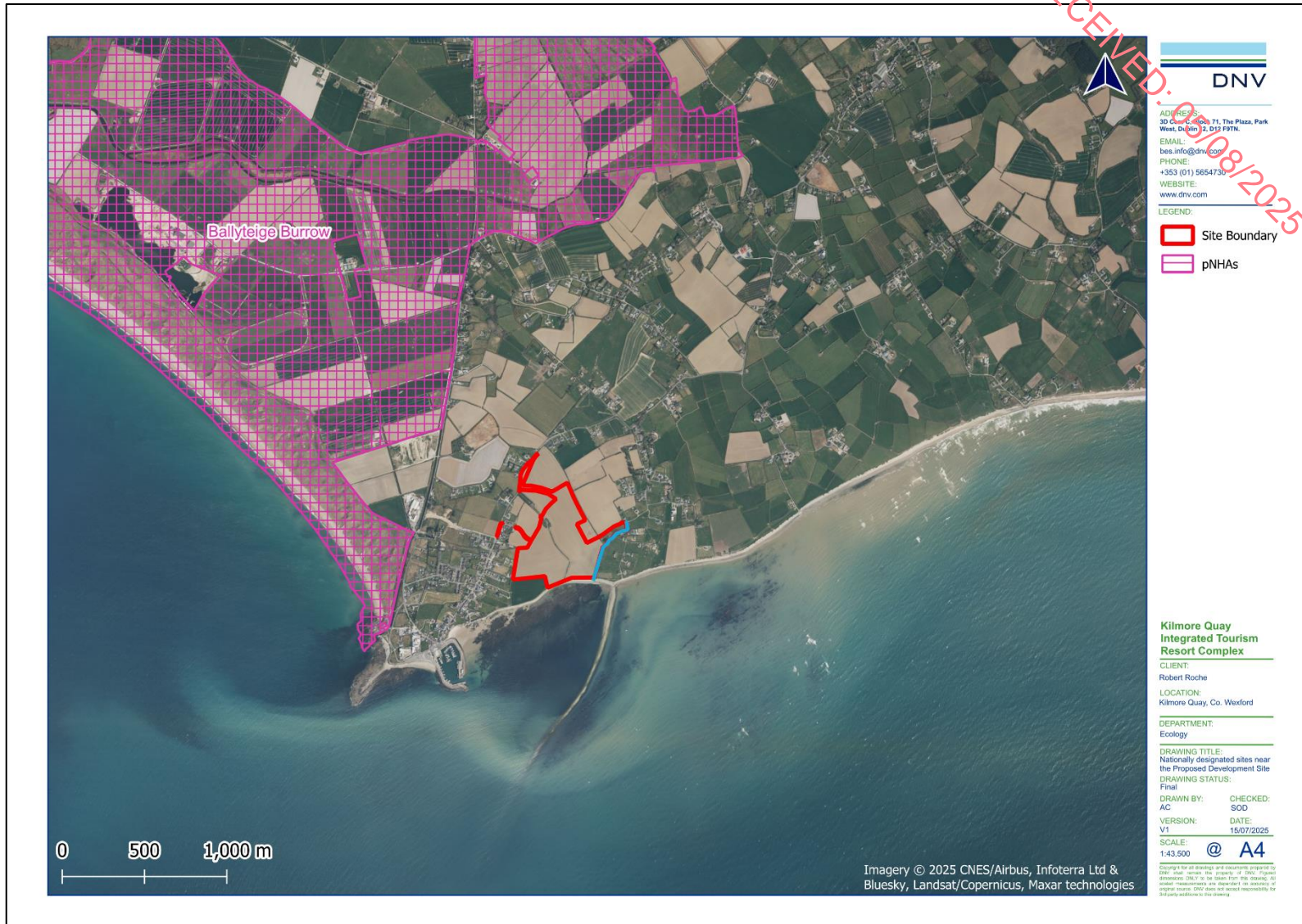


FIGURE 5-3. NATIONALLY DESIGNATED SITES WITHIN THE POTENTIAL ZONE OF INFLUENCE OF THE PROPOSED DEVELOPMENT



FIGURE 5-4. EUROPEAN SITES WITHIN THE VICINITY OF THE PROPOSED DEVELOPMENT (ASSESSED IN FULL IN THE ACCOMPANYING AA SCREENING / NIS)

5.3.3 Habitats

The habitats present within the Site, as recorded during the field survey, are described in this section, and summarised below. Site photographs of these habitats are included in Appendix III and a map of the habitats is presented Figure 5-5 below.

The majority of the Site consists of arable crop (BC4) habitat which had been cut just prior to the survey. The entrance road to the Site contains dry meadows and grassy verges (GS2), which forms a mosaic with the scrub (WS1) habitat. A wet drainage ditch (FW4) runs along the eastern boundary of the Site, discharging into the sea to the south of the Site.

5.3.3.1 Arable Crops (BC4)

Arable crops (BC4) are the dominant habitat at the Site, comprising cut barley, with some ground flora in the form of groundsel (*Senecio vulgaris*) and thistle (*Cirsium* sp.). This habitat is of little ecological value.

5.3.3.2 Scrub (WS1)

A few small patches of scrub exist at the Site, comprising species including yellow iris (*Iris pseudacorus*), bramble (*Rubus fruticosus*), elder (*Sambucus nigra*) gorse (*Ulex europaeus*) and blackthorn (*Prunus spinosa*). This habitat type is of some ecological value, although is abundant in the wider area and comprises common species.

5.3.3.3 Buildings and Artificial Surfaces (BL3)

There are four buildings grouped together at the Site which have become overgrown predominantly by ivy (*Hedera helix*). Other species are pennywort (*Umbilicus rupestris*) and common polypody (*Polypodium vulgare*). This habitat is manmade and of little to no ecological value in and of itself, although is of some value for species that roost / nest in buildings, such as birds or bats.

5.3.3.4 Dry Meadows & Grassy Verges (GS2)

There were a number of different species present within this habitat type. Species comprise Alexander (*Smyrnum olusatrum*), montbretia (*Crocsmia x crocosmiflora*), wild carrot (*Daucus carota*), creeping buttercup (*Ranunculus repens*), breeches (*Acanthus mollis*), hart's tongue fern (*Asplenium scolopendrium*), hogweed (*Heracleum sphondylium*) and greater plantain (*Plantago major*). Rushes were also infrequently present within this habitat. This habitat is of little ecological value, owing predominantly to the presence of invasive species, montbretia.

5.3.3.5 Wet drainage Ditch (FW4)

The wet drainage ditch was full of water at the time of the visit, with flow in a southerly direction in some places, and mostly stagnant in others. Riparian vegetation includes wild angelica (*Angelica sylvestris*), horsetail (*Equisetum arvense*) and willow (*Salix* sp.). It was noted that instream vegetation was very thick and dense. This habitat type is of some ecological value; the drainage ditch flows in a southerly direction, discharging into the sea at Saltee beach to the south of the Site.

5.3.3.6 Pond (FL8)

The pond habitat is deep with steep sides and is surrounded on all sides by bramble scrub. Water within the pond was noted as being very murky with no vegetation. This habitat type is to be retained and is of some ecological value in the context of the rest of the Site and the wider surrounding landscape.

5.3.3.7 Sedimentary Sea Cliffs (CS3)

Vegetation within this habitat includes sea beet (*Beta vulgaris* subsp. *maritima*), gorse and bramble. This habitat type comprises a small section of the southern boundary of the Site and is of little ecological value. This habitat will be retained and there is a 100m buffer between any development and this habitat. Furthermore, there will be no direct access from the Proposed Development Site to this habitat.

5.3.3.8 Treeline (WL1)

Some immature and stunted tree growth was noted at the Site, confined to Site boundaries, with a patch of alder sp. (*Alnus* sp.) and New Zealand broadleaf (*Griselinia littoralis*) along the western boundary of the Site, and a line of Cypress trees (*Cupressus* sp.) to the west of the Site, near the pond. This habitat is of some ecological value where native alder is present, although it is noted the dominant species are non-native.

5.3.3.9 Hedgerow (WL2)

Field boundaries at the Site are dominated by hedgerow, noted as being recently cut during the survey on the 5th of December 2023. Hedgerows were composed of a range of species, namely, hawthorn, elder, bramble, hogweed, common nettle (*Urtica dioica*), bird's foot trefoil (*Lotus corniculatus*), blackthorn and gorse. This habitat type is of ecological value, given it comprises the usual native species and provides a wildlife corridor for species at the Site, particularly given the lack of continuous habitat elsewhere on-Site.

5.3.3.10 Adjacent Habitats: Shingle and Gravel Banks (CB1)

This habitat is of some ecological value, but does not correspond with any QI habitats of the overlapping Saltee Islands SAC (000707). This habitat is directly outside the Site boundary to the south and will be protected by the proposed 100m coastal development exclusion buffer zone along the southern boundary of the Site. Furthermore, there will be no direct access from the Proposed Development Site to the beach in which this habitat is found. Species within this habitat comprise sea beet (*Beta vulgaris* subsp. *maritima*) and sea mayweed (*Tripleurospermum maritimum*).

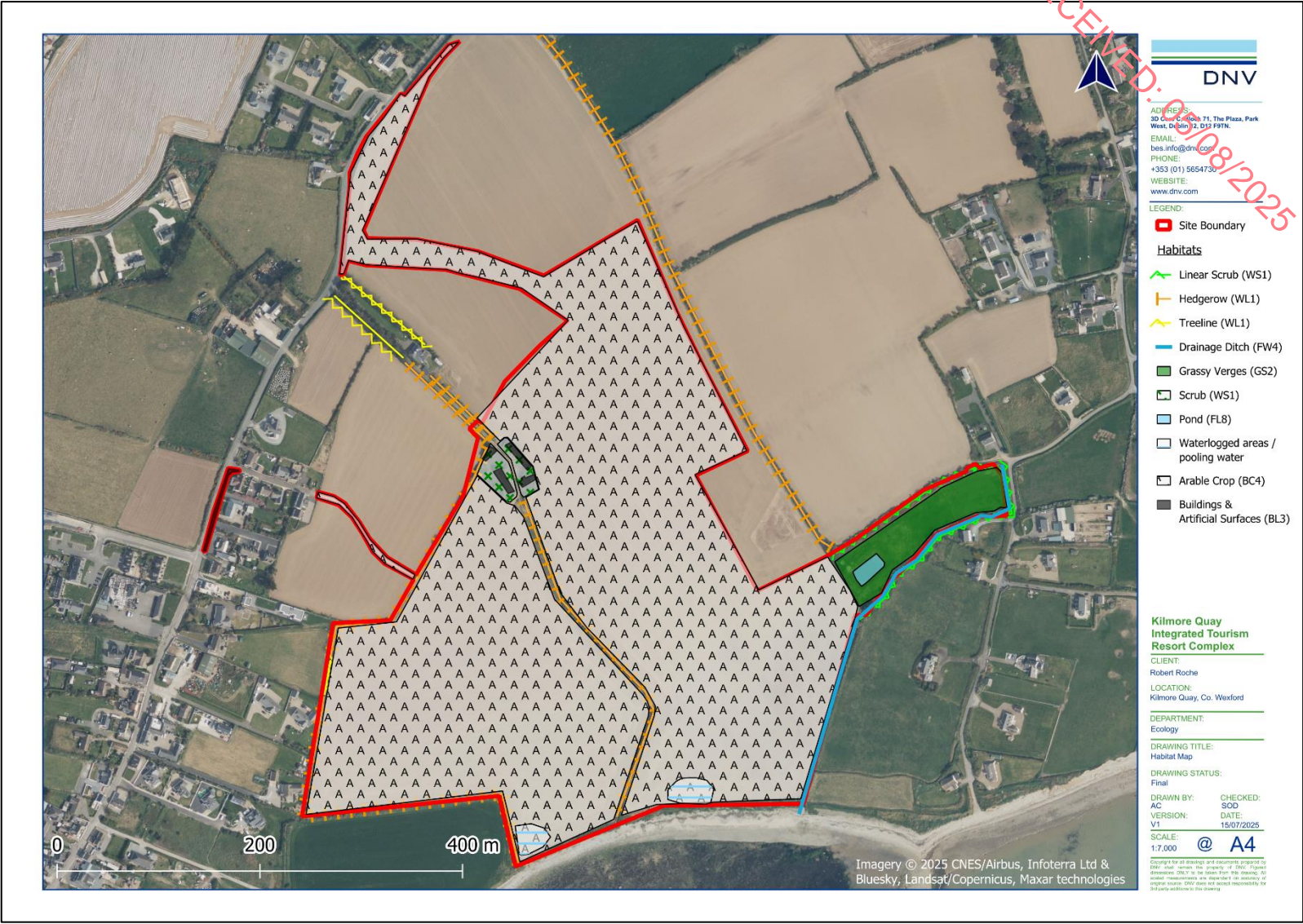


FIGURE 5-5. HABITAT MAP

5.3.4 Species and Species Groups

5.3.4.1 Flora

5.3.4.1.1 Rare and Protected Flora

The Site of the Proposed Development is located within the NBDC 2km tetrads S90S and S90R. Species records from the NBDC online database for these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contained no records of protected flora within the last 20 years. The Floral Protection Order (FPO) Bryophytes database was also checked for rare and protected flora records within the vicinity of the Proposed Development. No rare and/or protected bryophyte records exist within the immediate vicinity of the Proposed Development.

5.3.4.1.2 Invasive Flora

There are records for five species of flora considered to be invasive within the grid squares which encompass the Site of the Proposed Development. Details of these records are listed in Table 5-7.

TABLE 5-7. RECORDS OF INVASIVE FLORA FOR THE SURROUNDING 2KM GRID SQUARES ASSOCIATED WITH THE SITE FROM THE NBDC.

Name	Grid Square	Date of last record	Database	Designation
Pampas-grass (<i>Cortaderia selloana</i>)	S90R S90S	11/06/2010	The Flora of County Wexford	<ul style="list-style-type: none"> • Medium Impact Invasive Species
Sea-buckthorn (<i>Hippophae rhamnoides</i>)	S90R	11/06/2010	The Flora of County Wexford	<ul style="list-style-type: none"> • Medium Impact Invasive Species • Regulation S.I. 477/2011 (Ireland)
Three-cornered garlic (<i>Allium triquetrum</i>)	S90R	01/03/2006	The Flora of County Wexford	<ul style="list-style-type: none"> • Medium Impact Invasive Species • Regulation S.I. 477/2011 (Ireland)
Wakame (<i>Undaria pinnatifida</i>)	S90R	31/12/2022	National Invasive Species Database	<ul style="list-style-type: none"> • High Impact Invasive Species • Regulation S.I. 477/2011 (Ireland)
Wireweed (<i>Sargassum muticum</i>)	S90R	20/08/2023	Explore Your Shore	<ul style="list-style-type: none"> • High Impact Invasive Species • Regulation S.I. 477/2011 (Ireland)

5.3.4.1.3 Field Study Results

No rare or protected plant species were recorded on Site during ecological walkovers. Two low-impact invasive non-native plant species were recorded in the middle of the cluster of buildings at the Site, namely, Montbretia (*Crocasmia x crocosmiiflora*) and New Zealand flax (*Phormium tenax*).

5.3.4.2 Bats

5.3.4.2.1 Desk Study Results

A total of five bat species have been recorded within the S90 10km grid square within which the Site is located, presented below in Table 5-8.

TABLE 5-8. RECORDS OF BATS FOR THE SURROUNDING 10KM GRID SQUARE ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Grid Square	Date of last record	Database	Designation
Brown Long-eared Bat (<i>Plecotus auritus</i>)	S90	10/09/2022	National Bat Database of Ireland	<ul style="list-style-type: none"> • EU Habitats Directive – Annex IV • Wildlife Act 1976 (as amended)
Daubenton's bat (<i>Myotis daubentonii</i>)	S90	01/06/2009	National Bat Database of Ireland	<ul style="list-style-type: none"> • EU Habitats Directive – Annex IV • Wildlife Act 1976 (as amended)
Lesser Noctule (<i>Nyctalus leisleri</i>)	S90	03/06/2018	National Bat Database of Ireland	<ul style="list-style-type: none"> • EU Habitats Directive – Annex IV • Wildlife Act 1976 (as amended)
Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>)	S90	19/05/2020	National Bat Database of Ireland	<ul style="list-style-type: none"> • EU Habitats Directive – Annex IV • Wildlife Act 1976 (as amended)
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	S90	01/06/2009	National Bat Database of Ireland	<ul style="list-style-type: none"> • EU Habitats Directive – Annex IV • Wildlife Act 1976 (as amended)

The Proposed Development Site (Figure 5-6) is located in an area with an overall Medium-High (29.44) suitability for bats in general. The suitability index for specific bat species is presented in Table 5-9. The landscape suitability index is high for three bat species listed below, medium-high for two species, medium for three species and low for one species.

TABLE 5-9. LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES (SOURCE: NBDC). THOSE SPECIES THAT HAVE BEEN RECORDED IN THE NBDC DATABASE WITHIN THE S90 10KM GRID SQUARE ARE HIGHLIGHTED IN GREEN.

Bat Species	Suitability Index (10km Grid Square)
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	49 (High)
Brown Longed-eared bat (<i>Plecotus auritus</i>)	36 (Medium - High)
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	40 (High)
Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)	0 (Low)
Leisler's bat (<i>Nyctalus leisleri</i>)	41 (High)
Whiskered bat (<i>Myotis mystacinus</i>)	22 (Medium)
Daubenton's bat (<i>Myotis daubentonii</i>)	24 (Medium)
Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)	24 (Medium)
Natterer's bat (<i>Myotis nattereri</i>)	29 (Medium - High)

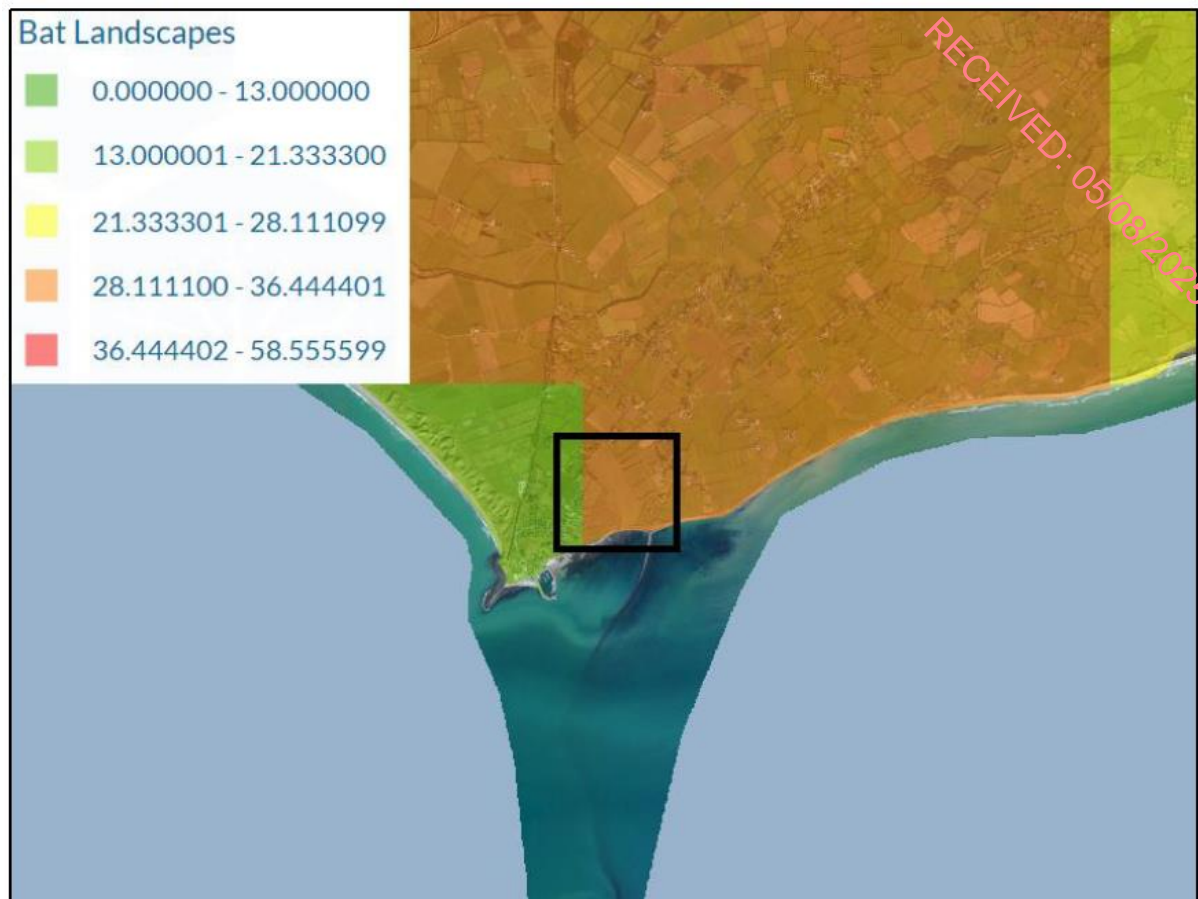


FIGURE 5-6. BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

5.3.4.2.2 Field Study Results

5.3.4.2.2.1 Daytime Bat Roost Assessment

The four buildings and any trees present on-Site were assessed and classified as described below.

Building 1: This structure was noted as having no roof but a thick cover of ivy throughout the majority of the interior walls. Some PRFs were noted as being present around the door and window frames where stonework is degrading slightly, however, overall, it was determined that it was unlikely the structure could support a high value or maternity roost. As such, this building was classified as being *Low* potential.

Building 2: Multiple PRFs were identified as being present within this structure, including gaps in the jousting, window frames and masonry. This structure is also ivy clad, particularly the exterior. This building was classified as being of *Moderate* potential.

Building 3: This structure was noted as having no roof and being quite exposed to the elements. There is some leafy ivy cover, however, it was noted as being unlikely to support bats. Additionally, no obvious PRFs were noted on the building structure itself which was well sealed and lacking in any significant gaps. Thus, this structure was classified as holding *Negligible* roosting potential.

Building 4: As with the previous structures, this building also does not have a roof. While it was noted that the building is quite exposed, there were also multiple PRFs noted as being present in the form of gaps in the stonework, door lintels and window openings. As a result, this structure was classed as having *Moderate* roosting potential.

The stunted trees on Site held 'None' bat roost potential. The linear scrub on Site provides *Moderate* foraging and commuting habitat for local bats, with good connectivity to adjacent scrub, hedgerow and treelines habitats to the west of the Site.

5.3.4.2.2 Preliminary Habitat Suitability Assessment

The linear habitats comprising the field boundaries within the Site were noted as being primarily gappy and non-continuous, with little to no connectivity to the wider area. Furthermore, the coastal nature of the Site produces a level of exposure to the elements that would further hamper suitability for foraging or commuting bats. The only area of suitable foraging habitat was deemed to be directly northwest of the buildings surveyed for bat roosting potential, as the treelines here provided a small patch of suitable continuous habitat.

Considering the above and given the assigned preliminary roosting potential of the four buildings as described in the previous section, a habitat suitability of 'Low' was assigned; 3 seasonal transect surveys were recommended to be undertaken as a precautionary measure.

5.3.4.2.3 Bat Roost Emergence Surveys

No emergences were observed during any of the three roost emergence surveys undertaken at the Site. Bat activity recorded during the emergence surveys is summarised below in Table 5-10.

As a general guide, low activity comprises less than 10 bat passes per hour, medium is equal to or greater than 10 bat passes per hour, and anything above 50 bat passes per hour is considered high.

Common pipistrelle occurrences were generally medium, with detector one capturing high numbers of passes on the second survey, while the remaining two species, soprano pipistrelle and Leisler's bat, occurred in very low numbers during both surveys. The majority of bat activity during the survey was recorded in the middle of the Site, in the centre of the four buildings, and was mostly attributed to common pipistrelle.

Surveyors noted that although the number of bat passes appeared to be high, passes could be attributed to a small number of bats passing through repeatedly. Furthermore, no activity was observed until approximately 15-30 minutes into the survey having commenced, which further supports the lack of roosting at the Site; it is presumed bats are roosting elsewhere in the wider area, but commuting through the Site on the way to their foraging location.

No other species were recorded at the Site. Common pipistrelle, soprano pipistrelle and Leisler's bat are the three most widespread and common in Ireland as per the NBDC distribution map for these species (NBDC).

TABLE 5-10. BAT ROOST EMERGENCE SURVEY RESULTS

Common Name	Latin Name	Total no. bat passes (Detector 1)	Bat passes per hour (bph) (Detector 1)	Total no. bat passes (Detector 2)	Bat passes per hour (bph) (Detector 2)	Total no. bat passes (Detector 3)	Bat passes per hour (bph) (Detector 3)
Survey 1 – 07.06.2024							
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	22	14.5	38	23.7	19	12.5
Leisler's bat	<i>Nyctalus leisleri</i>	4	2.6	4	2.6	1	0.7
Survey 2 – 17.08.2024							
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	2	1.3	2	1.3	18	11.7
Leisler's bat	<i>Nyctalus leisleri</i>	0	0	0	0	2	1.3
Survey 3 – 03.09.2024							
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	10	6.7	100	66.7	25	16.7
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	2	1.3	16	10.7	7	4.7
Leisler's bat	<i>Nyctalus leisleri</i>	1	0.7	4	2.7	3	2

5.3.4.2.2.4 Bat Activity Transect Surveys

The results of the bat activity surveys undertaken at the Site are summarised below in Table 5-11. Bat passes do not necessarily correlate to individual bats and may be as a result of multiple passes from the same bat. As can be seen in the below table, activity at the Site was low, with only three species recorded, similarly to the above emergence survey, namely, common pipistrelle, soprano pipistrelle and Leisler's bat, the three most common species in Ireland (NPWS, 2019). Where the results differ from the emergence survey is that soprano pipistrelle was recorded during all three activity surveys, whereas this species was only recorded during the third emergence survey.

TABLE 5-11. SUMMARY OF BAT ACTIVITY TRANSECT SURVEY RESULTS ACROSS THE THREE SURVEYS UNDERTAKEN AT THE SITE

Common Name	Latin Name	Total no. bat passes	Bat passes per hour (bph)
Survey 1 – 07.06.2024			
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	48	48
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	5	5
Leisler's bat	<i>Nyctalus leisleri</i>	2	2
Survey 2 – 17.08.2024			
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	18	12.4
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	12	8.3
Leisler's bat	<i>Nyctalus leisleri</i>	2	1.4
Survey 3 – 03.09.2024			
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	29	26
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	4	3.6
Leisler's bat	<i>Nyctalus leisleri</i>	6	5.4

5.3.4.3 Birds

5.3.4.3.1 Desk Study Results

A total of 93 bird species have been recorded within the 2km grid squares S90S and S90R. Of these, 12 are red listed birds and 30 are amber listed birds as identified on the Birds of Conservation Concern in Ireland (BoCCI) (Gilbert et al. 2021), with a further five species not designated as they are rare visitors to Ireland. Details of rare, amber and red listed species are detailed in Table 5-12. The remaining species are all green listed.

TABLE 5-12. DETAILS OF AMBER AND RED LISTED SPECIES WITHIN THE 2KM GRID SQUARES ENCOMPASSING THE SITE (NBDC)

Species	NBDC Grid Square	Date of last record	BoCCI Status (2021)
Barn Owl (<i>Tyto alba</i>)	S90S	23/12/2020	Red
Bar-tailed Godwit (<i>Limosa lapponica</i>)	S90S	31/12/2011	Red
Black-legged Kittiwake (<i>Rissa tridactyla</i>)	S90S	31/12/2011	Red
Common Kestrel (<i>Falco tinnunculus</i>)	S90S S90R	31/12/2011 26/05/2022	Red
Common Redshank (<i>Tringa totanus</i>)	S90S	31/12/2011	Red
Common Snipe (<i>Gallinago gallinago</i>)	S90S	31/12/2011	Red
Eurasian Oystercatcher (<i>Haematopus ostralegus</i>)	S90S	03/05/2021	Red
Grey Plover (<i>Pluvialis squatarola</i>)	S90S	31/12/2011	Red
Meadow Pipit (<i>Anthus pratensis</i>)	S90S S90R	31/12/2011 22/01/2023	Red
Purple Sandpiper (<i>Calidris maritima</i>)	S90S	31/12/2011	Red
Razorbill (<i>Alca torda</i>)	S90S	09/06/2019	Red
Redwing (<i>Turdus iliacus</i>)	S90S	31/12/2011	Red
Barn Swallow (<i>Hirundo rustica</i>)	S90S S90R	31/12/2011 10/09/2016	Amber
Black Guillemot (<i>Cepphus grylle</i>)	S90S	03/05/2021	Amber
Black-headed Gull (<i>Larus ridibundus</i>)	S90S S90R	31/12/2011 08/06/2019	Amber
Brent Goose (<i>Branta bernicla</i>)	S90S S90R	25/03/2022 06/04/2021	Amber
Common Kingfisher (<i>Alcedo atthis</i>)	S90S	31/12/2011	Amber
Common Linnet (<i>Carduelis cannabina</i>)	S90S S90R	31/12/2011 10/09/2016	Amber
Common Starling (<i>Sturnus vulgaris</i>)	S90S S90R	31/12/2011 13/05/2022	Amber
European Greenfinch (<i>Carduelis chloris</i>)	S90S S90R	31/12/2011 03/10/2017	Amber
European Shag (<i>Phalacrocorax aristotelis</i>)	S90S	06/03/2022	Amber
Goldcrest (<i>Regulus regulus</i>)	S90S	31/12/2011	Amber
Great Cormorant (<i>Phalacrocorax carbo</i>)	S90S	10/09/2016	Amber
Great Crested Grebe (<i>Podiceps cristatus</i>)	S90S	31/12/2011	Amber
Great Northern Diver (<i>Gavia immer</i>)	S90S	23/05/2022	Amber
Herring Gull (<i>Larus argentatus</i>)	S90S	23/03/2023	Amber
House Martin (<i>Delichon urbicum</i>)	S90S	31/12/2011	Amber

Species	NBDC Grid Square	Date of last record	BoCCI Status (2021)
House Sparrow (<i>Passer domesticus</i>)	S90S	31/12/2011	Amber
Lesser Black-backed Gull (<i>Larus fuscus</i>)	S90S	23/03/2023	Amber
Little Gull (<i>Larus minutus</i>)	S90S	31/12/2011	Amber
Mallard (<i>Anas platyrhynchos</i>)	S90S	31/12/2011	Amber
Mediterranean Gull (<i>Larus melanocephalus</i>)	S90S	31/12/2011	Amber
Mew Gull (<i>Larus canus</i>)	S90S	31/12/2011	Amber
Northern Fulmar (<i>Fulmarus glacialis</i>)	S90S	31/12/2011	Amber
Northern Wheatear (<i>Oenanthe oenanthe</i>)	S90S	10/09/2016	Amber
Red-throated Diver (<i>Gavia stellata</i>)	S90S	24/03/2012	Amber
Ringed Plover (<i>Charadrius hiaticula</i>)	S90S	31/12/2011	Amber
Ruddy Turnstone (<i>Arenaria interpres</i>)	S90S	30/05/2018	Amber
Sandwich Tern (<i>Sterna sandvicensis</i>)	S90S	30/05/2018	Amber
Sky Lark (<i>Alauda arvensis</i>)	S90S S90R	31/12/2011 14/09/2022	Amber
Spotted Flycatcher (<i>Muscicapa striata</i>)	S90S	31/12/2011	Amber
Whooper Swan (<i>Cygnus cygnus</i>)	S90S S90R	17/03/2021 19/10/2020	Amber
Kumlien's Iceland Gull (<i>Larus glaucoideus subsp. kumlieni</i>)	S90S	23/02/2014	n/a
Siberian Chiffchaff (<i>Phylloscopus collybita subsp. tristis</i>)	S90S	11/01/2014	n/a
Scandinavian Rock Pipit (<i>Anthus petrosus subsp. littoralis</i>)	S90S S90R	01/04/2014 01/03/2014	n/a
Water Pipit (<i>Anthus spinoletta</i>)	S90S	04/02/2013	n/a

5.3.4.3.2 Field Study Results

5.3.4.3.2.1 Bird Scoping Survey

During the Site walkover on the 5th of December 2023, 17 no. confirmed species of birds were recorded (Table 5-13) at the Site. Of these, four are red-listed, five are amber-listed and the remaining species are green-listed. One of the species, herring gull (*Larus argentatus*), corresponds with the SCI species for which nearby Ballyteigue Burrow SPA (004002) is designated, while bar-tailed godwit and black-tailed godwit are SCI species of nearby Saltee Islands SPA. Additionally, unidentified raptor feeding signs were identified at the Site in the form of dead gull remains, including large numbers of feathers suggesting plucking.

TABLE 5-13. BIRDS RECORDED AT THE SITE DURING THE PRELIMINARY WALKOVER SURVEY IN DECEMBER 2023

Species	BoCCI Status	Notes
Barn owl (<i>Tyto alba</i>)	Red	Dead individual bird to the west of the Site
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	Amber	Roosting in group of 100-200 birds in field directly east.
Blue tit (<i>Cyanistes caeruleus</i>)	Green	

Species	BoCCI Status	Notes
Chaffinch (<i>Fringilla coelebs</i>)	Green	
Common snipe (<i>Gallinago gallinago</i>)	Red	2 no. Individual birds flushed from wet areas of BC4 habitat
Common starling (<i>Sturnus vulgaris</i>)	Amber	Feeding in BC4 habitat
Dunnoek (<i>Prunella modularis</i>)	Green	
Godwit sp. (<i>Limosa</i> sp.)	Red	Flying overhead
Grey heron (<i>Ardea cinerea</i>)	Green	Roosting in two small groups of 2 and 5.
Herring gull (<i>Larus argentatus</i>)	Amber	Roosting in BC4 habitat along with grey heron group
House sparrow (<i>Passer domesticus</i>)	Amber	
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	Flying overhead
Pheasant (<i>Phasianus colchicus</i>)	Green	
Redpoll (<i>Acanthis flammea</i>)	Green	
Robin (<i>Erithacus rubecula</i>)	Green	
Turnstone (<i>Arenaria interpres</i>)	Amber	Just outside the Site boundary to the south
Wren (<i>Troglodytes troglodytes</i>)	Green	

5.3.4.3.2.2 Breeding Bird Surveys

Four red listed species were recorded, namely, curlew (*Numenius Arquata*), stock dove (*Columba oenas*), meadow pipit (*Anthus pratensis*), snipe (*Gallinago gallinago*), as shown below in Table 5-14. The small flock of curlew were present in the small pool on the field and were likely migrants. The stock dove was a lone bird feeding with a flock of 119 no. woodpigeon in the stubble fields. The snipe were late wintering birds which had yet to leave for their breeding grounds.

TABLE 5-14. BIRDS RECORDED AT THE SITE DURING THE THREE BREEDING BIRD SURVEYS

Species	BoCCI Status	Dates recorded	Breeding Activity
Blackbird (<i>Turdus merula</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Blackcap (<i>Sylvia atricapilla</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable. Pair observed in suitable nesting habitat in breeding season
Blue Tit (<i>Cyanistes caeruleus</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Buzzard (<i>Buteo buteo</i>)	Green	27 th June 2024	Non-breeder. Flyover only.
Chaffinch (<i>Fringilla coelebs</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable. Pair observed in suitable nesting habitat in breeding season

Species	BoCCI Status	Dates recorded	Breeding Activity
Curlew (<i>Numenius Arquata</i>)	Red	11 th Apr 2024	Non-breeders foraging in a small pool on the Site.
Dunnock (<i>Prunella modularis</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Feral Pigeon (<i>Columba livia domestica</i>)	Unclassified	28 th May 2024 27 th June 2024	Non-breeder. Flyovers.
Goldfinch (<i>Carduelis carduelis</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Great Tit (<i>Parus major</i>)	Green	11 th Apr 2024	Possible breeder. Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat
Greenfinch (<i>Chloris chloris</i>)	Amber	27 th June 2024	Possible breeder. Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat
Hooded Crow (<i>Corvus cornix</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
House Martin (<i>Delichon urbicum</i>)	Amber	28 th May 2024 27 th June 2024	Non-breeding. Flyovers and feeding over the Site.
House Sparrow (<i>Passer domesticus</i>)	Amber	11 th Apr 2024 28 th May 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Jackdaw (<i>Corvus monedula</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Species observed in breeding season in suitable nesting Habitat
Linnet (<i>Linaria cannabina</i>)	Amber	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Magpie (<i>Pica pica</i>)	Green	28 th May 2024	Non-breeding. Flyover only.
Mallard (<i>Anas platyrhynchos</i>)	Amber	11 th Apr 2024	Non-breeding. Roosting on the small pond on the site.
Meadow Pipit (<i>Anthus pratensis</i>)	Red	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Mistle Thrush (<i>Turdus viscivorus</i>)	Green	11 th Apr 2024	Species observed in breeding season in suitable nesting Habitat
Pied Wagtail (<i>Motacilla alba yarrelli</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Robin (<i>Erithacus rubecula</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Rook (<i>Corvus frugilegus</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Sand Martin (<i>Riparia riparia</i>)	Amber	11 th Apr 2024	Non-breeding. Fresh in migrants off the sea and heading inland.
Sedge Warbler (<i>Acrocephalus schoenobaenus</i>)	Green	27 th June 2024	Possible breeder. Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat

Species	BoCCI Status	Dates recorded	Breeding Activity
Snipe (<i>Gallinago gallinago</i>)	Red	11 th Apr 2024	Non-breeding. Species observed but suspected to be still on migration.
Song Thrush (<i>Turdus philomelos</i>)	Green	11 th Apr 2024 28 th May 2024	Confirmed. Recently fledged young.
Starling (<i>Sturnus vulgaris</i>)	Amber	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Stock Dove (<i>Columba oenas</i>)	Red	28 th May 2024	Likely a non-breeder. One found with a flock of 119 Woodpigeon.
Stonechat (<i>Saxicola torquatus</i>)	Green	27 th June 2024	Confirmed. Recently fledged young.
Swallow (<i>Hirundo rustica</i>)	Amber	28 th May 2024 27 th June 2024	Non-breeder. Foraging over the Site.
Tree Pipit (<i>Anthus trivialis</i>)	Amber	28 th May 2024	Non-breeder. Rare vagrant to Ireland. Flushed this bird from the stubble field, and it gave the typical call.
Whitethroat (<i>Sylvia communis</i>)	Green	28 th May 2024	Possible breeder. Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat
Woodpigeon (<i>Columba palumbus</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Probable breeding. Pair observed in suitable nesting habitat in breeding season
Wren (<i>Troglodytes troglodytes</i>)	Green	11 th Apr 2024 28 th May 2024 27 th June 2024	Confirmed. Recently fledged young.
Willow Warbler (<i>Phylloscopus trochilus</i>)	Amber	11 th Apr 2024	Likely non-breeders. On this date, an obvious 'fall' of migrant Willow Warblers was observed. These birds were exhausted and fed on the ground as there was still very little leaf cover on the trees. These birds would have moved off inland later that day or in the following days. The species was not recorded on the follow up surveys.

5.3.4.3.2.3 Wintering Bird Surveys

The results of the wintering bird surveys undertaken at the Site and along the shoreline to the south of the Site are summarised below in

Table 5-15. A number of red and amber listed species have been recorded both using the Site and using the shoreline to the south, as well as a few green-listed species.

The greatest number and variety of species were recorded on the final survey on the 7th of February 2025. The lowest activity levels along the shoreline were noted on the 11th of December 2024, although the lowest activity levels overall (encompassing the Site of the Proposed Development and the shoreline) were recorded on the 19th of November 2024. Oystercatcher, cormorant, redshank and a variety of different gull species were all recorded regularly along the shoreline in small groups across the six wintering bird surveys. gull species

were also regularly recorded using the southern bounds of the Site where water pools had formed and were regularly recorded flying overhead. While some of the below listed species may overlap with nearby SCIs of SPAs, the number of birds present does not meet the criteria to be classed as being of international, national or county importance, and are considered to be of importance in the locality (NRA, 2009b).

TABLE 5-15. WINTERING BIRDS RECORDED BOTH WITHIN THE SITE AND ALONG THE SHORELINE TO THE SOUTH OF THE SITE

Species	BoCCI Status	Activity / No. of Birds
Survey 1: 5th November 2024		
Birds recorded within the Site Boundary		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	Flew over the Site regularly
Common Gull (<i>Larus canus</i>)	Amber	Flew over the Site regularly
Great Black-backed Gull (<i>Larus marinus</i>)	Green	Flew over the Site regularly
Herring Gull (<i>Larus argentatus</i>)	Amber	Flew over the Site regularly
House Sparrow (<i>Hirundo rustica</i>)	Amber	
Kestrel (<i>Falco tinnunculus</i>)	Red	One hunting over the Site
Meadow Pipit (<i>Anthus pratensis</i>)	Red	
Merlin (<i>Falco columbarius</i>)	Amber	One male in southwest of the Site
Redshank (<i>Tringa tetanus</i>)	Red	One individual in small pool to the southwest of the Site
Skylark (<i>Alauda arvensis</i>)	Amber	15 no birds observed
Snipe (<i>Gallinago gallinago</i>)	Red	3 no. individuals flushed
Swallow (<i>Hirundo rustica</i>)	Amber	1 no. individual present at the Site
Birds recorded along the coastline at Saltee Beach		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	Very common offshore
Common Gull (<i>Larus canus</i>)	Amber	Numerous with at least eight flying around offshore
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	One sitting on rocks
Curlew (<i>Numenius Arquata</i>)	Red	Six on rocks offshore before flying east.
Great Black-backed Gull (<i>Larus marinus</i>)	Green	One adult
Greenshank (<i>Tringa nebularia</i>)	Green	Two flushed from the shoreline and flew west
Grey Heron (<i>Ardea cinerea</i>)	Green	One roosting on rocks
Herring Gull (<i>Larus argentatus</i>)	Amber	Very common offshore
Little Egret (<i>Egretta garzetta</i>)	Green	One roosting on the rocks
Redshank (<i>Tringa tetanus</i>)	Red	Two roosting
Turnstone (<i>Arenaria interpres</i>)	Amber	Seven feeding on the shore
Survey 2: 19th November 2024		
Birds recorded within the Site Boundary		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	29 no. individuals feeding in the southeast of the Site
Common Gull (<i>Larus canus</i>)	Amber	2 no. individuals feeding in the southeast of the Site
House Sparrow (<i>Hirundo rustica</i>)	Amber	
Mallard (<i>Anas platyrhynchos</i>)	Amber	3 no. individuals on the pool to the southeast of the Site
Skylark (<i>Alauda arvensis</i>)	Amber	22 no. individuals observed
Snipe (<i>Gallinago gallinago</i>)	Red	2 no. individuals flushed
Birds recorded along the coastline at Saltee Beach		

Species	BoCCI Status	Activity / No. of Birds
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	Very common offshore
Common Gull (<i>Larus canus</i>)	Amber	Two adults
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	Six on the rocks offshore
Great Black-backed Gull (<i>Larus marinus</i>)	Green	Three adults loafing offshore
Grey Heron (<i>Ardea cinerea</i>)	Green	One flew east.
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	Two on the rocks with the Redshank
Redshank (<i>Tringa tetanus</i>)	Red	Eight roosting on the rocks offshore
Survey 3: 11th December 2024		
Birds recorded within the Site Boundary		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	65 no. individuals at the small pool to the southwest of the Site
Common Gull (<i>Larus canus</i>)	Amber	2 no. birds present at the pool in the southwest of the Site
Dunlin (<i>Calidris alpina</i>)	Red	4 no. individuals observed at the pool in the southwest of the Site
Great Black-backed Gull (<i>Larus marinus</i>)	Green	1 no. bird observed at the pool to the southwest of the Site
Herring Gull (<i>Larus argentatus</i>)	Amber	3 no. birds observed at the pool to the southwest of the Site.
House Sparrow (<i>Hirundo rustica</i>)	Amber	
Kestrel (<i>Falco tinnunculus</i>)	Red	One hunting along the southern boundary of the Site.
Meadow Pipit (<i>Anthus pratensis</i>)	Red	Common on the Site with several flushed.
Mediterranean Gull (<i>Ichthyaetus melanocephalus</i>)	Amber	1 second winter bird observed at the pool to the southwest of the Site
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	12 no. birds at the pool to the southwest of the Site
Redshank (<i>Tringa tetanus</i>)	Red	6 no. birds at the pool to the southwest of the Site
Skylark (<i>Alauda arvensis</i>)		6 no. individuals observed
Snipe (<i>Gallinago gallinago</i>)	Red	1 no. individual bird observed at the pool to the southwest of the Site
Starling (<i>Sturnus vulgaris</i>)	Amber	
Turnstone (<i>Arenaria interpres</i>)	Amber	10 no. individuals observed
Birds recorded along the coastline at Saltee Beach		
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	2 no. individuals observed
Sanderling (<i>Calidris alba</i>)	Green	Flock of 88 no. individuals
Survey 4: 3rd January 2025		
Birds recorded within the Site Boundary		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	
Grey Wagtail (<i>Motacilla cinerea</i>)	Red	1 no. individual fly-over
Herring Gull (<i>Larus argentatus</i>)	Amber	
Meadow Pipit (<i>Anthus pratensis</i>)	Red	Common throughout, observed using the eastern field.
Skylark (<i>Alauda arvensis</i>)	Amber	Common throughout, observed using the eastern field.
Snipe (<i>Gallinago gallinago</i>)	Red	2 no. individuals flushed from the north of the Site, 3 no. individuals flushed from the west of the Site.
Birds recorded along the coastline at Saltee Beach		
Redshank (<i>Tringa totanus</i>)	Red	2 feeding on the shoreline

Species	BoCCI Status	Activity / No. of Birds
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	2 roosting on the shoreline
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	1 flying close to shore before landing on the water
Great Black-backed Gull (<i>Larus marinus</i>)	Green	1 adult offshore
Survey 5: 15th January 2025		
Birds recorded within the Site Boundary		
Fieldfare (<i>Turdus pilaris</i>)	Green	6 no. individuals foraging along the northern bounds of the Site.
Lapwing (<i>Vanellus vanellus</i>)	Red	2 no. individuals observed.
Linnet (<i>Linaria cannabina</i>)	Amber	
Meadow Pipit (<i>Anthus pratensis</i>)	Red	
Merlin (<i>Falco columbarius</i>)	Amber	1 no. individual fly-over along the eastern bounds of the Site.
Redwing (<i>Turdus iliacus</i>)	Red	1 no. individual foraging along the northern bounds of the Site.
Snipe (<i>Gallinago gallinago</i>)	Red	17 no. snipe observed circling the Site before flying towards the coastline
Starling (<i>Sturnus vulgaris</i>)	Amber	
Birds recorded along the coastline at Saltee Beach		
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	1 no. pair of cormorants observed
Curlew (<i>Numenius Arquata</i>)	Red	3 no. flew east before landing on the shoreline
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	8 no. feeding on the shoreline
Redshank (<i>Tringa tetanus</i>)	Red	3 no. individuals loosely associating with the Oystercatchers
Survey 6: 7th February 2025		
Birds recorded within the Site Boundary		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	Dozens in flight over the Site
Carrion Crow (<i>Corvus corone</i>)	Green	Paired with below hooded crow
Herring Gull (<i>Larus argentatus</i>)	Amber	
Hooded Crow (<i>Corvus cornix</i>)	Green	Paired with above carrion crow
Meadow Pipit (<i>Anthus pratensis</i>)	Red	1 no. individual observed
Redshank (<i>Tringa tetanus</i>)	Red	1 no. individual present in the pooling water along the southern boundary of the Site.
Skylark (<i>Alauda arvensis</i>)	Amber	4 no. individuals observed
Snipe (<i>Gallinago gallinago</i>)	Red	4 no. individuals observed in the western field via thermal imaging
Birds recorded along the coastline at Saltee Beach		
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Red	Flock of 12 no. individuals on the shoreline
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Amber	Very common with at least 28 loafing offshore.
Black-tailed Godwit (<i>Limosa limosa</i>)	Red	Eight present, all in non-breeding plumage
Cormorant (<i>Phalacrocorax carbo</i>)	Amber	Four offshore feeding.
Curlew (<i>Numenius Arquata</i>)	Red	Six feeding on the tide.
Great Black-backed Gull (<i>Larus marinus</i>)	Green	Two adults offshore
Grey Plover (<i>Pluvialis squatarola</i>)	Red	One non-breeding plumage bird with the Bar-tailed Godwits.
Herring Gull (<i>Larus argentatus</i>)	Amber	Very common on the coast

Species	BoCCI Status	Activity / No. of Birds
Oystercatcher (<i>Haematopus ostralegus</i>)	Red	Nine feeding on the tide line
Redshank (<i>Tringa totanus</i>)	Red	Twelve on the shoreline
Red-throated Diver (<i>Gavia stellata</i>)	Amber	One flew west close inshore
Ringed Plover (<i>Charadrius hiaticula</i>)	Amber	Five adults associating with the Sanderling
Sanderling (<i>Calidris alba</i>)	Green	Large flock of 110 feeding on the shoreline

5.3.4.4 Mammals (excluding bats)

5.3.4.4.1 Desk Study Results

Records for marine and terrestrial mammals were obtained from the NBDC online database. Table 5-16 lists these species, their date of last record and summarises their protected status/designation. In total, five marine mammal species and ten terrestrial mammal species (thirteen native and two non-native or invasive) were recorded within the 2km grid squares which encompass the Proposed Development Site.

TABLE 5-16. RECORDS OF MARINE AND TERRESTRIAL MAMMALS (NATIVE AND NON-NATIVE) FOR THE SURROUNDING 2KM GRID SQUARES ASSOCIATED WITH THE SITE (NBDC)

Species	NBDC Grid Square	Date of last record	Source	Designation
NATIVE MARINE MAMMALS				
Common Dolphin (<i>Delphinus delphis</i>)	S90R	20/01/2019	IWDG Cetacean Strandings Database	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
Common Porpoise (<i>Phocoena phocoena</i>)	S90S S90R	17/03/2004 29/08/2013	IWDG Cetacean Strandings Database	EU Habitats Directive – Annex II & IV Wildlife Act 1976 (as amended)
Common Seal (<i>Phoca vitulina</i>)	S90R	12/04/2016	Mammals of Ireland 2016-2025	EU Habitats Directive – Annex II & V Wildlife Act 1976 (as amended)
Grey Seal (<i>Halichoerus grypus</i>)	S90R	02/12/2018	Mammals of Ireland 2016-2025	EU Habitats Directive – Annex II & V Wildlife Act 1976 (as amended)
Risso's Dolphin (<i>Grampus griseus</i>)	S90R	19/07/2018	IWDG Cetacean Strandings Database	EU Habitats Directive - Annex IV Wildlife Act 1976 (as amended)
NATIVE TERRESTRIAL MAMMALS				
Eurasian Badger (<i>Meles meles</i>)	S90S	31/12/2012	Badger Setts of Ireland Database	Wildlife Act 1976 (as amended)
Eurasian pygmy shrew (<i>Sorex minutus</i>)	S90S	14/08/2014	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended)

Species	NBDC Grid Square	Date of last record	Source	Designation
European otter (<i>Lutra lutra</i>)	S90S S90R	25/11/2011 03/09/2017	Atlas of Mammals in Ireland 2010-2015 Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex II & IV
Irish hare (<i>Lepus timidus subsp. hibernicus</i>)	S90S	02/07/2016	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex V
Irish stoat (<i>Mustela erminea subsp. hibernica</i>)	S90S S90R	02/04/2013 02/11/2011	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended)
Red fox (<i>Vulpes vulpes</i>)	S90S	13/04/2018	Mammals of Ireland 2016-2025	Not legally protected
West European hedgehog (<i>Erinaceus europaeus</i>)	S90S S90R	08/08/2022 09/04/2021	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Wood mouse (<i>Apodemus sylvaticus</i>)	S90S S90R	22/12/2011 11/09/2012	Atlas of Mammals in Ireland 2010-2015	Wildlife Act 1976 (as amended) EU Habitats Directive – Annex IV
NON-NATIVE AND INVASIVE TERRESTRIAL MAMMALS				
Brown rat (<i>Rattus norvegicus</i>)	S90S S90R	09/12/2011 10/03/2012	Atlas of Mammals in Ireland 2010 - 2015	High Impact Invasive Species Regulation S.I. 477 (Ireland)
European rabbit (<i>Oryctolagus cuniculus</i>)	S90S	04/11/2014	Atlas of Mammals in Ireland 2010 - 2015	Medium Impact Invasive Species

5.3.4.4.2 Field Study Results

There was no evidence indicating that the Site is regularly used by protected mammals such as badger (*Meles meles*) or otter (*Lutra lutra*), although rabbit (*Oryctolagus cuniculus*) burrows were noted as being commonly occurring along ditches at the Site. It is therefore unlikely that badger regularly use the Site or the immediately adjacent fields that were accessible during the survey on 5th of December 2023. While there is some suitable habitat for otter in the form of a wet drainage ditch on-Site and the connected shoreline to the south of the Site, no evidence of otter was noted, although this species has been recorded in the 2km grid squares that encompass the Site (NBDC) and its presence cannot be precluded.

The smaller mammals recorded in the desk study, i.e., Irish stoat (*Mustela erminea subsp. hibernica*), Eurasian pygmy shrew (*Sorex minutus*), West European hedgehog (*Erinaceus europaeus*) and Irish hare (*Lepus timidus subsp. hibernicus*) could all potentially utilise the Site and its immediate surrounding, however, hedgerows at the Site were noted to be of poor quality and connectivity. None of these species were observed using the Site during the field surveys.

The records of invasive species may limit the potential for some of the aforementioned native mammals. For instance, rabbit and Irish hare share similar resources, and typically a high abundance of rabbits can negatively impact on Hare populations (Reid et al. 2007). Several rabbit burrows were recorded along the eastern Site boundary.

5.3.4.5 Amphibians

5.3.4.5.1 Desk Study Results

There were no historical records of amphibians within the S90R 2km grid square, and one previous record of common frog (*Rana temporaria*) within the S90S 2km grid square, most recently recorded in 2012.

5.3.4.5.2 Field Study Results

There was no suitability at the Site for amphibians given that the pond habitat is unvegetated and is raised with steeply sloping edges. Similarly, the wet drainage ditch along the eastern bounds of the Site, while vegetated, has a flow that would be unsuitable to support amphibians and steeply sloping edges. No indicators of amphibian presence were observed during the surveys.

5.3.4.6 Reptiles

5.3.4.6.1 Desk Study Results

There were no historical records of reptiles within the S90S 2km grid square, and one previous record of common lizard (*Zootoca vivipara*) within the S90R 2km grid square, most recently recorded in 2020.

5.3.4.6.2 Field Study Results

This species may be present at the Site given that it is widespread throughout Ireland and is unlikely to be observed during surveys. As such, a precautionary approach is adopted, and it is presumed that common lizard is present at the Site.

5.3.4.7 Invertebrates

5.3.4.7.1 Desk Study Results

There are two previous records of invertebrates within the S90R 2km grid square, both of which are invasive species, namely, Modest barnacle (*Elminius modestus*), a marine medium impact invasive species and Japanese skeleton shrimp (*Caprella mutica*), a marine medium impact and third scheduled invasive species.

5.3.4.7.2 Field Study Results

No evidence of the above invasive invertebrates was noted at the Site, and the Site does not hold any watercourses capable of supporting these crustaceous species.

5.3.4.8 Other Protected and/or Notable Species

Other notable and/or rare species and species listed on Annex IV of the Habitats Directive that were considered but that are unlikely to occur at the Site include:

- **Flora**
 - Marsh Saxifrage (*Saxifraga hirculus*) – Known populations only in Co. Mayo.
 - Killarney Fern (*Vandenboschia speciosa*) – Nearest known populations in Co. Wicklow, not recorded at the Site, no suitably sheltered and moist habitats available.

- Slender Naiad (*Najas flexilis*) – A clear water, lowland lake species. No suitable habitat available at the Site.
- **Fauna**
 - White-clawed Crayfish (*Austropotamobius pallipes*) – There are no records of this species within the 10km grid square (S90) encompassing the Site, with the closest record with the Colligan-Mahon catchment, approx 46km west of the Site in Co. Waterford.
 - Freshwater Pearl Mussel (*Margaritifera margaritifera*) – There are no records of this species within the 10km grid square encompassing the Site.
 - Natterjack Toad (*Epidalea calamita*) – Distribution restricted to few coastal sites, with the closest record 23km northeast of the Proposed Development Site.
 - Kerry Slug (*Geomalacus maculosus*) – Distribution restricted to south and west of Ireland (closest record >100km northwest).

5.3.5 Evaluation of Ecological Features

Habitats have been evaluated for their conservation importance, based on the NRA evaluation scheme (NRA, 2009b). Those selected as KERs are those which are evaluated to be of at least local importance (higher value).

Fauna that has the potential to utilise the Site and immediate area of the Proposed Development, or for which records exist in the wider area, have been evaluated for their conservation importance. This evaluation follows the Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b).

The impacts of the Proposed Development on the identified KERs are assessed in section 5.4. Table 5-17 below summarises the evaluation rating assigned to each ecological feature and the rationale behind these evaluations is also provided.

TABLE 5-17. EVALUATION OF DESIGNATED SITES, HABITATS, FLORA AND FAUNA RECORDED WITHIN THE SITE AND THE SURROUNDING AREA. THOSE IDENTIFIED AS KEY ECOLOGICAL RECEPTORS (KERs) ARE HIGHLIGHTED IN GREEN.

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
DESIGNATED SITES			
European sites	International Importance	Five European sites lie within the ZOI of the Proposed Development, however, mitigation as outlined in the accompanying NIS have ruled out the potential for significant effects on any of these European sites because of the Proposed Development. Thus, European sites are not considered further within this report.	No
Nationally designated sites (pNHAs, NHAs)	National Importance	These designated sites within the ZOI of the Proposed Development are sufficiently well separated from the Proposed Development or mitigated by proxy by the mitigation measures outlined in the NIS so that no impacts	No
International sites (Ramsar, UNESCO)	International Importance		No

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
		on their designated features are anticipated as a result of the Proposed Development.	
HABITATS			
Arable Crop (BC4)	Local Importance (Lower Value)	The loss of this low value habitat will not be of significance.	No
Dry Meadows & Grassy Verges (GS2)	Local Importance (Lower Value)	The loss of this low value habitat will not be of significance. This habitat type is also abundant in the wider area.	No
Scrub (WS1)	Local Importance (Lower Value)	The loss of this low value habitat will not be of significance. This habitat type is also abundant in the wider area.	No
Sedimentary sea cliffs (CS3)	Local Importance (Lower Value)	A 100m coastal development exclusion buffer zone is proposed between the developable area & this habitat and as such it will not be directly affected by works (see Figure 5-5). Furthermore, the removal of direct pathways between the Proposed Development Site and the beach to the south (avoidance measure: see section 5.5.1) will discourage traversing of this habitat during Operation.	No
Buildings and Artificial Surfaces (BL3)	Local Importance (Lower Value)	This habitat is man-made and of little to no value.	No
Drainage ditch (FW4)	Local Importance (Higher Value)	This habitat connects the Site with the coast to the south and although is to be retained, could be subject to deteriorations in water quality in the absence of mitigation.	Yes
Pond (FL8)	Local Importance (Higher Value)	This habitat is to be retained and thus (although unlikely given the raised nature of the pond) could be subject to water quality impacts in the absence of mitigation.	Yes
Hedgerows (WL1)	Local Importance (Higher Value)	Comprises native hedgerow species & provides suitable nesting and foraging habitat for a range of species. To be retained, however, may be indirectly affected by the Proposed Development through dust deposition or root damage.	Yes
Treelines (WL2)	Local Importance (Higher Value)	Provides suitable nesting and foraging habitat for a range of species. To be retained, however, may be indirectly affected by the Proposed Development through dust deposition or root damage.	Yes
LINKED AND ADJACENT HABITATS			
Shingle and gravel banks (CB1)	Local Importance (Lower Value)	This habitat is directly outside the Site boundary to the south and will also be protected by the proposed 100m coastal	No

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
		development exclusion buffer zone from any direct impacts(see Figure 5-5) during Construction. Furthermore, the removal of direct pathways between the Proposed Development Site and the beach to the south (avoidance measure: see section 5.5.1) will discourage traversing of this habitat during Operation.	
SPECIES AND SPECIES GROUPS			
Bat Assemblage	Local Importance (Higher Value)	No roosting bats were identified at the Site. There was a predominantly Low level of activity during the transect surveys, primarily from common pipistrelle, with very low levels of Leisler's bat and soprano pipistrelle.	Yes
Wintering Bird Assemblage	Local Importance (Higher Value)	A variety of red, amber and green listed wintering birds were recorded utilizing the Site and the shoreline to the south, with some infrequent occurrences of Annex I species. Wintering birds may be subject to impacts in the absence of mitigation.	Yes
Breeding Bird Assemblage	Local Importance (Higher Value)	A variety of red, amber and green listed species were recorded at the Site with suitable breeding habitat for a few notable species. Bird species utilizing the Site have the potential to be significantly affected by the Proposed Development in the absence of mitigation.	Yes
Larger Terrestrial Mammals	Local Importance (Lower Value)	No resting sites for mammals such as badger or otter were identified at the Site nor were any resting sites located within 150m of the Site along the shoreline. Similarly, no evidence of foraging or commuting mammals was identified at or within 150m of the Site and it is presumed the Site is not of importance to badger or otter.	No
Small Terrestrial Mammals: Eurasian pygmy shrew (<i>Sorex minutus</i>); Irish hare (<i>Lepus timidus subsp. hibernicus</i>);	Local Importance (Higher Value)	Suitable habitats present for some of these small native mammals at the Site, which may be more timid and less likely to be recorded during surveys. Hedgehog specifically hibernate and may be susceptible to injury during vegetation clearance during hibernation in the absence of mitigation.	Yes

Species / Species Group	Evaluation	Rationale	Key Ecological Receptor (KER)
Irish stoat (<i>Mustela erminea subsp. hibernica</i>); West European hedgehog (<i>Erinaceus europaeus</i>); Wood mouse (<i>Apodemus sylvaticus</i>)			
Amphibians	Local Importance (Lower Value)	Although there is a pond and a drainage ditch present at the Site, both are to be retained and do not hold suitability for amphibians as a result of the depth and steeply sloping edges, as well as flow (in the case of the drainage ditch).	No
Common Lizard	Local Importance (Higher Value)	Some suitable habitats in the form of stone walls and old farm building ruins which may provide basking spots, and adjacent scrub that may provide refugia. No desk study records but this species is widespread throughout Ireland and thus presumed present.	Yes
Invasive Species	Negligible Value	Invasive flora recorded at the Site will require treatment / removal prior to the commencement of works to avoid spread within or off-Site.	Yes

5.4 Potential Effects of the Proposed Development

5.4.1 Construction Phase

5.4.1.1 Effects on Habitats and Flora

5.4.1.1.1 Treeline and Hedgerow (WL2 / WL1)

These habitats are to be predominantly retained, with some removal planned to facilitate development. In the absence of mitigation, the loss of hedgerow/treeline at the Site, in the context of the retained habitat, constitutes a *negative, permanent* effect of *slight* significance at the local level.

Furthermore, retained features may be at risk of dust deposition on leaves and root structures, affecting photosynthesis and respiration, during excavation works at the Site. Similarly, roots could be damaged by plant and machinery traversing the Site during Construction. This could constitute a *negative, short-term* effect of *moderate* significance at the local level.

5.4.1.1.2 Pond (FL8)

This habitat is to be retained as part of the Proposed Development, and thus could be subject to excessive siltation, sedimentation or chemical/hydrocarbon spills leading to a deterioration in water quality during the Construction Phase of the Proposed Development. In the absence of mitigation, this would constitute a *negative, short-term, significant* effect at a local scale.

5.4.1.1.3 Drainage Ditch (FW4)

This habitat is to be retained as part of the Proposed Development, and thus could be subject to excessive siltation, sedimentation or chemical/hydrocarbon spills leading to a deterioration in water quality during the Construction Phase of the Proposed Development. In the absence of mitigation, this would constitute a *negative, short-term, significant* effect at a local scale.

5.4.1.1.4 Invasive Species

Two low-impact, invasive, non-native plant species were recorded in the middle of the cluster of buildings at the Site, namely, montbretia and New Zealand flax. In the absence of mitigation, the spread of invasive species could lead to *negative, long-term, significant* effects on adjacent habitats.

5.4.1.2 Effects on Fauna

5.4.1.2.1 Bats

No roosting bats are present at the Site, however, small numbers of foraging and commuting bats were recorded at the Site, comprising the three most common species in Ireland which are widespread throughout the country (NPWS, 2019). Potential impacts on foraging and commuting bats as a result of the Construction Phase of the Proposed Development comprise light-related disturbance and loss of foraging and commuting habitat to be removed to facilitate the Proposed Development, and potential for injury/death during any tree removal.

In the absence of mitigation, light-disturbance affecting bats could result in *negative, short-term* effects of *moderate* significance.

In the absence of mitigation, loss of foraging and commuting habitat could result in *negative, permanent* effects of *slight* significance, particularly in the context of the wider available suitable habitat and low activity levels.

Furthermore, should any vegetation removal (e.g. tree removal) be undertaken when bats are present within trees, bats could be subject to injury or death. This would constitute a *negative, short-term, significant* effect on the local bat assemblage.

5.4.1.2.2 Breeding Birds

Taking a precautionary approach, in the absence of mitigation, there is the potential for disturbance to lead to *negative, temporary* effects of *slight* significance on breeding birds, in the event that works are undertaken during breeding bird season (March-August inclusive).

Furthermore, should any vegetation removal (e.g. tree removal) be undertaken during the breeding bird season (March-August inclusive), nests could be directly lost, potentially leading to the death of adults, chicks or eggs, in contravention of national and international law. This would constitute a *negative, short-term, significant* effect on local breeding birds.

Loss of potential nesting habitat is also considered here; given the minimal tree loss at the Site, this effect is considered to be *negative, permanent*, and of *slight* significance for local breeding birds.

5.4.1.2.3 Wintering Birds

Taking a precautionary approach, there is the potential for Construction-related disturbance (noise and visual) to lead to *negative, short-term* effects of *moderate* significance on wintering birds at the local scale, in the absence of appropriate mitigation to ameliorate potential effects from visual and noise stimuli at the Site.

The loss of foraging habitat within the Site to facilitate the Proposed Development constitutes a *negative, permanent, slight* effect on wintering waterbirds at the local scale, given that the Proposed Development incorporates a wetland area designed to provide enhanced, optimal habitat for waterbirds, and given the abundance of suitable habitat within the wider area (in some cases more suitable than the Site of the Proposed Development e.g. the polders adjacent to Ballyteige Burrow beach) (see Figure 5-7 below).



FIGURE 5-7. MAP ILLUSTRATING THE ABUNDANCE OF HABITAT IN THE WIDER AREA OF SIMILAR COMPOSITION TO THAT FOUND AT THE SITE OF THE PROPOSED DEVELOPMENT

5.4.1.2.4 Small Terrestrial Mammals

Potential impacts on small terrestrial mammals, such as hedgehog, pygmy shrew (*Sorex minutus*), Irish hare (*Lepus timidus subsp. hibernicus*), Irish stoat (*Mustela erminea subsp. hibernica*) or wood mouse (*Apodemus sylvaticus*), relate to direct mortality during vegetation clearance or entrapment within construction materials.

Should removal be undertaken during hedgehog hibernation period (October-April), or during the breeding periods of the aforementioned mammals, in the absence of mitigation, this could result in *negative, short-term, significant* effects at the local scale.

Small mammal species have the potential to become trapped in trenches and entangled in construction materials such as netting and plastic sheeting, as well as other waste materials, causing entrapment and injury or death. Should this occur, it would constitute a *negative, short-term, moderate* effect on local populations.

Visual and noise disturbance of species due to increased human presence, machinery and lighting during the Construction Phase, although unlikely, is possible and, as such, a precautionary approach is adopted with these disturbances representing potential *negative, short-term, slight* effects at a local scale.

5.4.1.2.5 Common Lizard

Common lizards are widely distributed throughout Ireland and inhabit a wide range of habitat types, including those found at the Site of the Proposed Development. Potential impacts of the Construction Phase of the Proposed Development comprise direct mortality in the event of vegetation removal during the hibernation period for common lizard. In the absence of mitigation, this could result in *negative, short-term, moderate* effects on local common lizard.

5.4.2 Operational Phase

5.4.2.1 Effects on Habitats and Flora

5.4.2.1.1 Invasive Species

Landscaping with imported soils and flora has the potential to introduce invasive species to the Site and the newly created habitats, from whence these invasive species could spread to the surrounding landscapes. In the absence of mitigation (e.g. monitoring for reestablishment or spread of treated invasive species), the spread of invasive species could lead to *negative, long-term, moderate* effects on adjacent habitats.

5.4.2.2 Effects on Fauna

5.4.2.2.1 Bats

There is the potential for Operational Phase lighting to cause disturbance to foraging bats, given that its use cannot be avoided at the Site. Although a low level of bat activity was recorded overall at the Site during bat activity surveys, the provision of supplementary habitat planting in the form of hedgerows, treelines and shrub will increase the Site's value for use by bats by providing improved foraging and commuting corridors through the Site. As such, in the absence of lighting mitigation during Operation, there is the potential for *negative, permanent, slight* effects on the *local* bat population.

The retention of boundary habitats alongside the proposed additional planting included as part of the landscaping plan for the Site will offer additional suitable commuting and foraging habitat for any locally occurring bats. As such, the likely effect is considered *positive, permanent* and *slight* at the local level, due to the increase in available resources and habitats at the Site.

5.4.2.2.2 Breeding Birds

Potential impacts during the Operational Phase include disturbance from increased artificial lighting along the coastline which could distract or disorient breeding seabirds, potentially leading to decreased foraging or nest abandonment during breeding season, in particular, 'tubenose' species, which include puffins, shearwaters, petrels and terns (Laguna et al. 2014). In the absence of appropriate mitigation measures, this could constitute *negative, permanent, significant* impacts on breeding seabirds in the locality.

The retention of boundary habitats alongside the proposed additional planting included as part of the landscaping for the Site will offer potential commuting, foraging, and nesting habitat for local birds. As such, the likely effect is considered *positive, permanent* and *slight* at the local level, due to the increase of available resources and habitats at the Site.

5.4.2.2.3 Wintering Birds

Potential impacts resulting from the Operational Phase and affecting wintering birds may include increased noise and visual disturbance as a result of the increased human presence at the Site, as well as increased artificial lighting along the coastline which could distract or disorient seabirds or migrating birds in flight. Additionally, the proposed structures at the Site could lead to an increase in bird collisions. These are discussed in more detail below.

Light Disturbance

Artificial light, particularly along coastal areas, can disorient sea and coastal bird species like those found along the shoreline or offshore to the south of the Proposed Development, potentially disrupting normal flight or migration patterns. This will be lessened by the proposed supplementary planting and earthen berms which will provide some screening effect. In the absence of appropriate mitigation measures, this could constitute *negative, permanent, moderate* effects on local wintering birds.

Human Noise/Visual Disturbance

Wintering birds may react to noise and visual stimuli created by walkers using the beach by flushing, wasting energy that would be otherwise used for productive activity such as foraging or migration; the ability of more sensitive species to survive or breed may also be impacted (Cutts et al, 2009). While noise disturbance from walkers is unlikely, visual disturbance alone could elicit a response in waterbirds using the shoreline. Furthermore, dog walkers, particularly those with off-leash dogs, will cause disturbance to waterbirds in the vicinity; although given the nature of the Proposed Development as a hotel, a significant increase in dog walkers resulting from this type of development is unlikely. Cutts et al (2009) defines visual disturbance and the distance at which certain waterbirds will exhibit behavioural responses in the below Figure 5-8.

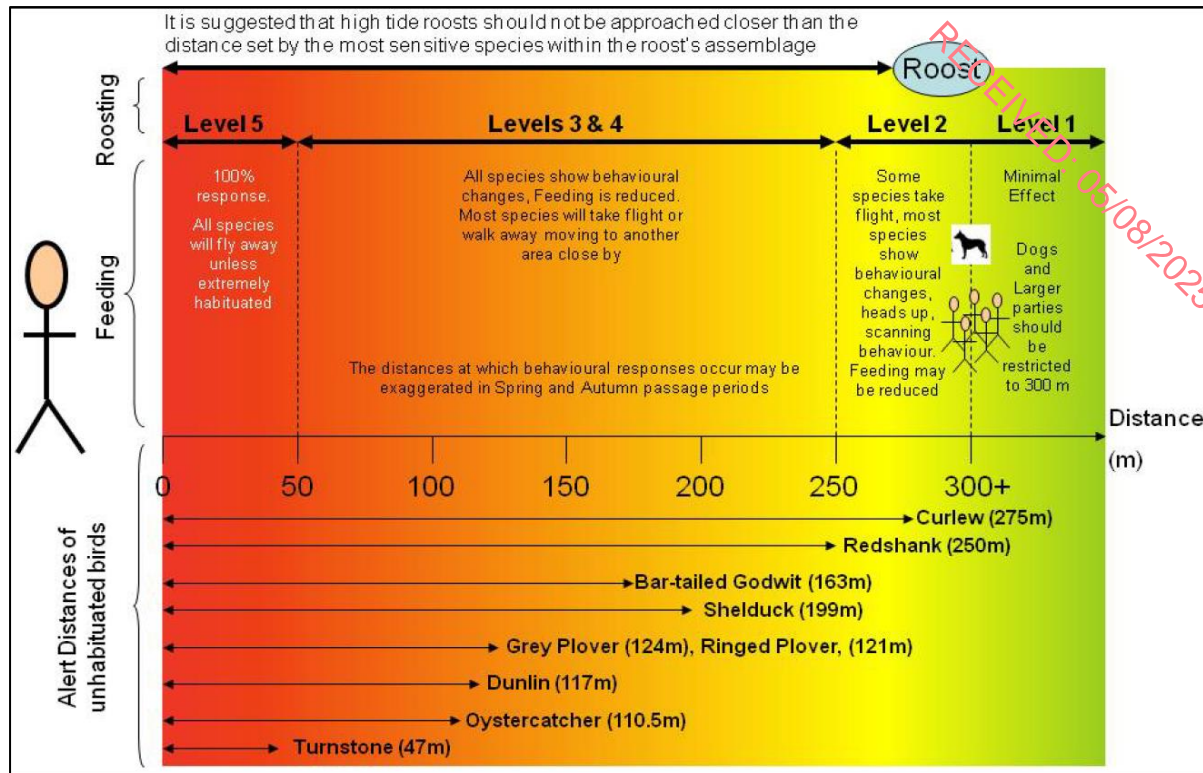


FIGURE 5-8. VISUAL DISTURBANCE SENSITIVITY OF WATERBIRDS ALONG SHORELINES EXTRACTED FROM CUTTS ET AL (2009).

Sensitive wintering bird species (as defined by Cutts et al, 2013) noted as occurring along the shoreline to the south of the Site during the six wintering bird surveys comprise:

- Redshank (High sensitivity): 27 no. individuals in total, recorded across all survey dates except 11th December 2024.
- Curlew (High sensitivity): 15 no. individuals recorded on three occasions, the first and the final two surveys.
- Oystercatcher (Moderate Sensitivity): 21 no. individuals feeding on the shoreline, recorded across four different survey dates.
- Bar-tailed Godwit (Moderate Sensitivity): 12 no. individuals recorded on one occasion (the final survey on the 7th of February 2025).
- Black-tailed Godwit (Moderate Sensitivity): 8 no. individuals recorded on one occasion (the final survey on the 7th of February 2025).

The remaining species recorded were not listed or were noted as having a low sensitivity to noise and visual stimuli. Taking the above into consideration, it is worth noting that during the most sensitive time for wintering bird species, which, broadly speaking, runs from October to February, inclusive, will also coincide with times that beaches are used less frequently by walkers due to weather conditions. This is confirmed within the Conservation Objectives Supporting Document for Ballyteige Burrow (NPWS, 2014c), which states that “*Human recreational activities at coastal sites occur less frequently during winter months and the range of activities is much reduced*”. Furthermore, this document continues, “*recreational activities across the site are limited because of the site’s relative inaccessibility*”. The beach is least likely to be utilised by walkers during the winter months due to weather conditions. When

beaches are at peak usage in summer months, wintering birds will not be present and thus there will be no potential for disturbance or displacement related effects.

Furthermore, as outlined in the Avoidance Measures in section 5.5.1, there are no direct pathways between the Proposed Development and any beaches; connectivity is provided between the Site and Kilmore Quay village only, from which a number of different beaches can be accessed. The expansive sizes of the surrounding beaches (stretching for approximately 30km), coupled with the lower levels of beach usage during winter months, the low level of disturbance generated by walkers without dogs, and the results of the wintering bird surveys, all indicate that there is no potential for significant levels of human-related disturbance or displacement during Operation.

As such, the effect of the increased human presence during Operation is assessed as *negative, permanent but not significant* on wintering waterbirds in the locality.

Collision Risk

Likelihood of Collision Effects

From a review of available literature on the subject, bird collisions with man-made structures are common and well documented¹ with migratory passerine species the most prevalent collision victims². Bird collision with buildings is generally associated with reflective material such as windows or large surfaces of glass which create a mirror and appear to show the continuation of the sky or surrounding landscape, an effect that can be exacerbated by lighting.

In addition, the physical location of buildings and structures can influence the likelihood of bird collisions, with structures placed on or near areas regularly used by large numbers of feeding, breeding, or roosting birds, or on local flight path; such as those located between important foraging and roosting areas, can present a higher risk of collision.

The Site in itself does represent suitable *ex-situ* foraging habitat for some wintering birds as documented by the wintering bird survey results (see section: 5.3.4.3.2.3), although does not represent an *ex-situ* site of significance. This is due to the main area utilised by wintering birds being concentrated within the southern bounds of the Site, which comprises the 100m coastal buffer which will be enhanced to include a parcel of wetland habitat in tandem with SuDS ponds, the low frequency and number of birds recorded during surveys and the abundance of similar suitable habitat in the wider area (see Figure 5-7).

Building Appearance

¹ Banks, R.C (1979). Human related mortality of birds in the United States. U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl. 215. 16 pp.

Jenkins, A., Smallie, J.J. and Diamond, M. (2010). Avian collisions with power lines: A global review of causes and mitigation with a South African perspective. Bird Conservation International, 20(03), 263 – 278.

Klem, D. (1990). Collisions between birds and windows: mortality and prevention. Journal of Field Ornithology, 61, 120–128.

Erickson, W.P., Johnson, G.D. and Young, P.D. (2005). A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. 2005.

Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka, and R. E. Good. (2001). Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee, c/o RESOLVE, Inc., Washington, D.C.

² Bing G.-C., Choi C.-Y., Nam H.-Y., Park J.-G., Hong G.-P., Sung J.-K., Chae H.-Y & Choi Y.-B. (2012). Causes of mortality in birds at stopover islands. Korean J. Ornithol., 19, 23–31.

Longcore, T. Rich, C., Mineau, P., MacDonald, B., Bert, D.G., Sullivan, L.M., Mutrie, E., et al. (2013). Avian mortality at communication towers in the United States and Canada: which species, how many, and where? Biological Conservation, 158, 410-419.

Whilst the design of the facades of the dwellings do include windows, no large surfaces of glass are proposed. Rather the overall façades of the proposed buildings are well broken up, with a varied material composition interspersing any reflective areas. These architectural design features provide important visible cues as to the presence and extent of the proposed structures to any commuting/foraging bird species should they be in the vicinity of the Site. This overall visual heterogeneity of the building façades will be sufficient to further ensure that the risk of bird collisions as a result of the Proposed Development is negligible. These architectural design features are part of the overall design of the Proposed Development and are not considered to represent specific mitigation measures to prevent collisions, however, they will contribute to the overall effect in this regard. It is noted that birds are not deemed to be at any particular risk of collisions with the proposed buildings at the Site.

As such, based on the physical appearance of the proposed structures and the nature of their location, it is deemed that birds including any 'at-risk' species, do not have the potential to be impacted by the Proposed Development in terms of collisions and the risk is therefore deemed to be *imperceptible* in the absence of any mitigation.

Building Height

With respect to birds within the zone of influence of the Proposed Development which regularly use or travel over inland areas (i.e. black-headed gull, herring gull, great black-backed gull and common gull), they navigate the urban environment with built structures daily.

To put some context on some of their avoidance capabilities, in a different setting and for use in collision risk modelling for onshore wind turbines, an avoidance rate of 99.5% is applied for large gull species and an avoidance rate of 99.2% is applied for small gull species (Furness, 2019) which essentially means that 99.5% and 99.2% of gull flights, respectively, will avoid collision with a moving turbine. For curlew the avoidance rate applied is 98% (SNH, 2018).

The risk of collision is even less with a static, clearly detectable building. The proposed buildings consist of glazing, broken up with with a varied material composition interspersing any reflective areas. While the presence of the Proposed Development might alter flight patterns of bird species slightly to avoid the proposed building structures the risk of collision is extremely low.

The Proposed Development entails the construction of buildings ranging in height up to four storeys, and as such, the risk of migrating birds colliding with the structure due to its height is deemed to be negligible (Migrating species tend to commute far above this with Swans and Geese flying up to 2500ft (c.750m) during migration along Irish Coasts (Irish Aviation Authority, 2020)).

It is considered that birds that fly over the Site to commute between feeding grounds at various locations would fly lower than this, however, once the proposed structures are made of visible materials i.e., not entirely comprised of reflective materials such as glass, the birds would simply fly around or over them.

In summary, effects in relation to collision risk are considered *neutral*, *permanent* and *not significant* on local wintering birds.

5.4.2.2.4 Small Terrestrial Mammals

The retention of boundary habitats and treeline surrounding the ponds alongside the proposed additional planting included as part of the landscaping to take place on Site will offer potential

commuting, foraging, and nesting habitat for small mammals within the vicinity of the Site. As such, the likely effect is considered *positive, permanent* and *slight* for local small terrestrial mammals, as a result of the increase in available resources and habitats on Site.

Noise, increase in light, and potential physical disturbance due to increased human presence associated with the Operational Phase has the potential to cause a *negative, permanent, slight* effect to local small mammals in the absence of suitable mitigation.

5.4.2.2.5 Common Lizard

The retention of boundary habitats and treeline surrounding the ponds alongside the proposed additional planting included as part of the landscaping to take place on Site will offer potential commuting habitat for common lizard within the Site and its surrounding environs. As such, the likely effect is considered *positive, permanent* and *slight* at a local level, due to the increase of available resources and habitats on Site.

5.4.3 Potential Cumulative Impacts

The potential for cumulative effects as a result of the Proposed Development being undertaken simultaneously with other large-scale proposals and projects in the vicinity of the Site (within 500m) is assessed below in Table 5-18.

TABLE 5-18. ASSESSMENT OF CUMULATIVE EFFECTS IN RELATION TO THE PROPOSED DEVELOPMENT AND OTHER DEVELOPMENTS WITHIN THE VICINITY OF THE SITE

Planning Ref.	Planning Authority	Grant Date	Location from Site
20191633	Wexford County Council	09/03/2020	Directly adjacent
Development Description <p>Ten-year planning permission to construct a new wastewater treatment plant in Kilmore Quay in two phases. phase 1 (a) wastewater treatment plant (wwtp) with a capacity of 850 population equivalent (pe) at Nemestown; (b) 2 no. wastewater pumping stations (WwPS) at Crossfarnogue; (c) 8.5 kms of pipeline. Irish Water intends to deliver this phase within 5 years. phase 2 construction of modular expansion of the WwTP to provide a treatment capacity up to 1,900pe. a Natura Impact Statement accompanies this planning application.</p>			
Potential for Cumulative Effects <p>According to the Uisce Éireann website, the construction phase of this project has been completed. The operational phase will see appropriate treatment of raw sewage and end the discharge of raw sewage into the sea at Kilmore Quay. This will also be beneficial for the Proposed Development. This planning application is accompanied by an NIS, which outlines a range of mitigation measures that <i>“are taken from established best practice guidelines and published peer-reviewed papers that have been successfully implemented for a wide range of developments, including developments in sensitive sites similar to the proposed project development”</i>. The report concludes that upon implementation of these measures, there is no potential for significant effects on European sites. Furthermore, the accompanying Biodiversity Chapter similarly concludes that <i>“overall there would be a net improvement in surface water quality with scheme implementation. Provided the mitigation measures...are fully implemented, it is unlikely the construction phase of the proposed development would have any significant residual effects”</i>. As such, no negative cumulative effects are anticipated.</p>			
20240553	Wexford County Council	Undecided (app received on 17/05/2024)	500m W
Development Description			

Permission for the development of: Forlorn Road Carpark: Construction of a 23 space carpark with one way entry from Forlorn Road (L7089) and exit to Ballyteige Burrow Road (L3056). The parking will include two disabled spaces, 4no. electric charge bays, picnic tables, bike rack and repair kiosk and a zebra pedestrian crossing. Ballyteige Burrow Road: On the western side of the road, construction of a 2m wide concrete cycle and pedestrian roadside path, 325m long from the Cottage Pump House to the entrance of Sofrimar Plant. On the eastern side of the road, construct a 2m pedestrian footpath, 525m long from Castle View (L30561) to Ard na Ba Road (L30564). Recreation Trail: Construct a 3m wide cycle and pedestrian trail along the drainage channel towpath from Sofrimar to Ballyburn Crossroads. The off-road trail will be 1.78km gravel path with 23m long prefabricated footbridge at Sofrimar, 4no. concrete slab farm crossing points, stockproof fencing and gates, culverts and signage. Ballyburn Crossroad Carpark: Construction of a 22 space carpark with access off Ballyteige Burrow Road (L3056). The parking will consist of two disabled spaces, 4no. electric charge bays, picnic tables and bike rack and repair kiosk. The proposed development impacts on a number of designated European Sites and a Natura Impact Statement (NIS) was prepared for this planning application.

Potential for Cumulative Effects

This project is accompanied by an NIS which outlines a range of mitigation measures designed to protect Ballyteige Burrow SAC and SPA and their associated aquatic and terrestrial habitats and species from any significant effects. The report concludes that *“provided the mitigation measures set out in Section 9 are fully implemented, the proposed development will not, either alone or in combination with other plans or projects, give rise to significant negative effects on the conservation objectives or site integrity of Ballyteige Burrow SPA or any other Natura 2000 site and is not likely to compromise any nature conservation objectives or the integrity of any Natura 2000 site”*.

It was determined that a full Biodiversity Chapter / EclA was not required for this project.

There is no potential for cumulative effects.

5.4.4 “Do Nothing” Effect

Should the Site not undergo development, it would continue to be utilised as farmland for arable crops. Wintering birds from the adjacent Saltee beach would continue to use the Site for foraging. Human disturbance would comprise farm machinery and would remain at lower levels than if the hotel development went ahead. Invasive species would likely spread at the Site as a result of the absence of any treatment or management, and the buildings on-Site would continue to become dilapidated and overgrown with ivy.

5.4.5 Interactions

This Biodiversity Chapter, pertaining to the ecological and biodiversity aspects of the Proposed Development, has the potential to interact with aspects of the following chapters of this EIAR:

- Chapter 7: Hydrology
- Chapter 9: Noise & Vibration

5.4.5.1 Hydrology

The key environmental interaction with biodiversity is water. An assessment of the potential effect of the Proposed Development on the hydrological and hydrogeological environment is described in Chapter 7 - ‘Hydrology’ of this EIAR and the accompanying AA/NIS (Enviroguide, 2025a), to ensure the quality (pollution and sedimentation) and quantity (surface water run-off) of water is of the appropriate standard. Interactions between hydrology and biodiversity can occur through effects to water quality, arising, for example from an accidental pollution

event during the Construction and/or Operational Phase. This interaction if unmitigated has the potential to result in effects on ecological receptors e.g., designated sites, that are hydrologically linked to the Site. However, mitigation measures are proposed in the NIS report, and below within this Chapter, to prevent any significant effects on water quality throughout the Construction and Operational lifetime of the Proposed Development.

5.4.5.2 Noise & Vibration

An assessment of the potential effect of the Proposed Development in the form of excess noise and vibrations associated with the Proposed Works are laid out in Chapter 9 - 'Noise & Vibration'. These effects are considered to be relevant to the ecological sensitivities associated with the Site of the Proposed Development discussed in this Chapter, in particular breeding and wintering birds; and mitigation measures addressing these potential effects are described in full below and in Chapter 9. There is potential for interactions between noise and sensitive fauna, e.g., birds, that occur in adjacent habitats from increased noise levels during the Construction Phase. However, upon implementation of the proposed mitigation measures within both this Chapter of the EIAR and the accompanying AA/NIS (Enviroguide, 2025a), there will be no significant effects on any sensitive receptors throughout the Construction and Operational lifetime of the Proposed Development.

5.5 Avoidance, Enhancement, Best Practice and Mitigation Measures

5.5.1 Avoidance Measures

The Project has implemented the following two avoidance measures in its design in order to protect habitats, species and designated sites from significant effects:

- A 100m coastal buffer along the southern boundary of the Site, within which no building development is to occur, although a small path and a SuDS attenuation area / wetland habitat creation (for waterbirds) will be situated within this buffer zone.
- Removal of any direct pathway between the Proposed Development and Saltee Beach to the south. The Proposed Development will provide vehicular, pedestrian and cyclist access to Kilmore Quay village only, to avoid disturbance to birds utilising the shoreline.

5.5.2 Best Practice Measures

Best practice development standards and mitigation measures are also to be implemented during the Construction Phase of the Proposed Development. The measures listed are outlined in more detail in the Construction and Environmental Management Plan (CEMP) (Enviroguide, 2025b) accompanying this application under separate cover.

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990. Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.

- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005.
- BPGCS005, Oil Storage Guidelines.
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004; Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006).
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

5.5.3 Construction Phase Mitigation

5.5.3.1 Mitigation 1: Surface Water Protection Measures

In addition to the best practice measures included within the CEMP and summarised above, a range of mitigation measures are proposed to ensure that no surface water from the Site enters the pond at the Site, or drainage ditch along the eastern boundary of the Site. These surface water mitigation measures will treat the source (e.g., refuelling of plant to be carried out at designated refuelling station locations on Site) or remove the pathway (e.g., no release of wastewater generated on-site during the Construction Phase). These measures will protect surface waters during the Construction Phase of the Proposed Development.

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) Acts, 1977 and 1990 and the contractor will cooperate fully with the Environment Section of Wexford County Council in this regard.

Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice.

The following standard measures will be implemented by the appointed Contractor (unless otherwise stated) to protect surface water during the Construction Phase of the Proposed Development:

- Run-off from machine service and concrete mixing areas will under no circumstances be allowed to enter the local nearby drainage network or exit the Site and enter the sea just south of Kilmore Quay.
- Discharge water generated during the placement of concrete will be stored and removed off-site for treatment and disposal.
- There will be no washing out of any concrete trucks on Site.
- Leachate generation from stockpiles or waste receptacles will be prevented by using waterproof covers.
- If contaminated soils are encountered during construction works or if material becomes contaminated by, for example, a fuel spill or hydraulic fluid leak, the contaminated materials will be segregated, placed on an impermeable membrane to prevent contamination of the underlying ground, and covered to prevent contaminants being mobilised by rainwater run-off. The materials will remain covered until such time as

they can be compliantly removed from the site by appropriately authorised waste management contractors.

- A regular review of weather forecasts for heavy rainfall will be conducted, and a contingency plan will be prepared before and after such events to minimise any potential run-off containing silt, sediment, or other pollutants.
- Refuelling of plant during the Construction Phase will only be carried out at designated refuelling station locations on Site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on Site.
- Robust and appropriate Spill Response Plan and Environmental Emergency Plans will be implemented for the duration of the works.
- A register will be kept of all hazardous substances either used on-site or expected to be present. The register shall be always available and shall include as a minimum: valid safety sheets; Health & Safety, environmental controls to be implemented when storing, handling, using and in the event of spillage of materials; emergency response procedures/precautions for each material; the Personal Protective Equipment (PPE) required when using the material.

Fuel and Chemical Storage

Appropriate storage facilities will be provided on Site. Areas of high risk include:

- Fuel and chemical storage.
- Refuelling Areas.
- Site Compound.
- Waste storage areas.

If required, fuel, oils and chemicals will be stored on an impervious base within a bund, however, it is recommended that all fuel, oil and chemical storage will be off Site.

All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Environmental Protection Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2904). All tank and drum storage areas shall, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Concrete mixer trucks will not be permitted to wash out on Site with the exception of cleaning the chute into a container which will be removed off Site to an authorised facility.

5.5.3.2 Mitigation 2: Silt and Sediment Control

During the Construction Phase, machinery such as diggers have the potential to stir up sediment, especially during rainy periods. This sedimentation has the potential to be transferred to the nearby drainage ditches in the absence of mitigation measures. The following mitigation measures will prevent silt and sediment originating at the Site from entering the drainage ditch along the eastern bounds of the Site.

- Silt fences will also be installed around any soil mounds / bunds.

- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch on Site.
- Prior to the commencement of operations, install silt traps within the existing drains that connect with aquatic zones, either directly or indirectly through other relevant watercourses.
- Silt traps will be staggered along the length of the drainage ditch, and not only at the lower reaches towards its outflow.
- Silt trap design can vary, from depressions added to the watercourse bed, to log sections laid lengthways into the drain, to the use of geotextile barriers.
- Once silt traps and silt fences become functional, they will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout operations.

5.5.3.3 Mitigation 3: Dust Suppression and Prevention Measures

The following general dust control measures will be followed for the duration of the Construction of the Site and will ensure no significant dust related effects occur to nearby sensitive receptors.

- Haulage vehicles transporting gravel and other similar materials to Site will be covered by a tarpaulin or similar.
- Access and exit of vehicles will be restricted to certain access/exit points.
- Vehicle speed restrictions of 20km/hr will be in place.
- Bowzers will be available during periods of dry weather throughout the Construction period.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil thereby reducing the amount of dust.
- Stockpiles will be stored in sheltered areas of the Site, covered, and watered regularly or as needed if exposed during dry weather.
- Gravel should be used at Site exit points to remove caked-on dirt from tyre tracks.
- Hard surfaced roads will be wet swept to remove any deposited materials.
- Unsurfaced roads will be restricted to essential traffic only.
- If required to control dust nuisance wheel-washing facilities will be located at the exit from the construction area.
- Dust production as a result of Site activity will be minimised by regular cleaning of the access roads using vacuum road sweepers and washers. Access roads should be cleaned at least 0.5km on either side of the approach roads to the access points.
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- The frequency of cleaning will be determined by the Site agent and is weather and activity dependent.
- The height of any required stockpiles will be kept to a minimum and slopes should be gentle to avoid windblown soil dust.
- The following will be dampened during dry weather:
 - Unpaved areas subject to traffic and wind.
 - Stockpiles.

- Areas where there will be loading and unloading of dust-generating materials.
- Under no circumstances will wastewater from equipment, wheel or surface cleaning enter the local drainage network.

5.5.3.4 Mitigation 4: Root Protection Zones

Protective tree fencing in compliance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' will be erected prior to any Construction works being undertaken to prevent damage to the canopy and root protection areas of existing trees to be retained at the Site.

The fencing will be signed off by a qualified arborist prior to construction to ensure it has been properly erected. No ground clearance, earthworks, stock-piling or machinery movement will be undertaken within these areas.

The project Arborist will be instructed **prior to commencement on Site**; to ensure that appropriate tree protection measures are in place. These measures will entail robust fencing around the root protection zones of all trees and hedgerows being retained on Site. An adequate level of signage will also be provided to highlight 'no work zones' and ensure that Site creep and damage to retained habitats does not occur. The northern and southern boundary hedgerows must be sufficiently protected for the duration of the Construction Phase to maximise their ecological value in the final landscape plan.

The project Arborist, the project Ecologist and the Site Manager will work together to ensure these sections of hedgerow/woodland are protected for the duration of the works.

5.5.3.5 Mitigation 5: Invasive Species Removal

5.5.3.5.1 Montbretia

Montbretia can be controlled by chemical or physical means, or a combination of both, which is the preferred method of control as per the TII guidance document for invasive species treatment (TII, 2020). As per this guidance for chemical control, "*Infestations of Montbretia can be effectively treated with herbicide during the active growing season. Due to the potential for re-infestation from seeds, corms and/or rhizome fragments, regular monitoring and follow-up treatment, as dictated by the monitoring, will be required over a number of years*".

The guidance for physical control states "*Physical control of Montbretia is difficult as individual corms easily break from their chains and can result in ready re-infestation or further spread. Where infestations are limited in extent, the entire stand can be excavated and buried or disposed of to a licensed landfill or incineration facility under licence. The most effective time to remove Montbretia is before the flowering/seeding season. The corms are very hardy and are not suitable for composting. Due to the potential for re-infestation from corms, regular follow-up will be required over a number of years to deal with any re-growth*".

5.5.3.5.2 New Zealand flax

This low-impact non-native species does not have a specific removal methodology and can be removed from the Site as per the normal physical removal of vegetation prior to commencement of Construction works.

5.5.3.6 Mitigation 6: Biosecurity

The following best practice Site hygiene and biosecurity measures will be in place as a precautionary measure to avoid the potential introduction of new invasive floral species at the Site and / or transfer offsite via movement of materials/staff:

- All soils/materials being introduced to the Site will be sourced from a certified invasive flora-free source site, to ensure no introduction of invasive plant materials to the Site occurs.
- Personnel working on or between sites will ensure their clothing and footwear are cleaned, ensuring they are visually free from soil and organic debris, in order to prevent inadvertent spread of invasive plant material.
- All vehicles entering or leaving the Site will have been suitably checked and pressure-washed to ensure no introduction of invasive flora to and from the Site. Measures such as a drive through hygiene bath or footbaths will be considered where appropriate.
- Designated wash-down area to be located away from sensitive receptors such as watercourses, ditches, drains etc.
- Material/water left after vehicles have been pressure-washed must be contained, collected and disposed of appropriately (these waters must not under any circumstances be discharged to drains or nearby ditches).

5.5.3.7 Mitigation 7: Timing of Vegetation Clearance

Any vegetation clearance at the Site will need to be cognisant of any potentially present fauna, and as such this mitigation is included as precautionary guidance, even though hedgerows are to be retained. Table 5-19 below provides guidance for when vegetation clearance is permissible in relation to wintering, hibernating and breeding fauna. Information sources include British Hedgehog Preservation Society's *Hedgehogs and Development* and *The Wildlife (Amendment) Act, 2000* and the Herpetofauna Groups of Britain and Ireland (1998).

Vegetation removal will not occur within the period of March-August inclusive, and the hedgerow sections marked for removal will be conducted outside of this period. The preferred period for vegetation clearance is within the months of September and October to avoid the main breeding bird season, as well as mammal hibernation and common lizard hibernation (See Table 5-19); vegetation clearance at the Site should be supervised by an ecologist.

During any works at the Site, should a breeding bird and/or an active nest be found, the nest will be protected through the demarcation of a 5m buffer zone (or appropriate area) around the nest, and no further works will take place in the vicinity of the nest until the young have fledged. Where continuance of works is critical during the nesting season, an ecologist will be instructed to survey the vegetation in question and make recommendations on how best to proceed. The area containing the nest would need to be protected with a suitable buffer to minimise disturbance until the ecologist has confirmed the young have fledged.

TABLE 5-19. SEASONAL RESTRICTIONS ON VEGETATION REMOVAL. RED BOXES INDICATE WHEN CLEARANCE / WORKS ARE NOT ADVISED.

Ecological Feature	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec

Breeding Birds	Vegetation clearance permissible	<u>Nesting bird season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of nesting birds by an ecologist.	Vegetation clearance permissible
Wintering Birds	<u>Wintering bird sensitive season</u> Hand tools only	Vegetation clearance permissible	<u>Wintering bird sensitive season</u> Hand tools only
Small terrestrial mammals (Hedgehog)	<u>Mammal hibernation season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.	Vegetation clearance permissible	<u>Mammal hibernation season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.
Common Lizard	<u>Lizard Hibernation Season</u> No habitat clearance permissible	<u>Active period</u> Habitat (scrub, tall sward grass) clearance permissible	<u>Lizard Hibernation Season</u> No habitat clearance permissible

Additionally, all vegetation clearance will be carried out in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog). A phased cutting approach under the supervision of a suitably qualified ECoW will be used to allow wildlife (e.g. small mammals, reptiles) to move away from any suitable habitat that will be removed:

- Phase 1 – Cutting vegetation to 150-200 mm and removing the arisings;
- Phase 2 – After a minimum of one hour, hand-searching the cut areas (conducted by an ECoW) and removing any sheltering habitat (e.g. logs or debris) then cutting vegetation to ground level and removing the arisings; and
- Phase 3 – Soil scrape.

Should any suitable refugia or day nesting habitats need to be removed, this will be carried out outside the most vulnerable breeding periods for hedgehogs wherever practicable (main hedgehog birthing months June and July) and outside of the main bird breeding season (March to August inclusive) (See Table 5-19) and will be supervised by the ECoW.

5.5.3.8 Mitigation 8: Waste Management

As best-practice all construction-related rubbish on Site e.g., plastic sheeting, netting etc. will be kept in a designated area and kept off ground level so as to prevent small mammals such as hedgehogs from entrapment and death.

Trenches/pits must be either covered at the end of each working day or include a means of escape for any animal falling in e.g., a plank or objects placed in the corner of an excavation (Species such as badgers will continue to use established paths across a site even when construction work has started).

Any temporarily exposed open pipe system will be capped in such a way as to prevent animals gaining access as may happen when contractors are off Site.

5.5.3.9 Mitigation 9: Construction Phase Lighting

To minimise potential disturbance to local bats and any local birds utilising the coast or offshore islands due to lighting during the Construction Phase, construction works will be carried out during normal daylight working hours as follows:

- Monday to Friday: 08:00 and 19:00; and,
- Saturdays: 08:00 to 14:00
- No Sunday work will generally be permitted.

Where nighttime lighting cannot be avoided due to health and safety concerns, the lighting within the Proposed Development will be designed and installed to minimise the effect on local wildlife and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (ILP, 2023) and in accordance with recommendations provided in the Guidelines for Ecologically Responsible Lighting (Crymble et al., n/d):

- There will be no light spill to the boundary habitats.
- There will be **no light spill outside of the southern boundary of the Site** onto the shoreline, and **light will be directed away from the shoreline**.
- All luminaires used will lack UV/IR elements.
- LED luminaires will be used because they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.

- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.
- Where possible, the Construction Phase lighting will be switched off during non-working hours. However, during use, directional lighting will be the lighting of choice as this will minimise light spill from the site, into any surrounding areas. Without jeopardising site safety, lights will be pointed down at a 45-degree angle and away from sensitive receptors. Should the site compound require external lights for safety and security, these lights will also be pointed down at a 45- degree angle and away from sensitive receptors.

5.5.3.10 Mitigation 10: Noise and Visual Stimuli

Waterbirds are particularly susceptible to disturbance when roosting on mudflats such as those present in Saltee and during Construction, there is a combined risk of noise and visual disturbance which can result in an additive disturbance effect and even displacement of birds, wasting energy that would otherwise be used for foraging (Cutts et al., 2013). However, it is worth noting that some birds using the shoreline can become habituated to higher noise and visual stimuli (e.g. ringed plover) (Cutts et al., 2013) or are already tolerant of anthropogenic activity (e.g. gulls). Mitigation to reduce the effects of noise and visual stimuli posed by the Construction works (including human presence, plant, machinery and any other vehicles) is outlined below.

- Acoustic barriers should be installed along the entire length of the southern boundary of the area for development, along the northern boundary of the proposed 100m coastal buffer. Acoustic barriers are readily available online and have the benefit of reducing noise levels by up to 43dB³.
- Acoustic barriers should be opaque so as to additionally reduce visual disturbance. As per Cutts et al (2013), the removal of the majority of visual stimuli in combination with the reduction in noise levels will decrease overall disturbance to waterbirds that may be using the shoreline to 'Low level disturbance'. This is defined as "*Works that are out of sight of birds and create a low-level noise*" at the bird, both of which will be achieved by the installation of the opaque acoustic barriers.

Noise levels at the Site in conjunction with wintering waterbirds birds present in along the shoreline will be monitored regularly by a suitably qualified ornithologist to ensure the effectiveness of the acoustic barriers. Where works are occurring outside of the sensitive seasons for birds (September to October), monitoring is not required, but acoustic barriers should remain in place as a precautionary measure.

Additionally, mitigation measures that can be applied at the Site to suppress noise generated during Construction are outlined below:

- Selection of plant with low inherent potential for generating noise.
- Siting of plant as far away from sensitive receptors as permitted by Site constraints.
- Avoidance of unnecessary revving of engines and switch off plant items when not required.

³ Acoustic barriers: <https://www.safesitefacilities.co.uk/products/construction-site-security/acoustic-barriers-noise-barriers>

- Keep plant machinery and vehicles adequately maintained and serviced.
- Proper balancing of plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Where noise originates from resonating body panels and cover plates, additional stiffening ribs or materials should be safely applied where appropriate.

5.5.4 Operational Phase Mitigation

5.5.4.1 Mitigation 11: Invasive Species Management

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Despite the measures identified in the accompanying CEMP (Enviroguide, 2025b) for the importation of only clean materials, there is the potential for the inadvertent import of invasive species to the Site. If established, there is a risk of further spread both within and out of the Site.

As such, it is recommended that any newly landscaped areas, particularly where infill materials and soils have been imported for soft landscaping, are assessed during the Operational Phase within the next botanical season for the presence of any inadvertently introduced invasive species, with particular focus on those listed on Schedule III of SI 477 of 2011. If invasive species are detected, an Invasive Species Management Plan will be prepared, agreed with the Local Authority and implemented at the earliest possibility to limit the potential for further spread.

5.5.4.2 Mitigation 12: Operational Phase Lighting

Bat-friendly Lighting

Artificial lighting within the Proposed Development will be designed and installed to minimise the effect on local wildlife and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (ILP, 2023):

- There will be no light spill to the boundary habitats.
- All luminaires used will lack UV/IR elements to reduce effect.
- LED luminaires will be used because they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.

- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

Bird-friendly Lighting

Artificial lighting at the Site should be designed so as to minimise any potential for significant effects on SCI birds in flight throughout the Operational lifetime of the Site. Consideration should be given to the following common issues that arise as a result of light pollution: glare, light trespass, over-illumination and sky glow (Crymble, n/d). The following measures will ensure the protection of seabirds and other birds in flight throughout the lifetime of the Operational Phase of the Proposed Development:

- LED luminaires possessing a warm white spectrum (<2700k) will be used so as to reduce the blue light component. LED lights are also ideal due to their sharp cut-off, lower intensity, and dimming capabilities.
- External lighting will be set on motion-sensors and short (1min) timers.
- Balcony lighting should be switched off as default, with the option to turn lights on given to the room's occupants using a timer switch.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Fixtures should be downward facing with limited light spill. As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.
- There will be **no light spill outside of the southern boundary of the Site** onto the shoreline, and **light will be directed away from the shoreline**. This should be relatively easy to achieve with the 100m coastal buffer in place along the southern bounds.
- Hotel guests should be informed upon arrival of the steps taken by the hotel owner or operator to reduce light pollution and the reasons why they are being implemented.

It is expected that the proposed planting at the Site will also act to provide additional screening between the Proposed Development and the shoreline/coast.

5.5.5 Biodiversity Enhancement Measures

5.5.5.1 Biodiversity Enhancement by Design

The Landscape Plan incorporates native planting throughout the open green spaces of the Proposed Development. This will take the form of trees, hedgerow, shrubs, grasses and wildflower meadow. The planting schedule is attached below in Figure 5-9, and can be found in full in the Landscape Report, along with specifications for plant material, the requirements of the Landscape Contractor and proposals for monitoring establishment of green spaces. The

landscaping will offset habitat loss at the Site to an extent, producing an imperceptible net effect on habitats.

5.5.5.2 Enhancement 1: Wetland Creation

Along the southern boundary of the Site, a 100m undeveloped buffer zone is provided to withstand any coastal erosion, within which (to the southeast) a parcel of wetland habitat will be created for the provision of enhanced habitat for waterbirds. This area is embedded within the landscape design for the Site (DHCLA, 2025), with input from the project ecologist, and will be vegetated with appropriate native and some non-native species as per the All-Ireland Pollinator Plan 2021-2025. Species proposed for planting are listed in full in the Landscape Report (DHCLA, 2025), and below in Figure 5-9, extracted from the Landscape Plan for context.

The identified suitable land parcel will be enhanced to provide more suitable habitats to those currently present at the Site, which currently comprise arable fields with small areas of pooling water (see Appendix III for Site Photographs). The suitable land parcel in the southeast of the Site would be considered to require some works to amend it to be suitable for wintering birds due to the existing habitats present. The likely works required include soil scraping to encourage more water pooling, and asymmetrical grass cutting to provide a more varied sward height across the land parcel.

The parcel will utilise the two proposed SuDS ponds, which will be planted with suitable emerging, submerged and floating plants, bounded by native riparian vegetation. The areas surrounding the riparian vegetation will be planted with native wetland species and managed to ensure waterlogged areas are present. There will be no public access to this wetland area to avoid disturbance to establishing flora and any waterbirds using the area. Furthermore, the path along the coastal buffer zone will be screened from the wetland habitat to further protect waterbirds from any disturbance, through the use of supplementary planting and earthen berms.

To ensure that no additional adverse effects on the local ecology are caused by the alteration of this land parcel, it is recommended that the amendments take place in September, prior to the beginning of the wintering bird season, and after the breeding bird season (March-August, inclusive). A walkover survey by a suitably qualified Ecologist to identify any potential rare and/or protected species that could be affected by the alteration works will be carried out ahead of any works taking place.

NATIVE TREES				PERENNIALS				Name	Notes
The existing tree cover in the surrounding local landscape was surveyed to determine which species would complement the existing vegetation & also grow in this exposed coastal environment.				Once again with the selection of perennials native species was the priority. A small number of complimentary ornamental species are proposed to enhance the seasonal interest of the planting scheme and to emphasise the coastal seaside character of the planting design.				Marsh/ Wetland Vegetation, (Riparian Zone)	
Name	Type	Size	%	Name	Type	Size	Density	Lythrum salicaria	Plant in Autumn or Spring
Alnus glutinosa	RB	(10-12cm, G.)	15	Allium sphaerocephalon, (native)	CG	(1L, Pot)	3 per sq. m.	Filipendula ulmaria	Plant between March-May
Betula pendula	RB	(10-12cm, G.)	15	Deschampsia cespitosa, (native)	CG	(1L, Pot)	3 per sq. m.	Cardamine praetensis	Plant in Autumn or Spring
Crataegus monogyna	RB	(8-10cm, G.)	10	Armeria maritima, (native)	CG	(1L, Pot)	4 per sq. m.	Eupatorium cannabinum	Plant in Autumn or Spring
Pinus sylvestris	RB	(3-4m High)	35	Erigeron karvinskianus	CG	(1L, Pot)	3 per sq. m.	Callithrix palustris	Plant in Autumn or late Spring
Sorbus aucuparia	RB	(8-10cm, G.)	10	Phlox subulata	CG	(1L, Pot)	4 per sq. m.	Manyanthes trifoliata	Plant in Autumn or Spring
Quercus robur	RB	(10-12cm, G.)	5	Crambe maritima, (native)	CG	(1L, Pot)	3 per sq. m.	Ajuga reptans	Plant in Autumn or Spring
Arbutus unedo	CG	(3m High)	5	Agapanthus sp.	CG	(1L, Pot)	3 per sq. m.	Iris pseudacorus	Plant in late Spring or early Summer
Ilex aquifolium	CG	(3m High)	5	Limonium humile, (native)	CG	(1L, Pot)	3 per sq. m.	Aquatic Plants, (within pond)	
ORNAMENTAL TREES				Leucanthemum vulgare, (native)	CG	(1L, Pot)	3 per sq. m.	Ranunculus aquatilis	Submerged
The use of native plant species is a core principle of the designed landscape associated with the proposed development. This dwarf pine species would be the only non native tree used.				Eryngium maritimum, (native)	CG	(1L, Pot)	3 per sq. m.	Callitriche stagnalis	Submerged
Name	Type	Size	%	Eupatorium cannabinum, (native)	CG	(1L, Pot)	3 per sq. m.	Hydrocharis morsus-ranae	Floating
Pinus mugo	CG	(15L)	100	Molinia caerulea, (native)	CG	(1L, Pot)	3 per sq. m.	Potamogeton natans	Floating
HEDGEROW PLANTING				WETLAND PLANTING				Alisma plantago-aquatica	Submerged & Floating
Following a survey of the existing hedgerows on field boundaries within the application site, the below schedule was composed to replicate the predominant existing hedgerow type.				The below planting schedule has been prepared by the project ecologist to maximise the nature conservation value of the proposed wetland area in the south east corner of the site.				Persicaria amphibia	Semi Aquatic
Name	Type	Size	%	Name	Notes	Wet Woodland Tree Species			
Crataegus monogyna	BR	(Whip, 45cm)	40	Marginal Vegetation, (Pond Fringes)		Salix caprea		NOTE:	
Sambucus nigra	BR	(Whip, 45cm)	40	Typha latifolia	Suitable for shallow water	Salix cinerea		BR = Bare Root	
Malus sylvestris	BR	(Whip, 45cm)	10	Schoenoplectus lacustris	Suitable where water depth is >20cm	Salix aurita		RB = Root Balled	
Lonicera periclymenum	CG	(1L)	5	Typha angustifolia	Suitable for fluctuating depths	Alnus glutinosa		G = Girth	
Ilex aquifolium	CG	(1L)	5	Carex riparia	Suitable for all depths	Betula pubescens		H = Height	
				Phragmites australis				CG = Container Grown	
				Phalaris arundinaceae	Suitable for shallow water/ embankments				
				Carex rostrata	Suitable for shallow water				

FIGURE 5-9. PLANTING SCHEDULE FOR THE SITE, EXTRACTED FROM DHLA (2025)

5.5.5.3 Enhancement 2: Hedgerow Management

The planted hedgerows at the Site and any retained hedgerows will be managed using a low-intervention approach i.e., in a way that maximises the ecological value they provide, with habitat connectivity maintained along the western, northern and eastern margins of the Site; connecting it with the wider area.

This connectivity is vital for wildlife such as birds, bats, mammals and insect pollinators in a human landscape such as that which will be provided by the Proposed Development. Additionally, by managing hedgerows and woodland in a more natural way, they will provide more in terms of biodiversity; through increased plant diversity, increased provision of food resources and higher quality shelter to wildlife inhabiting and commuting through the area.

A low-intervention management approach may not be appropriate for internal ornamental hedgerows planted within the main residential area of the Proposed Development, due to aesthetics or logistics, however, it is suited to the external hedgerows present along the margins of the Site.

The following measures will be adopted by the Management Company tasked with maintaining the Site's landscaping into the future:

- The hedgerow areas located along the outer boundaries of the Site will, as much as is practicable, be allowed to link up with each other. The provision of an almost continuous vegetative margin around the Site; through planted native hedgerows and trees, will maintain habitat connectivity with the surrounding environment.
- Hedgerows will be maintained with a minimum **natural meadow strip of 1-2m** at their base wherever possible. Hedges with plenty of naturally occurring flowers and grasses at the base support will provide higher quality habitat for local wildlife using the hedges.
- The 1-2m strip at the base of the hedgerow will be cut on a reduced mowing regime to encourage wildflower growth and maximise the value of the hedgerow for pollinators. A **two-cut management approach** is ideal for suppressing coarse grasses and

encouraging wildflowers. Cut the hedgerow basal strip **once during February and March** (this is before most verge plants flower and it will not disturb ground-nesting birds). Cut the verge **once again during September and October** (this slightly later cutting date allows plants that were cut earlier in the year time to grow and set seed).

N.B. Raising the cutter bar on the back cut will lower the risk to small mammals.

- Where hedgerow, scrub or woodland understorey trimming needs to occur, delay trimming as late as possible – until **January and February** as the surviving berry crop will provide valuable food for wildlife. The earlier this is cut; the less food will be available to help birds and other wildlife survive through the winter. Any hedgerow/scrub/woodland trimming will be done outside of the nesting season and due consideration of the Wildlife Act 1976 (as amended) must be taken.
- Where possible, cut these outer boundary hedgerows on a minimum **3-year cycle** (cutting annually stops the hedgerow flowering and fruiting), and cut in rotation rather than all at once - this will ensure some areas of hedgerow will always flower (blackthorn in March, hawthorn in May etc.).
- Where they occur naturally, bramble and ivy should be allowed to grow in hedgerows as they provide key nectar and pollen sources in summer and autumn.

Methods to Avoid

Hedgerows and woodland understorey will not be over-managed. Tightly cut hedges and vegetation mean there are fewer flowers and berries, thus reducing available habitats, feeding sources and suitable nesting sites.

Hedgerows will not be cut between March 1st and August 31st inclusive. It is both prohibited (except under certain exemptions) and very damaging for birds as this is the period they will have vulnerable nests containing eggs and young birds.

DO NOT use pesticide/ herbicide sprays or fertilisers at all as they can have an extremely negative effect on the variety of plants and animals they support.

5.5.5.4 Enhancement 3: Pollinator Habitat

The insertion of 5 no. insect hotels in select areas around the Site is proposed during its Operational Phase, the placement of which will be confirmed by the Ecologist. No herbicides or pesticides will be used in the vicinity of these insect hotels; to protect bees and pollinators from harm. Large bee or insect hotels will not be installed. Guidance from the All -Ireland Pollinator Plan states “*Don’t install a large bee or insect hotel. Large bee hotels are attractive to humans, but not great for pollinators. They can encourage the spread of disease and attract predators. Avoid anything bigger than an average-sized bird box. There are many other ways to provide nesting habitats for pollinators, such as providing wild areas of undisturbed long grass, and scraping back some bare earth. If you want to make a bee hotel, make sure it is small, and position it away from bird feeders so the insects aren’t easy targets.*” A link to a “How-to-guide Creating wild pollinator nesting habitat” is provided for the development management company to put these habitats in place: <https://pollinators.ie/wp-content/uploads/2022/12/Pollinator-Nesting-How-to-Guide-2022-WEB.pdf>. An appointed ecologist will oversee the creation of these habitats.

5.5.5.5 *Enhancement 4: Reptile Hibernacula*

It is recommended to enhance the Site for reptile use by providing suitable refuge and hibernacula to replace stone walls and boulder clusters removed from the Site. It is recommended that two areas of hibernacula are provided at the Site in the areas of open space.

Hibernacula for reptiles is relatively easy to create from rubble, wood and soil, all of which can likely be sourced from the Site during works. Rubble and wood in various sizes should be piled either in a shallow depression in a disorganised way to create nooks and crevices. Larger tree trunks or rocks should be placed so that they will protrude through the final mound to provide open entrances to the mound. This pile should then be covered in soil to allow the inner crevices to maintain a stable temperature through the winter and allow for hibernation. The top can be planted with for example grass and native wildflowers. See Figure 5-10 below for examples of finished hibernacula.



FIGURE 5-10. EXAMPLES OF SUITABLE AMPHIBIAN AND REPTILE HIBERNACULA AND REFUGIA.

5.5.5.6 *Enhancement 5: Hedgehog Highways*

By fencing the boundaries of a Site, the land becomes fragmented and largely inaccessible to species such as hedgehog, which like to roam each night in search of food (garden pests e.g., slugs). This can easily be fixed by ensuring that the boundaries and barriers within and surrounding the Site are permeable for hedgehogs. This will allow hedgehogs to move freely between the Site and adjacent sites.

This can be achieved by:

- Providing 13 x 13 cm holes at ground level at various locations along the external mesh fencing (Hedgehog holes).
- Leaving a sufficient gap beneath gates.
- Leaving brick spaces at the base of brick walls.

Examples of hedgehog 'highways' are provided below in Figure 5-11.



FIGURE 5-11. EXAMPLES OF HEDGEHOG HIGHWAYS THAT COULD BE INCORPORATED INTO THE PROPOSED DEVELOPMENT.

The inclusion of hedgehog highways will be considered as part of the landscape design of the Site, specifically the external mesh fencing proposed. A variety of fence suppliers stock specific hedgehog-friendly fencing options, which can be easily incorporated at little or no additional cost. The 13 x 13cm holes can also be cut into mesh fencing on site quite easily. These simple measures will provide habitat connectivity at the Site for hedgehogs and reduce the effect of the land-use change on this species.

5.5.5.7 Enhancement 6: Swift Boxes

It is proposed to include a minimum of 20 no. swift bricks as part of the Proposed Development. The bricks should be located in groups, as swifts are a social nesting species. As per best practice, swift bricks will be installed at least 5 metres above the ground, in safe areas where they will not be disturbed, with a clear unobstructed run up to the boxes/bricks. As the bricks tend not to overheat, they can be placed facing in any direction. Care will be taken to ensure no obstacles or plate glass windows are located below the bricks.

Guidelines for the bird box scheme follow the guidelines published by Swift Conservation Ireland, and those published by Birdwatch Ireland entitled “Saving Swifts” (2009/2010). The incorporation of Swift Bricks will help recover the declining swift population, which are now Red Listed in Ireland (Gilbert et al., 2021).

Swifts are a “clean” bird species which remove their own wastes from their nests periodically. As such, Swift bricks do not require any cleaning by the management company, however placement should be cognizant of any non-natural surfaces beneath that may accumulate bird waste or present a health and safety hazard (e.g., placement above outdoor eating areas or paved footpaths).

It is advised to install a **Swift calling system** to attract Swifts and encourage them to take up residence at a new site. A Swift calling system is a small speaker set-up that plays Swift calls during the summer. It should be located close to the brick entrances and has been seen to greatly increase the chances of Swifts using the Swift boxes/bricks. Solar powered options are possible and advised.

An Ecologist will be instructed to set up the Swift calling system once the construction of the Proposed Development is complete.

5.5.5.8 Enhancement 7: Bat Boxes

A minimum of four summer bat boxes (e.g., Woodcrete 1FF Schwegler design) will be erected on suitably sized trees on the eastern boundary of the Site, the placement of which will be determined by a bat ecologist. The boxes will be installed as part of the landscaping works, so as to not delay their deployment and potential positive effects.

Bat boxes will be sited carefully, and this will be undertaken by a bat specialist. The bat ecologist will erect the bat boxes with assistance from the contractor. Some general points that will be followed include:

- Bat boxes will be erected on trees (or telegraph poles) with no crowding branches or other obstructions for at least 1 metre above and below the bat box.
- Diameter of tree should be wide and strong enough to hold the required number of boxes.
- Locate bat boxes in areas where bats are known to forage or adjacent to suitable foraging areas. Locations will be sheltered from prevailing winds.
- Bat boxes will be erected at a height of 4-5 metres to reduce the potential for vandalism and predation of roosting bats.
- The recommended Woodcrete 1FF design is open at the bottom, allowing the droppings to fall out, and so does not need cleaning.

5.6 Monitoring

Table 5-20 below provides a summary of the required monitoring and pre-works inspections during the Construction Phase, as well as any surveys that should be completed during the Operational Phase. The monitoring, inspections and surveys will ensure that the identified mitigation measures are implemented and maintained efficiently and have the desired effect of protecting the local ecology from adverse effects.

The monitoring/surveys outlined below will be included in a Biodiversity Management Plan (BMP) for the Proposed Development, along with the detailed mitigation measures for the Construction and Operational Phases (sections 5.5.3 and 5.5.4) and Biodiversity Enhancement Measures (section 5.5.5).

TABLE 5-20. SUMMARY OF MITIGATION MEASURES AND THE RESPONSIBLE PERSON FOR MONITORING DURING THE CONSTRUCTION AND OPERATIONAL PHASES

Measure	Monitoring
CONSTRUCTION PHASE	
Mitigation 1: Surface Water Protection Measures	Ongoing monitoring by Contractor
Mitigation 2: Silt and Sediment Control	Ongoing monitoring by Contractor
Mitigation 3: Dust Suppression Measures	Ongoing monitoring by Contractor
Mitigation 4: Root Protection Zones	Demarcated by Arborist. Ongoing monitoring by Contractor.
Mitigation 5: Invasive Species Removal	No monitoring required.
Mitigation 6: Biosecurity	Ongoing monitoring by Contractor
Mitigation 7: Timing of Vegetation Removal	Any Site vegetation clearance within scrub, hedgerows, treeline or grassland habitats subject to supervision by an Ecologist and a phased approach.

Measure	Monitoring
Mitigation 8: Waste Management	Ongoing monitoring by Contractor
Mitigation 9: Construction Phase Lighting	No monitoring required.
Mitigation 10: Noise & Visual Stimuli	Ongoing monitoring by Contractor.
Enhancement 1: Wetland Creation	Installation by certified Landscape Architect and Ecologist. Ongoing monitoring by Contractor.
Enhancement 3: Pollinator Habitat	Installation by certified Landscape Architect. Ongoing monitoring by Contractor.
Enhancement 4: Reptile Hibernacula	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 5: Hedgehog Highways	No monitoring required.
Enhancement 6: Swift Boxes	The placement of swift boxes and setup of swift-calling system should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 7: Bat Boxes	The placement of bat boxes should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
OPERATIONAL PHASE	
Mitigation 11: Invasive Species Management	An Invasive Species Survey will be carried out by a qualified Ecologist during the next botanical season after soft landscaping has been completed.
Mitigation 12: Operational Phase Lighting	Ongoing monitoring by Contractor.
Enhancement 2: Hedgerow management	Ongoing monitoring by Management Company.

5.7 Residual Effects

Residual effects are effects that remain once mitigation has been implemented or effects that cannot be mitigated. Table 5-21 below provides a summary of the effect assessment for the identified KERs and details the nature of the effects identified, the mitigation measures proposed, and the classification of any residual effects.

Both standard Construction Phase control measures, and specific mitigation measures, have been outlined to ensure that the Proposed Development does not effect on any species, habitats or designated sites of conservation importance. It is essential that these measures are complied with, in order to ensure that the Proposed Development complies with National conservation legislation.

Provided all recommended measures are implemented in full and remain effective throughout the lifetime of the Proposed Development, no significant negative residual effects on the local ecology, or on any designated nature conservation sites, will occur as a result of the Proposed Development.

TABLE 5-21. SUMMARY OF POTENTIAL EFFECTS ON KER(s), MITIGATION PROPOSED AND RESIDUAL EFFECTS.

Key Ecological Resource	Evaluation	Potential Effect	Effect Without Mitigation				Proposed Mitigation / Mitigating Factors	Proposed Enhancements	Residual Impact
			Quality	Magnitude / Extent	Duration	Significance			
DESIGNATED SITES									
No effects to any nationally designated sites will occur as a result of the Proposed Development and therefore no mitigation measures are recommended. Mitigation measures for the protection of European sites are included within the Natura Impact Statement accompanying this submission under a separate cover.									
HABITATS									
Treelines (WL2) / Hedgerow (WL1)	Local Importance (Higher Value)	Construction Phase: Removal of treelines	Negative	Local	Permanent	Slight	Best practice guidance as per CEMP Mitigation 3: Dust Suppression Measures Mitigation 4: Root Protection Zones	Landscape Plan (>1208m increase in linear hedgerow) Enhancement 2: Hedgerow Management Enhancement 3: Pollinator Habitat	Imperceptible
		Risk of damage to roots and overground growth.	Negative	Local	Short-term	Moderate			
		Operational Phase: Habitat retention & supplementary planting	Positive	Local	Permanent	Slight			
Eastern Boundary – Drainage Ditch (FW4)	Local Importance (Higher Value)	Construction Phase: Deterioration of water quality from construction-related pollutants. Operational Phase: None identified.	Negative	Local	Short-term	Significant	Mitigation 1: Surface Water Protection Mitigation 2: Silt & Sediment Control Mitigation 3: Dust Suppression Measures	Landscape Plan Enhancement 1: Wetland Creation	Imperceptible

							Best practice guidance as per CEMP SuDS measures		
Pond (FL8)	Local Importance (Higher Value)	<u>Construction Phase:</u> Deterioration of water quality from construction-related pollutants. <u>Operational Phase:</u> None identified.	Negative	Local	Short-term	Significant	Mitigation 1: Surface Water Protection Mitigation 2: Silt & Sediment Control Mitigation 3: Dust Suppression Measures Best practice guidance as per CEMP SuDS measures	Landscape Plan Enhancement 1: Wetland Creation	Imperceptible
All habitats	Local Importance (Higher Value)	<u>Construction Phase:</u> Spread of Invasive Flora <u>Operational Phase:</u> Spread of Invasive Flora	Negative Negative	Local Local	Long-term Long-term	Significant Moderate	Mitigation 5: Invasive Species Removal Mitigation 6: Biosecurity Mitigation 11: Invasive Species Management	None	Imperceptible
FAUNA									
Bat Assemblage	Local Importance	<u>Construction Phase:</u> Habitat loss Light-related disturbance	Negative Negative Negative	Local Local Local	Permanent Short-term Short-term	Slight Moderate Significant	Mitigation 7: Timing of Vegetation Removal	Landscape Plan (Supplementary planting to	Imperceptible

	(Higher Value)	<p>Mortality/injury during vegetation clearance</p> <p>Operational Phase: Light-related disturbance</p> <p>Habitat retention & supplementary planting</p>	<p>Negative</p> <p>Positive</p>	<p>Local</p> <p>Local</p>	<p>Permanent</p> <p>Permanent</p>	<p>Slight</p> <p>Slight</p>	<p>Mitigation 9: Construction Phase Lighting</p> <p>Mitigation 12: Operational Phase Lighting</p>	<p>include >1208m increase in linear hedgerow)</p> <p>Enhancement 6: Bat Boxes</p>	
<p>Wintering Bird Assemblage</p>	<p>Local importance</p>	<p>Construction Phase: Some loss of foraging habitat</p> <p>Disturbance from Construction activity</p> <p>Operational Phase: Human disturbance</p> <p>Light disturbance</p> <p>Collision Risk</p> <p>Habitat retention & supplementary planting</p>	<p>Negative</p> <p>Negative</p> <p>Negative</p> <p>Negative</p> <p>Neutral</p> <p>Positive</p>	<p>Local</p> <p>Local</p> <p>Local</p> <p>Local</p> <p>Local</p> <p>Local</p>	<p>Permanent</p> <p>Short-term</p> <p>Permanent</p> <p>Permanent</p> <p>Permanent</p> <p>Permanent</p>	<p>Not Significant</p> <p>Moderate</p> <p>Not Significant</p> <p>Moderate</p> <p>Not Significant</p> <p>Slight</p>	<p>Mitigation 10: Noise & Visual Stimuli Screening</p> <p>Mitigation 9: Construction Phase Lighting</p> <p>Mitigation 12: Operational Phase Lighting</p> <p>Avoidance of direct pathways from the Site to the shoreline to the south.</p> <p>Design-stage embedded mitigation to avoid collision risk.</p>	<p>Landscape Plan (Supplementary planting to provide screening)</p> <p>Enhancement 1: Wetland Creation</p>	<p>Negative, Local, Short-term, Slight.</p> <p>(Imperceptible long-term)</p>
<p>Breeding Bird Assemblage</p>	<p>Local Importance</p>	<p>Construction Phase: Habitat loss</p>	<p>Negative</p>	<p>Local</p>	<p>Permanent</p>	<p>Slight</p>		<p>Landscape Plan (>1208m increase in</p>	<p>Negative, Local, Short-term, Slight</p>

	(Higher Value)	<p>Risk of injury or death during vegetation clearance.</p> <p>Disturbance from noise, dust and/or lighting.</p> <p>Operational Phase: Habitat retention & supplementary planting</p>	<p>Negative</p> <p>Negative</p> <p>Positive</p>	<p>Local</p> <p>Local</p> <p>Local</p>	<p>Short-term</p> <p>Temporary</p> <p>Permanent</p>	<p>Significant</p> <p>Slight</p> <p>Slight</p>	<p>Mitigation 7: Timing of Vegetation Removal</p> <p>Mitigation 8: Waste Management</p> <p>Best practice guidance as per CEMP</p>	<p>linear hedgerow)</p> <p>Enhancement 5: Swift Boxes</p>	<p>(Imperceptible long-term)</p>
<p>Small Mammals (Irish Hare, Hedgehog, Pygmy Shrew)</p>	<p>Local Importance (Higher value)</p>	<p>Construction Phase: Risk of injury or death during vegetation clearance and / or entrapment in construction-related rubbish.</p> <p>Disturbance from noise, dust and/or lighting.</p> <p>Operational Phase: Habitat retention & supplementary planting</p> <p>Increased human presence leading to increased disturbance.</p>	<p>Negative</p> <p>Negative</p> <p>Positive</p> <p>Negative</p>	<p>Local</p> <p>Local</p> <p>Local</p> <p>Local</p>	<p>Short-term</p> <p>Short-term</p> <p>Permanent</p> <p>Permanent</p>	<p>Significant</p> <p>Moderate</p> <p>Slight</p> <p>Slight</p>	<p>Mitigation 7: Timing of Vegetation Removal</p> <p>Mitigation 8: Waste Management</p> <p>Best practice guidance as per CEMP</p>	<p>Landscape Plan</p> <p>Enhancement 4: Hedgehog Highways</p>	<p>Imperceptible</p>
<p>Common Lizard</p>	<p>Local Importance</p>	<p>Construction Phase: Risk of injury or death during vegetation</p>	<p>Negative</p>	<p>Local</p>	<p>Short-term</p>	<p>Moderate</p>		<p>Landscape Plan</p>	<p>Imperceptible</p>

	(Higher Value)	clearance and / or entrapment in construction-related rubbish. <u>Operational Phase:</u> Habitat retention & supplementary planting	<i>Positive</i>	<i>Local</i>	<i>Permanent</i>	<i>Slight</i>	Mitigation 7: Timing of Vegetation Removal Mitigation 8: Waste Management	Enhancement 3: Reptile Hibernacula	
--	----------------	--	-----------------	--------------	------------------	---------------	--	---	--

5.8 Conclusion

It is considered that, provided the mitigation measures proposed within this report together with all best practice development standards as outlined in the CEMP are carried out in full, and upon preparation and adherence to the BMP, there will be no long-term significant negative effects on any KER habitat, species group or biodiversity as a result of the Proposed Development.

The targeted ecological surveys will allow for the identification of the significance of wintering waterbirds at the Site once complete, and through careful evaluation of the potential effects it is considered that a proportionate and effective solution to mitigate the negative effects from on wintering waterbirds using the Site and its vicinity can be achieved.

Additionally, the landscaping plan for the Proposed Development was designed to offset some of the habitat loss that will result from the Proposed Development, as well as provide a suitable vegetated buffer between works and the coast, drainage ditch and pond at the Site. Furthermore, the provision of bird and bat boxes, reptile hibernacula and pollinator habitat enhancements for small fauna that may already be present at the Site will further offset the loss of habitats and encourage nesting at the Site.

5.9 References

- Aughney, T., Kelleher, C. & Mullen, D. (2008). Bat Survey Guidelines: Traditional Farm Buildings Scheme. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny.
- Baerwald, E.F., D'Amours, G.H., Klug, B.J. and Barclay, R.M.H. (2008) Barotrauma is a significant cause of bat fatalities at wind turbines, *Current Biology*, (18) 16, P695-696.
- Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby
- Bang, P. and Dahlstrom, P. (2001). Animal Tracks and Signs, Oxford University Press, Oxford.
- Bibby, C. J., Burgess, N. D. & Hill, D. A. (1992). Bird Census Techniques. Academic Press, New York.
- Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.1.0.0. <https://birdsurveyguidelines.org> [Accessed April 2024]
- Blamey, M., Fitter, R. and Fitter, A. (2003). Wild Flowers of Britain and Ireland. London: A & C Black.
- British Standards Institution (2013) BS 42020:2013 Biodiversity: Code of practice for planning and project, BSI, London.
- CIEEM (2015). Guidelines for Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- Clements, D.K. & Toft, R.J. (1993). Hedgerow Evaluation and Grading Systems (HEGS) A Methodology for the Ecological Survey, Evaluation and Grading of Hedgerows. Countryside Planning and Management.
- Collins, J. (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London.
- Curtis, T.G.F. and McGough, H.N. (1988). The Red Data Book 1: Vascular Plants. Dublin: The Stationery Office.
- Devlin, Z. (2014). The Wildflowers of Ireland – A Field Guide. The Collins Press. Cork, Ireland.
- Enviroguide (2025a) AA Screening and Natura Impact Statement (NIS) for a Proposed Hotel Development in Kilmore Quay, Co. Wexford. DNV Consulting, Park West, Dublin 12.
- Enviroguide (2025b) CEMP for a Proposed Hotel Development in Kilmore Quay, Co. Wexford. DNV, Park West, Dublin 12.
- EPA. (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports. Published by the Environmental Protection Agency, Ireland.
- EPA, (2024). Environmental Protection Agency Online Mapping [ONLINE] Available at: <http://www.epa.ie/> [Accessed December 2024]
- Fitzpatrick, Ú., Weekes, L. & Wright M. (2016) Identification Guide to Ireland's Grasses. 2nd Edition. Publish by National Biodiversity Data Centre, Carriganore, Waterford.
- Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Kilkenny: The Heritage Council.

Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin. Unpublished Report

Gilbert, G., Gibbons, D.W., and Evans, J. (1998): Bird Monitoring Methods: a manual of techniques for key UK species. Sandy: RSPB.

Gilbert G, Stanbury A and Lewis L (2021) Birds of Conservation Concern in Ireland 2020 –2026. Irish Birds 9: 523—544

Gillings, S., Wilson, A.M., Conway, G.J., Vickery, J.A., Fuller, R.J., Beavan, P., Newson, S.E., Noble, D.G. & Toms, M.P. (2007) Winter Farmland Bird Survey. BTO Research Report No.494.

GSI, (2024). Geological Survey of Ireland website [ONLINE] Available at: <http://www.gsi.ie/> [Accessed December 2024]

Herpetofauna Groups of Britain and Ireland. (1998). Evaluating Local Mitigation/Translocation Programmes: Maintaining Best Practice and Lawful Standards. HGBI Advisory Notes for Amphibians and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpublished.

Institution of Lighting Professionals (ILP). (2023). Guidance Note 08/23: Bats and artificial lighting in the UK. *Bats and the Built Environment series*. [ONLINE] Available at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/> [Accessed December 2024]

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. and Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles and Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland

Kingston, N. (2005). Proposed Red Data List for Vascular Plants. A Consultation Document from the National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. and Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles and Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Laguna, J.M., Barbara, N. and Metzger, B. (2014) Light pollution impact on “tubenose” seabirds: an overview of areas of concern in the Maltese Islands. BirdLife Malta.

Lundy M.G., Aughney T., Montgomery W.I., Roche N. (2011) Landscape conservation for Irish bats & species specific roosting characteristics. Bat Conservation Ireland.

Marnell, F., Kelleher, C. & Mullen, E. (2022). Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland

McAney, K. (2008). A Conservation Plan for Irish Vesper Bats. Irish Wildlife Manual No.20. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government.

Murnane, E., Heap, A., and Swain, A., (2006). Control of water pollution from linear construction projects. Technical guidance. CIRIA C648. Published by CIRIA, UK.

NBDC, (2024). National Biodiversity Data Centre online mapping [ONLINE] Available at: <http://maps.biodiversityireland.ie/Map.aspx> [Accessed December 2024]

NBDC (2020) The All-Ireland Pollinator Plan 2021-2025. Available at: <https://pollinators.ie/wp-content/uploads/2021/03/All-Ireland-Pollinator-Plan-2021-2025-WEB.pdf> [Accessed December 2024]

NPWS, (2019). The Status of EU Protected Habitats and Species in Ireland. Habitats Assessments Volume 1, Version 1.0. Unpublished Report, National Parks & Wildlife Services, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS, (2024). National Parks and Wildlife Service website [ONLINE] Available at: <http://www.npws.ie/en/> [Accessed December 2024]

NRA. (2005). Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2006). Guidelines for the Treatment of Bats during the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2008). Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2009a). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA (2009b). Environmental Assessment and Construction Guidelines. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes. Environmental Series on Construction Impacts. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

OPR (2021). Office of the Planning Regulator. Appropriate Assessment Screening for Development Management, OPR Practice Note PN01

Russ, J., (2012). British bat calls: a guide to species identification. Pelagic publishing.

Smith, G.F., O'Donoghue, P, O'Hara K., and Delaney, E. (2010). Best Practice Guidance for Habitat Survey and Mapping. Published by the Heritage Council.

Stone, E.L., Jones, G., Harris, S. (2012). Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. Glob. Change Biol. 18, 2458–2465.

5.10 Appendices

5.10.1 Appendix I – Legislation

International Legislation

EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approx. 1000 species throughout Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

National Legislation

Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2015 (S.I. No. 356/2015). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, "Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence."

Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

“49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.

49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] offers or exposes for sale, transportation, distribution, introduction, or release—

(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,

(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or

(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material.”

National Biodiversity Action Plan 2023-2030

The National Biodiversity Plan (NBAP) 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors to achieve Ireland's Vision for Biodiversity. The NBAP provides a framework to track and assess progress towards Ireland's Vision for Biodiversity over a seven-year timeframe from 2023 to 2030. To achieve the Vision, five strategic objectives were identified in the new NBAP for 2023-2030. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their targets (Table A1).

TABLE A1: OBJECTIVES AND TARGETS OF THE NATIONAL BIODIVERSITY ACTION PLAN 2023-2030

Objective	Target
1: Adopt a whole-of-government, whole-of-society approach to biodiversity	Outcome 1A: Governance structures and reporting outputs have improved
	Outcome 1B: Organisational capacity and resources for biodiversity have increased at all levels of Government
	Outcome 1C: Responsibility for biodiversity is shared across the whole of government
	Biodiversity Outcome 1D: Biodiversity initiatives are supported across the whole of society
	Outcome 1E: The legislative framework for biodiversity conservation is robust, clear and enforceable
2: Meet urgent conservation and restoration needs	Outcome 2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced
	Outcome 2B: Biodiversity and ecosystem services in the wider countryside are conserved and restored – agriculture & forestry
	Outcome 2C: Biodiversity and ecosystem services in the wider countryside are conserved and restored – peatlands & climate action
	Outcome 2D: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored
	Outcome 2E: Genetic diversity of wild and domesticated species is safeguarded

	Outcome 2F: A National Restoration Plan is in place to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets
	Outcome 2H: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment
3: Secure nature's contribution to people	Outcome 3A: Ireland's natural heritage and biocultural diversity is recognised, valued, enhanced and promoted in policy and practice
	Outcome 3B: The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced
	Outcome 3C: Planning and development will facilitate and secure biodiversity's contributions to people
	Outcome 4C: Long-term monitoring programmes are in place to guide conservation and restoration goals
	Outcome 4D: Ireland has prepared national assessments of ecosystem services
4: Enhance the evidence base for action on biodiversity	Outcome 4A: Research funding bodies will have an improved understanding of the research and skills required to address biodiversity research gaps
	Outcome 4B: Data relevant to biodiversity and ecosystems, including conservation needs, is widely accessible and standardised
5: Strengthen Ireland's contribution to international biodiversity initiatives.	Outcome 5A: Science, policy and action on biodiversity conservation and restoration is effectively coordinated in an all-island approach
	Outcome 5B: Ireland takes action internationally to cooperate with other countries, sectors, disciplines and communities to address the biodiversity crisis
	Outcome 5C: Ireland enhances its contributions to the international biodiversity data drive

Wexford County Development Plan 2022-2028

Chapter 10: Environmental Management

Objective EM01: To ensure that proposed projects/developments comply with the requirements of EIA Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, and as transposed into Irish law under national legislation, including in Schedule 5 Part 1 and Part 2 of the Planning and Development Regulations 2001 (as amended). In accordance with Article 3 of Directive 2014/52/ EU, where EIA is required the environmental impact assessments presented in the Environmental Impact Assessment Report (EIAR) shall identify, describe and assess in an appropriate manner, the direct, indirect and cumulative significant effects of a project on the following factors: population and human health; biodiversity (with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC); land, soil, water, air and climate, material assets, cultural heritage, and the landscape, and the interaction between the foregoing factors.

Objective EM05: To implement the provisions of EU and National legislation and other relevant legislative requirements on protecting and improving surface and ground water quality, air quality and climate, and on reducing adverse noise and light nuisance, as appropriate and in conjunction with all relevant stakeholders in the interests of the protection of the environment, public health and the sustainable development of the county.

Objective WQ01: To protect existing and potential water resources for the county, in accordance with the EU Water Framework Directive (2000/60/EC), Bathing Water Directive (2006/7/ EC), the National River Basin Management Plan 2018-2021 and any updated version, the Pollution Reduction Programmes for designated shellfish waters, the provisions of a Groundwater Protection Scheme for the county and any other protection plans for water supply sources, with an aim to improving all water quality.

Objective WQ02: To promote compliance with the European Communities (Surface Waters) Regulations 2009 and the European Communities (Groundwater) Regulations 2010 and any other relevant legislations.

Objective WQ06: To apply a catchment-based approach to the assessment of planning applications which may impact on water quality, and to ensure that the development would not result in a reduction in the water quality status of a waterbody in that catchment.

Objective WQ15: To ensure that development permitted would not negatively impact on water quality and quantity, including surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters.

Objective EL02: To ensure that external lighting and lighting schemes are designed so that light spillage is minimised thereby protecting the amenities of nearby properties and wildlife, including protected species.

Chapter 11: Landscape and Green Infrastructure

Objective GI05: To ensure riparian buffer zones, a minimum of 10 metres in width (in some cases buffer zones of up to 50 metres may be appropriate), are created between all watercourses and any future development. In considering the appropriate width, the Council will have regard to 'Planning for Watercourses in the Urban Environment' (Inland Fisheries Ireland, 2020) and any future updated version of these guidelines.

Chapter 13: Heritage and Conservation

Objective NH01: To ensure the protection of all designated ecological sites (as detailed in Section 13.2.1 to 13.2.11) in relevant Local Area Plans and in the assessment of planning applications and promote the restoration of sites where required.

Objective NH02: To protect and enhance the rich qualities of our natural heritage in a manner that is appropriate to its significance.

Objective NH03: To promote biodiversity protection, restoration, and habitat connectivity both within protected areas and in the landscape through promoting the integration of green infrastructure and ecosystem services, including landscape, heritage and biodiversity and management of invasive and alien species in the plan making and development management processes.

Objective NH04: To protect the integrity of sites designated for their habitat and species importance and prohibit development which would damage or threaten the integrity of these sites. Such sites include Special Areas of Conservation (SACs) and candidate SACs, Special Protection Areas (SPAs), Natural Heritage Areas (NHAs) and proposed NHAs, Nature Reserves, Refuges for Fauna and RAMSAR sites. To protect protected species wherever they occur.

Objective NH05: In assessing planning applications located in and/or in proximity to Natura 2000 sites, whether hydraulically linked or otherwise linked or dependent (such as feeding, roosting or nesting grounds) to a designated site, regard shall be had to the detailed conservation management plans and data reports prepared by NPWS, where available, to the identified features of interest of the site, the identified conservation objectives to ensure the maintenance or restoration of the features of interests to favourable conservation status, the NPWS Article 17 current conservation status reports, the underlying site specific conditions, and the known threats to achieving the conservation objectives of the site.

Objective NH06: To recognise the importance of recommended Geological Natural Heritage Areas, proposed Natural Heritage Areas and County Geological Sites and protect the character and integrity of these sites where appropriate. The Council will consult Geological Survey Ireland where a development is proposed that may impact on geological sites.

Objective NH07: To have regard to any particular management or sensitivity, contained within the individual site reports within The Geological Heritage of County Wexford: An audit of County Geological Sites in County Wexford 2018, in the assessment of planning applications located within Natural Heritage Areas, proposed Natural Heritage Areas and County Geological Sites.

Objective NH08: To ensure that any plan/project and any associated works, individually or in combination with other plans or projects, are subject to Screening for Appropriate Assessment to ensure there are no likely significant effects on any Natura 2000 site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied. Where a plan/project is likely to have a significant effect on a Natura 2000 site or there is uncertainty with regard to effects, it shall be subject to Appropriate Assessment. The plan/project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed by the competent authority imperative for reasons of overriding public interest.

Objective NH09: To ensure the protection of areas, sites and species and ecological networks/corridors of local biodiversity value outside the designated sites throughout the county and to require an ecological assessment to accompany development proposals likely to impact on such areas or species.

Objective NH10: To ensure that traditional field boundaries, ponds or small woods which provide important ecological corridors, stepping stones or networks are protected. Where such features exist on land which is to be developed the applicant should demonstrate that the design of the development has resulted in the retention of these features insofar as is possible and that the existing biodiversity value of the site has been protected and enhanced.

Objective NH13: To ensure applications for development include proposals for native planting and leave a suitable ecological buffer zone between the development works and any areas or features of ecological importance. To minimise the removal of hedgerow and natural boundaries, and where hedgerows are required to be removed the applicant/ developer will be required to reinstate the hedgerows with a suitable replacement of native species.

Objective NH14: To work with local communities, groups, landowners, National Parks and Wildlife Service and other relevant parties to identify, protect, manage and, where appropriate, enhance and promote sites of local biodiversity value.

Objective NH19: To implement the requirements of EU Regulations 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species and Regulation 49 and 50 of the EU (Birds and Natural Habitats) Regulations 2011(S.I. No. 477/2011), as amended.

Objective NH21: To ensure that natural heritage and biodiversity consideration are integral to the preparation of Local Area Plans and to identify, protect and manage biodiversity through these Plans.

Objective NH22: To promote best practice in the control of invasive species and support measures for the prevention and/or eradication of invasive species as appropriate and as opportunities and resources allow.

Objective NH25: To ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are or were previously present, the applicants will be required to submit a control and management program for the particular invasive species carried out by a competent and appropriately qualified expert as part of the planning process.

Objective NH28: To incorporate the actions of the All Ireland Pollinator Plan 2015-2020 (and any subsequent Plan) when managing our parks, open spaces, roadside verges and all vegetation in a way that provides more opportunities for biodiversity while being cognisant of the threat of the spread of invasive species.

Wexford Biodiversity Action Plan 2013-2018 (Present)

Objective 1 - To identify Biodiversity information and fill data gaps for the County, to prioritise habitats and species for protection and to inform conservation action and decision making.

Objective 2 - To make information on biodiversity available.

Objective 3 - To raise awareness across all sectors, groups and ages, for the following; (a)Wexford's Biodiversity, (b) its value (c) the issues facing it, and (d) encourage people through using various media, training, and innovative initiatives to support biodiversity conservation.

Objective 4 - To promote and support best practice in biodiversity conservation, taking into account national and local priorities.

Objective 5 - To incorporate and raise the profile of biodiversity conservation issues in the local authority's actions and policies.

5.10.2 Appendix II – Evaluation of Ecological Features


The criteria outlined in the table below, taken from the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* published by the NRA, were used for assigning value to designated sites, habitats and species within the Site of the Proposed Development and surrounding area.

TABLE A2. DESCRIPTION OF VALUES FOR ECOLOGICAL RESOURCES BASED ON GEOGRAPHIC HIERARCHY OF IMPORTANCE (NRA, 2009B).

Importance	Criteria
International Importance	<ul style="list-style-type: none"> - 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. - Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). - Features essential to maintaining the coherence of the Natura 2000 Network - Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive - Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). - World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). - Biosphere Reserve (UNESCO Man & The Biosphere Programme) - Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). - Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). - Biogenetic Reserve under the Council of Europe. - European Diploma Site under the Council of Europe. - Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).
National Importance	<ul style="list-style-type: none"> - Site designated or proposed as a Natural Heritage Area (NHA). - Statutory Nature Reserve. - Refuge for Fauna and Flora protected under the Wildlife Acts. - National Park. - Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: <ul style="list-style-type: none"> o Species protected under the Wildlife Acts; and/or o Species listed on the relevant Red Data list. o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive
County Importance	<ul style="list-style-type: none"> - Area of Special Amenity. - Area subject to a Tree Preservation Order. - Area of High Amenity, or equivalent, designated under the County Development Plan. - Resident or regularly occurring populations (assessed to be important at the County level) of the following:

	<ul style="list-style-type: none"> ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. ○ Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. <ul style="list-style-type: none"> - County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared. - Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. - Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (higher value)	<ul style="list-style-type: none"> - Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared; - Resident or regularly occurring populations (assessed to be important at the Local level) of the following: <ul style="list-style-type: none"> ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. ○ Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	<ul style="list-style-type: none"> - Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

5.10.3 Appendix III – Site Photographs

	
<p>Photograph 1. Pond (FL8) habitat to the east of the Applicant-owned land.</p>	<p>Photograph 2. Entrance to the Site comprising a mix of scrub and dry meadows & grassy verges (WS1/GS2)</p>
	
<p>Photograph 3. Arable crop (BC4), the dominant habitat at the Site.</p>	<p>Photograph 4. Wet pooling in BC4 habitat; snipe flushed from here.</p>
	
<p>Photograph 5. Sedimentary cliffs (CS3) just outside the Site boundary.</p>	<p>Photograph 6. Shingle and stony banks (CD1) outside the Site boundary.</p>



Photograph 7. Wet and vegetated drainage ditch along the eastern boundary (FW4)



Photograph 8. Drainage ditch (FW4) flowing off-Site in a southerly direction towards the sea.



Photograph 9. Building 1 surveyed for roosting bat potential



Photograph 10. Building 2 surveyed for roosting bat potential



Photograph 11. Building 3 surveyed for roosting bat potential



Photograph 12. Building 4 surveyed for roosting bat potential

RECEIVED: 05/08/2025

6 LAND AND SOIL

6.1 Introduction

This chapter of the EIAR was prepared to assess the potential significant effects of the Proposed Kilmore Quay Tourism Resort on the receiving land, soils and geology at Beak and Nemestown, Kilmore Quay, Co. Wexford (hereafter referred to as the 'site' and 'Proposed Development') and sets out any required mitigation measures where appropriate.

The principal objectives of this chapter are to identify:

- Land, soil and geological characteristics of the receiving environment at the Site.
- Potential effects that the Proposed Development may have on the receiving land, soil and geological environment including "worst case" scenario assessment.
- Potential constraints that the environmental attributes may place on the Proposed Development.
- Required mitigation measures which may be necessary to minimise any adverse effects related to the Proposed Development.
- Evaluate the significance of any residual effects.

This chapter of the EIAR should be read in conjunction with Chapter 4 Population and Human Health, Chapter 5 Biodiversity, Chapter 7 Hydrology and Hydrogeology, Chapter 8 Air Quality, Chapter 10 Landscape and Visual Assessment, Chapter 12 Material Assets: Waste and Utilities and Chapter 13 Traffic and Transport of the EIAR and other information provided by the Applicant pertaining to the design proposals for the Proposed Development.

6.1.1 Quality Assurance and Competency of Experts

This chapter of the EIAR was prepared by Gareth Carroll BA BEng MEnvSc CEnv, a Principal Consultant of DNV. Gareth is a Chartered Environmentalist (CEnv) with the Institute of Environmental Sciences (IES) with over 12 years' experience of preparing environmental and hydrogeological assessments for a range of project types and geological and hydrogeological site settings. This chapter of the EIAR was approved by Patrick Higgins BSc, MSc, MEnvSc, CEnv, with over 19 years' experience of preparing environmental and hydrogeological assessments for a range of project types and geological and hydrogeological site settings and who is Technical Director with DNV, is professionally competent and accredited to undertake hydrogeological assessments.

6.2 Study Methodology

6.2.1 Relevant Legislation and Guidance

The methodology adopted for the assessment will take cognisance of relevant guidelines, in particular the following:

- Environmental Protection Agency, May 2022. Guidelines on the information to be contained in Environmental Effect Assessment Reports (EPA, 2022)

- Institute of Geologists of Ireland Guidelines, 2002. Geology in Environmental Effect Statements, A Guide (IGI, 2002).
- Institute of Geologists of Ireland Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Effect Statements (IGI, 2013).
- National Roads Authority, 2009. Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009).
- Wexford County Council, 2022. Wexford County Development Plan 2022-2028.

6.2.2 Phased Approach

A phased approach was adopted for this EIAR in accordance with the Environmental Protection Agency (EPA) and Institute of Geologists of Ireland (IGI) guidelines as set out above and is described in the following sections.

Element 1: An assessment and effect determination stage were carried out by DNV to establish the project location, type and scale of the development, the baseline conditions, and the type of land, soils and geological environment, to establish the activities associated with the Proposed Development and to undertake an assessment and effect determination. This element of the assessment also included developing the Conceptual Site Model (CSM) for the Site and receiving environment.

The study area, for the purposes of assessing the baseline conditions for the Land, Soils and Geology Chapter of the EIAR, extends beyond the site boundaries and includes potential receptors with which there may be a pathway to/from the Proposed Development and receptors that may be indirectly affected by the Proposed Development. The extent of the wider study area was based on the IGI, 2013 Guidelines which recommend a minimum distance of 2.0km from the Site.

The study area for the Land, Soils, and Geology Chapter of the EIAR is defined to ensure a comprehensive assessment of baseline conditions. This area extends beyond the immediate boundaries of the site of the Proposed Development to include a broader region. The site refers specifically to the land where the Proposed Development will take place. In contrast, the study area encompasses a wider region, extending at least 2.0 km from the site, as recommended by the Institute of Geologists of Ireland (IGI) 2013 Guidelines. This broader area is necessary to identify and evaluate all potential receptors that could be affected by the Proposed Development, either directly or indirectly. The distinction between the application site and the study area is crucial. The site of the Proposed Development is the focal point of the Proposed Development, while the study area includes additional regions that might experience secondary effects. For instance, potential receptors within the study area include surrounding land that might undergo changes in land use or quality, soil quality and composition that could be altered by construction activities, and underlying geological features that might be affected.

The justification for this wider study area lies in the need to capture all potential effects comprehensively. While the primary focus is on the application site, the broader study area ensures that any indirect or secondary effects on land, soil, and geology are also considered. This approach provides a detailed and accurate picture of how the Proposed Development might affect these aspects of the environment, helping stakeholders make informed decisions and ensuring that all potential environmental effects are thoroughly assessed.

The desk study involved collecting all the relevant data for the Proposed Development site and surrounding area including published information and details pertaining to the Proposed Development provided by the applicant and design team.

Site walkover inspections and surveys were conducted by DNV on the 26th of August 2024, the 17th of September 2024, and the 22nd of October 2024. These inspections aimed to identify and assess the site condition, the site setting, and the receiving environment, including local geological features and potential receptors.

The Element 1 stage of the assessment was completed by DNV and included the review of the following sources of information:

- Environmental Protection Agency (EPA) webmapping 2025 (EPA, 2025).
- Geological Survey of Ireland (GSI) Datasets Public Viewer and Groundwater webmapping, 2025 (GSI, 2025).
- Google Earth Mapping and Imagery, 2025 (Google Earth, 2025).
- Ordnance Survey Ireland (OSI) webmapping, 2025 (OSI, 2025).
- National Parks and Wildlife Services (NPWS) webmapping, 2024 (NPWS, 2025).
- Teagasc webmapping, 2024 (Teagasc, 2025).
- Information provided by the Applicant pertaining to the design proposals for the Proposed Development.

Element 2: Involves direct and indirect site investigation and studies stage where necessary to refine the CSM developed as part of Element 1 and evaluate the potential effects associated with the Proposed Development. Intrusive ground investigations (drilling and installation of three (3 No.) groundwater monitoring wells, groundwater level monitoring and hydrogeological testing (i.e., step tests and pumping tests) were undertaken by Priority Geotechnical Limited (hereafter referred to as PGL) between the 17th of September 2024 and 19th of September 2024 (PGL, 2024). The results of the intrusive ground investigations, which are detailed in the hydrogeological assessment report prepared by DNV (DNV, 2025a) are included in EIAR Volume 3: Appendix 7.1, were used to identify and assess the land, soils and geology at the site.

Element 3: Evaluation of Mitigation Measures, Residual Effects and Final Effect Assessment were based on the outcome of the information gathered in Element 1 and Element 2 of the assessment. Mitigation measures to address all identified adverse effects that were identified in Element 1 and Element 2 of the assessment were considered in relation to the construction phase and operational phase of the Proposed Development. These mitigation measures were then considered in the effect assessment to identify any residual effects.

Element 4: Completion of the Land, Soil and Geology sections of the EIAR in this chapter which includes all the associated figures and documents.

6.2.3 Description of Importance of the Receiving Environment

The Transport Infrastructure Ireland (TII) criteria for rating the importance of geological features at the Site as documented in the National Roads Authority Guidelines (NRA, 2009), are summarised in Table 6-1.

Table 6-1. Criteria for Rating Site Importance of Geological Features

Importance	Criteria	Typical Example
Very High	<p>Attribute has a high quality, significance, or value on a regional or national scale.</p> <p>Degree or extent of soil contamination is significant on a national or regional scale.</p> <p>Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale.</p>	<p>Geological feature rare on a regional or national scale (NHA).</p> <p>Large existing quarry or pit.</p> <p>Proven economically extractable mineral resource.</p>
High	<p>Attribute has a high quality, significance, or value on a local scale.</p> <p>Degree or extent of soil contamination is significant on a local scale.</p> <p>Volume of peat and/or soft organic soil underlying route is significant on a local scale.</p>	<p>Contaminated soil on-site with previous heavy industrial usage.</p> <p>Large recent landfill site for mixed wastes.</p> <p>Geological feature of high value on a local scale (County Geological Site).</p> <p>Well drained and/or high fertility soils.</p> <p>Moderately sized existing quarry or pit.</p> <p>Marginally economic extractable mineral resource.</p>
Medium	<p>Attribute has a medium quality, significance, or value on a local scale.</p> <p>Degree or extent of soil contamination is moderate on a local scale.</p> <p>Volume of peat and/or soft organic soil underlying route is moderate on a local scale.</p>	<p>Contaminated soil on-site with previous light industrial usage.</p> <p>Small recent landfill site for mixed wastes.</p> <p>Moderately drained and/or moderate fertility soils.</p> <p>Small existing quarry or pit.</p> <p>Sub-economic extractable mineral resource.</p>
Low	<p>Attribute has a low quality, significance, or value on a local scale.</p> <p>Degree or extent of soil contamination is minor on a local scale.</p> <p>Volume of peat and/or soft organic soil underlying route is small on a local scale.</p>	<p>Large historical and/or recent site for construction and demolition wastes.</p> <p>Small historical and/or recent landfill site for construction and demolition wastes.</p> <p>Poorly drained and/or low fertility soils.</p> <p>Uneconomically extractable mineral resource.</p>

6.2.4 Description and Assessment of Potential Effect

Effects will vary in quality from negative, to neutral or positive. The effects of effects will vary in significance on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the 'effect' significance and the corresponding 'effect' throughout this chapter is described in Table 6-2 in accordance with EPA, 2022 guidelines on the information to be contained in EIARs.

Table 6-2. Description of Effects

Quality of Effects/Impacts	Definition
Negative	A change which reduces the quality of the environment
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment
Significance of Effects / Impacts	Definition
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 a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.
Extend and Context of Effects	Definition
Extend	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
Probability of Effects	Definition
Likely Effects	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.
Duration of Effects / Impacts	Definition
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration
Types of Effects	Definition
Indirect Effects	Effects 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	he addition of many minor or insignificant 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	he 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.

Figure 6-1 identifies how comparing the character of the predicted effect to the sensitivity of the receiving environment can determine the significance of the effect.

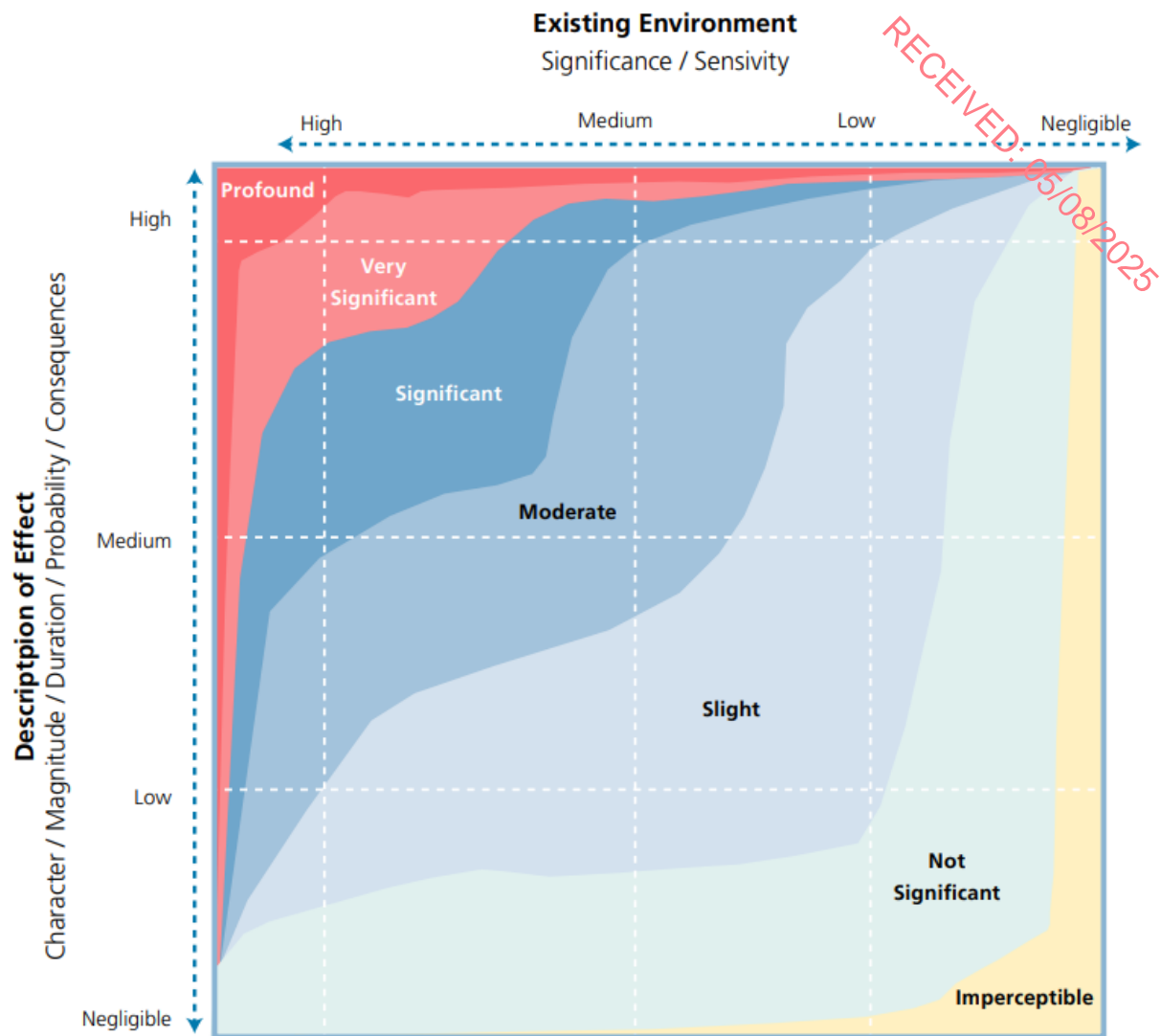


Figure 6-1. Determining Significance

6.3 The Existing and Receiving Environment (Baseline Situation)

6.3.1 Site Location and Current Land Use

The site of the proposed development is located at Beak and Nemestown, Kilmore Quay, Co. Wexford, and is accessed off the R739 regional road. It is situated to the northeast of Kilmore Quay town and harbour.

The site comprises 20.3 hectares (Ha) of greenfield lands that have historically been used for agriculture. During the site walkover undertaken by DNV, it was confirmed that the site is currently used for horticulture, specifically for growing carrots.

There are derelict farmstead buildings, and a courtyard located in the northern portion of the site. An access track, bound by a historic stone wall, traverses the centre of the site from the derelict farmstead buildings and courtyard in the north to the southern boundary of the site.

The site is bounded to the north by the R739 regional road, with individual residential dwellings beyond. To the east, it is bordered by agricultural lands, the newly constructed UE secondary

wastewater treatment plant, and individual residential dwellings. To the west, there are individual residential dwellings with the village of Kilmore Quay beyond, and to the south, it is bordered by Kilmore Bay Beach.

The site is currently not zoned under Wexford County Development Plan 2022-2028 and no Local Area Plan exists to cover the site. However, Kilmore Quay is a strategic settlement described in section 3.6.4, Core Strategy of the Wexford County Development Plan 2022-2028, for which it is a specific policy to promote economic and enterprise development such as expanding the potential of the marine economy and tourism in the strategic settlement. The Proposed Development is for an integrated tourism resort and therefore, is considered fully in keeping with the Core Strategy of the Wexford County Development Plan 2022-2028. Further details in regard to the Proposed Development in terms of legislative context and in relation to strategic, national, regional and local level planning policies and objectives are discussed in Chapter 3 of this EIAR.

The site location is presented in Figure 6-2 and the existing layout of the site is presented in Figure 6-3.

Further details regarding the site location and surrounding land use are detailed in Chapter 2 of this EIAR.

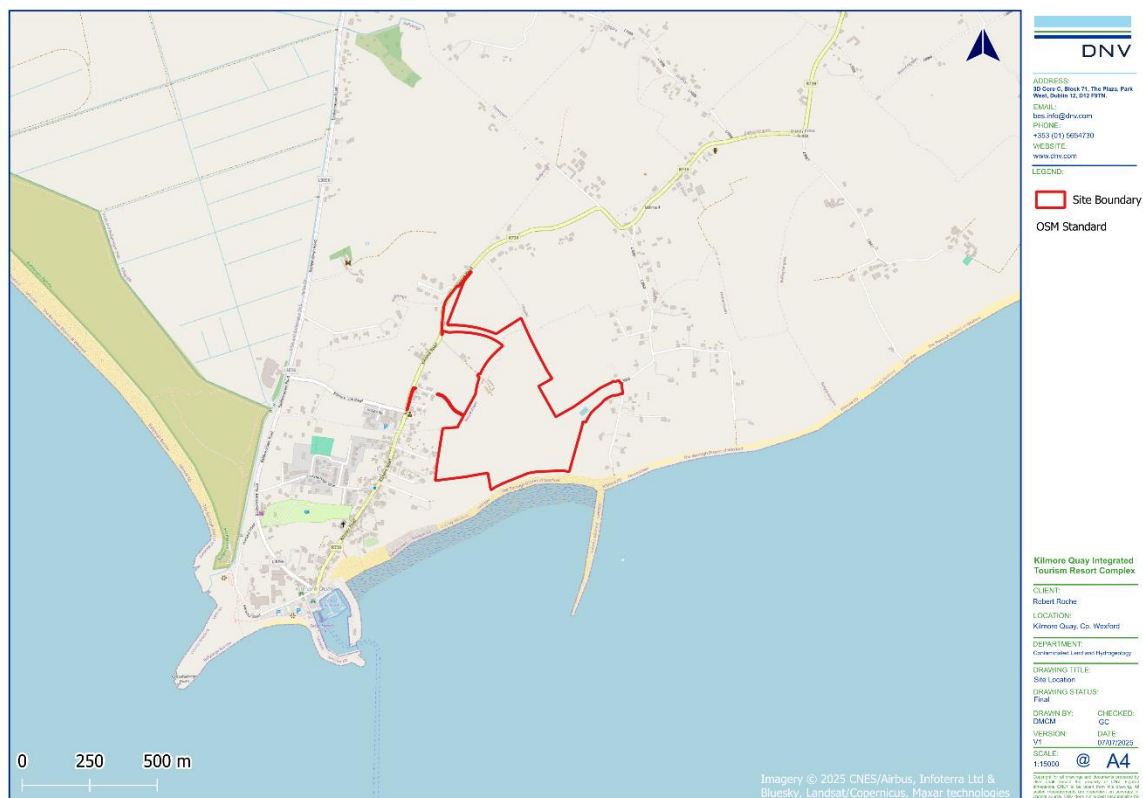


Figure 6-2. Site Location



Figure 6-3. Current Site Use

6.3.2 Site History

Historical mapping and aerial photography available from the Ordnance Survey of Ireland website (OSI, 2025) and Google Earth (Google Earth, 2025) were reviewed and key observations on-site and off-site are summarised in Table 6-3.

Table 6-3. Historical Land Use

Date	Information Source	Site Description
1837-1842	OSI Map 6 inch	Onsite: The site is comprised of greenfield agricultural land. Offsite: The surrounding lands are predominantly open fields divided by field boundaries. There is a cluster of dwellings adjacent to site.
1888-1913	OSI 25 Inch	Onsite: No significant changes. Offsite: No significant changes.
1995	OSI Aerial Photograph	Onsite: No significant changes. Offsite: Significant expansion of residential housing at Kilmore Quay 0.5km to the Southwest. Kilmore Quay harbour expanded. Small cluster of residential dwellings built 0.3km to the West.
2001-2005	OSI Aerial Photograph	Onsite: No significant changes. Offsite: No significant changes.

Date	Information Source	Site Description
2013-2018	OSI Aerial Photograph	Onsite: No significant changes. Offsite: No significant changes.
2024	Google Earth	On site: No significant changes. Off site: No significant changes.

6.3.3 Topography

The topography is mapped as part of the LiDAR Coverage Office of Public Works (OPW) National Aerial Survey Contract (NASC) (OPW, 2011) between approximately 14 meters above Ordnance Datum (mOD) to approximately 4mOD (refer to Figure 6-4). The lowest point onsite being the top of the coastal embankment along the southern boundary. The top of the coastal embankment ranges from approximately 7mOD to 4mOD from west to east. The beach below the coastal embankment is at approximate sea level (0mOD).

During site investigations, ground elevations at the site measured at the three (3 No.) newly installed observation groundwater monitoring wells and the existing supply well ranged from approximately 12.86mOD at BH01 in the west to approximately 7.47mOD in the south at BH02 (DNV, 2025a).



Figure 6-4. Site Topography

6.3.4 Soils

The soils beneath the majority of the site have been mapped by the GSI (GSI, 2025) as deep well-drained mineral (Mainly acidic) classified as Acid Brown Earths, Brown Podzolics, derived from mainly non-calcareous parent materials (IFS Soil Code: AminDW).

A narrow band of soils beneath the southeastern boundary of the site has been mapped by the GSI as shallow well-drained mineral (Mainly acidic) classified as Lithosols, Regosols, derived from mainly non-calcareous parent materials (IFS Soil Code: AminSW).

The GSI (GSI, 2025) mapped soils at the site are presented in Figure 6-5.

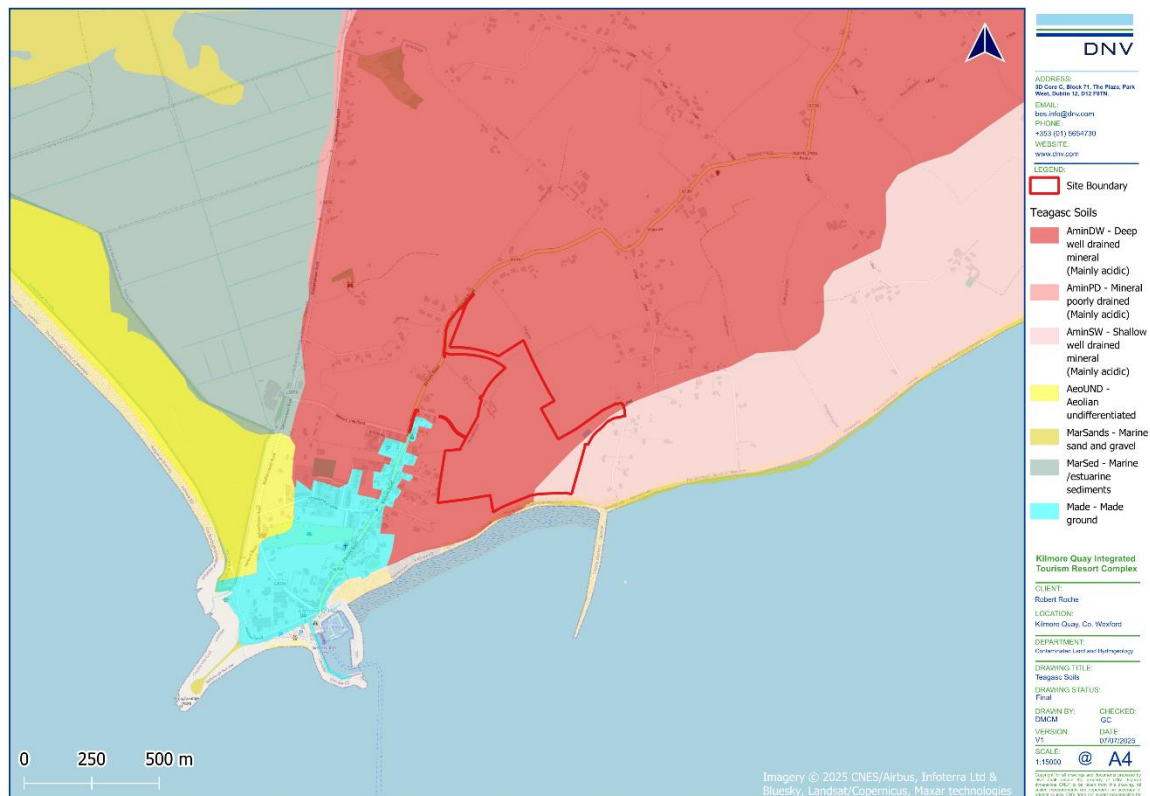


Figure 6-5. Teagasc Soils

6.3.5 Quaternary Geology

The subsoil or quaternary sediments beneath the majority of the site of the Proposed Development are mapped by the GSI (GSI, 2025) as 'till derived from metamorphic rocks'. A small portion of the subsoil southeast of the site is classified as 'gravels derived from Cambrian sandstones and shales' (GSI, 2025).

The quaternary geology at the Site is presented in Figure 6-6.

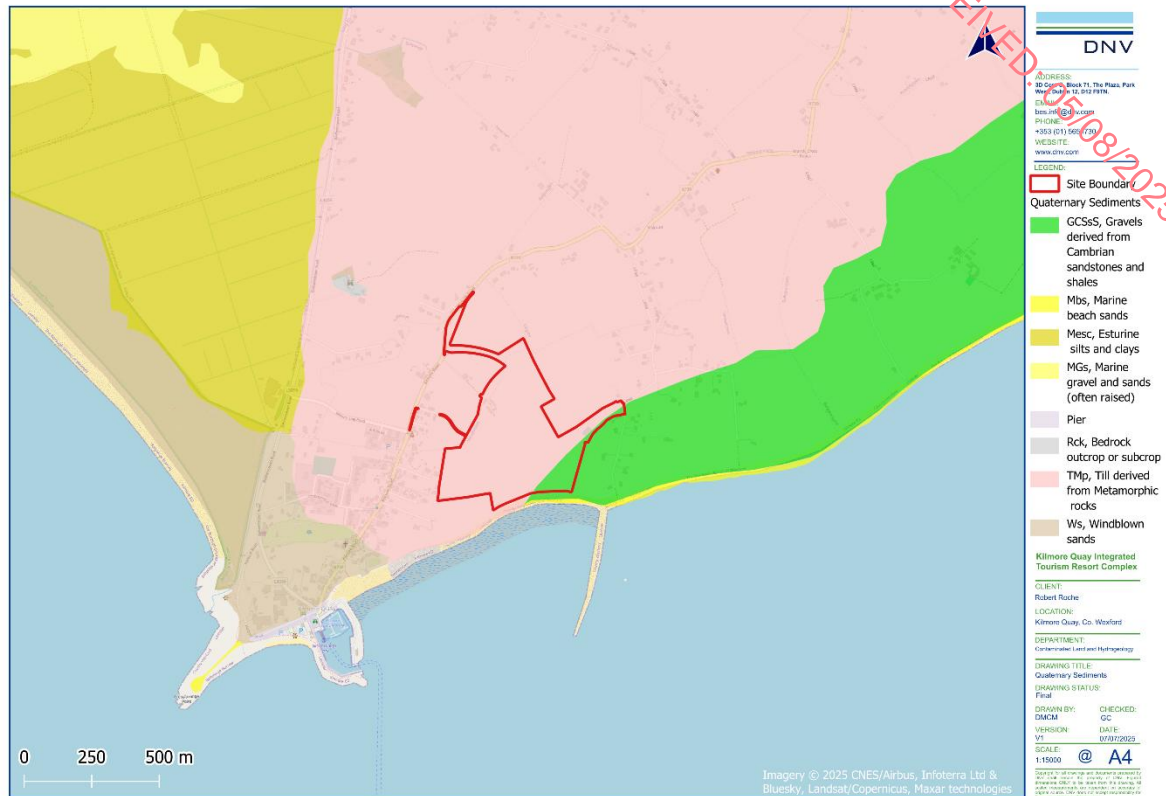


Figure 6-6. Quaternary Geology

6.3.6 Quaternary Geomorphology

There is a 'Hummocky Sand and Gravel' deglacial landform, which corresponds with the area of the sand and gravel aquifer mapped by the GSI (GSI, 2025), with a small portion to the south of the site. There are no other landforms recorded with the 2km radius of the site.

6.3.7 Bedrock Geology

The bedrock beneath the site is mapped by the GSI (GSI, 2025) as the Kilmore Quay Group (New Code: PRKMQG), described as Banded quartzo-feldspathic paragneisses. A shear zone boundary is identified traversing through the middle of the site.

While there are no bedrock outcrops mapped within the site boundary there are a number of bedrock outcrops mapped by the GSI (GSI, 2025) within a 2km radius of the site. The closest bedrock outcrop recorded by the GSI (GSI, 2025) is located approximately 0.30km north-west of the site. Additional outcropping is recorded approximately 1.2km north of the site.

There are no karst features mapped by the GSI (GSI, 2025) at the site or within a 2km radius of the site.

The GSI bedrock geology map is presented in Figure 6-3.

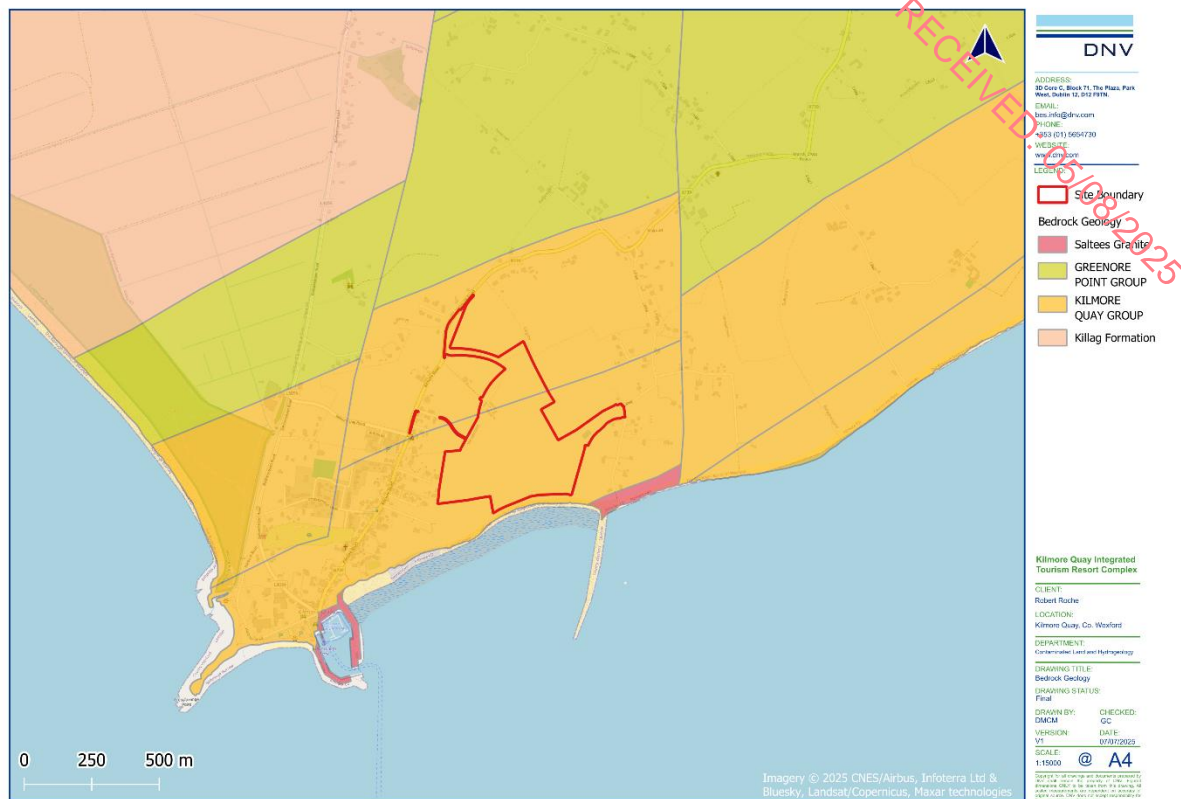


Figure 6-7. Bedrock Geology

6.3.8 Site Investigation Results

Ground investigations completed at the site by PGL in 2024 (refer to DNV, 2025a Hydrogeological Assessment included in Volume 3: Appendix 7.1 of the EIAR) included the installation of three (3 No.) groundwater monitoring wells and hydrogeological testing at the existing water supply well and newly installed groundwater monitoring wells. The location of the newly installed groundwater monitoring wells (BH1, BH2 and BH3), the existing production well (water supply well) (PW1) and the surface water location (SW1) are presented in Figure 6-8 below and the borehole logs are included in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR).

The ground conditions encountered during the site investigations are summarised as follows:

- Topsoil was encountered in all three (3 No.) boreholes to a depth of up to 1.0mbGL.
- The topsoil was underlain by a GRAVEL layer described as sandy GRAVEL and silty clayey GRAVEL to depths ranging from 2.5mbGL to 5.5mbGL.
- The GRAVEL layer at BH1 was underlain by a CLAY layer described as stiff, slightly gravelly sandy CLAY to a depth of 5.4mbGL. This CLAY layer was also encountered above the forementioned GRAVEL layer at BH2 to a depth of 2.5mbGL. It is noted that there was no CLAY layer encountered at BH3.
- Bedrock was mainly described as medium strong to very strong, grey, pink, white, medium-grained, GNEISS. There was a degree of weathering of the bedrock ranging from highly weathered to slightly weathered with depth. In addition, there were a number of fractures with different dipping degrees observed on the core taken from BH1 during the drilling process.

As documented in the Hydrogeological Assessment Report (DNV, 2025a), groundwater elevations across the site, during pre-pumping conditions (baseline conditions) on the 7th and 16th of October 2024, post-pumping conditions on the 21st of October 2024 and during the hydrogeological tests (i.e. step test and pumping tests) undertaken, ranged from between 2.37mOD (at PW1 on the 10th of October 2024) to 6.59mOD (at BH3 on the 8th of October 2024). The receiving hydrogeology at the site is described and assessed in Chapter 7 of this EIAR.



Figure 6-8. Site Investigation Locations (DNV, 2025a)

6.3.9 Geochemical Domain

The GSI along with the EPA have developed geochemically appropriate levels (GALs) for soil recovery facilities across Ireland specifically in relation to metals and metalloids in uncontaminated soil and stone (GSI, 2025). There are a total of seven defined domains across the country. The geochemical domains map indicates that the majority of the site is located within Domain 7 where the subsoil composition is described as schist, quartzite and gneiss. While the southeast corner of the site is mapped by the GSI (GSI, 2025) to be located within Domain 5 where the subsoil composition is described as Lower Palaeozoic sandstones, shales and igneous rocks.

A summary of the maximum expected metals concentrations for Domain 5 and Domain 7 are presented below in Table 6-4.

Table 6-4 Geochemically Appropriate Levels form Domain 5 and Domain 7

Element	Units	Value	
		Domain 5	Domain 7
Arsenic	mg/kg	41.50	30.90
Cadmium	mg/kg	1.42	0.54
Chromium	mg/kg	73.20	57.60
Copper	mg/kg	77.60	83.10
Mercury	mg/kg	0.302	0.260
Nickel	mg/kg	65.70	35.70
Lead	mg/kg	109.00	61.10
Zinc	mg/kg	224.00	122.00

6.3.10 Radon

The Radon Risk Map of Ireland (EPA, 2025) shows a prediction of the number of the houses in any one area that are likely to have high radon levels. The map is based on an analysis of indoor radon measurements plus geological information including, bedrock type, quaternary geology, soil permeability and aquifer type.

The majority of the site is mapped by the EPA (EPA, 2025) as being in an area where 'about 1 in 20 homes in this area is likely to have high radon levels'. A small portion of the southeast corner of the site is mapped by the EPA (EPA, 2025) as being in an area where 'about 1 in 10 homes in this area is likely to have high radon levels'.

The EPA cites the reference level for radon as 200 Bq/m³ and a High Radon Area where more than 10% of homes may have more than the reference level of radioactivity. The majority of the site is located in an area where 5% of the houses in the area are mapped by the EPA as being over this reference level thereby indicating that the majority of the site is not considered a High Radon Area (EPA, 2024). However, the southeast corner of the site is located in an area where 10% of the houses are over this reference value, and therefore, it is considered a High Radon Area. It is noted that there are no buildings proposed in this portion of the site.

A high radon level can be found in any home, in any part of the country, but these homes are more likely to be located in High Radon Areas.

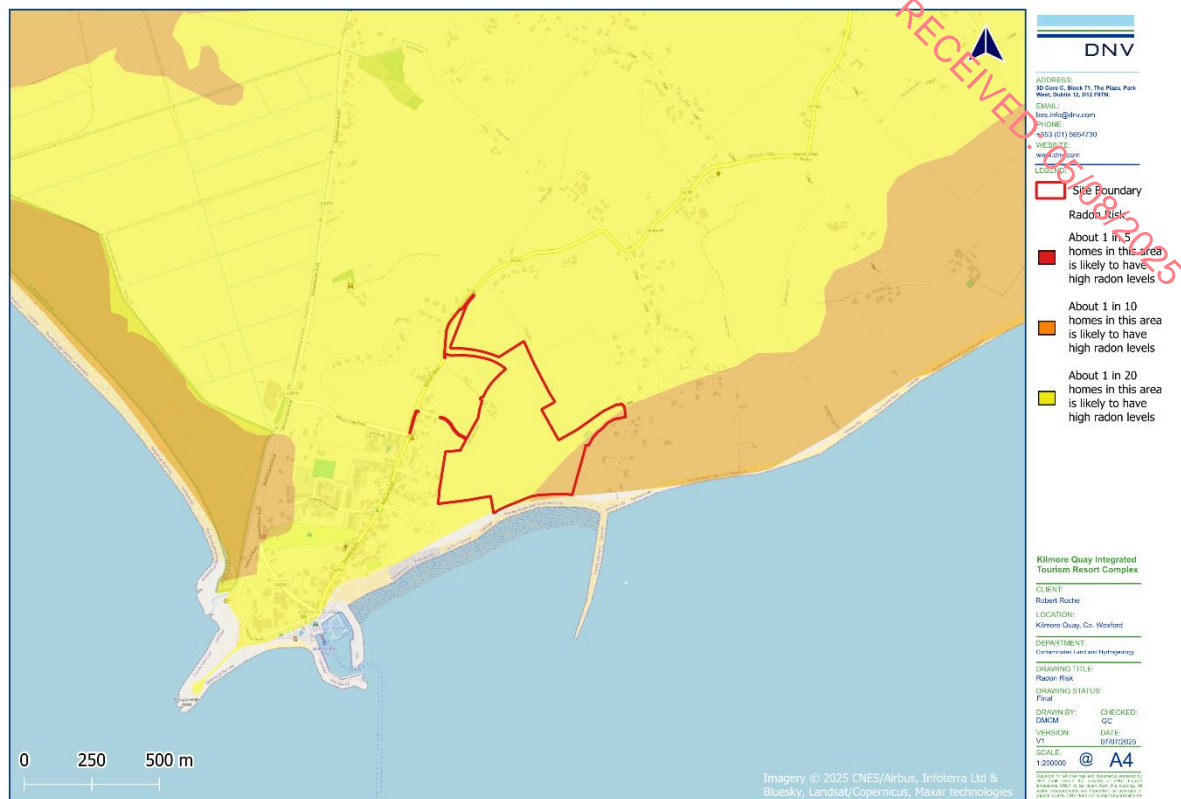


Figure 6-9: Radon Risk Map

6.3.11 Geohazards

Earthquakes are not likely to occur in the vicinity of the site at a sufficient intensity to pose a risk to the Proposed Development.

The GSI database indicated that the site is located within an area of 'low' or 'low (inferred)' on the landslide susceptibility classification map (GSI, 2025). Furthermore, there are no recorded landslides recorded on the GSI database (GSI, 2025) at the site or within a 2km radius of the site.

There are no karst features mapped by the GSI (GSI, 2025) at the site or within a 2km radius of the site. There was no evidence of karstification in the core logs from the site investigations undertaken by PGL in 2024 (refer to DNV, 2025a Hydrogeological Assessment included in Volume 3: Appendix 7.1 of the EIAR).

6.3.11.1 Coastal Erosion

A preliminary coastal erosion assessment was undertaken by IE Consulting (IE Consulting, 2025) to evaluate the potential erosion risks associated with the Proposed Development. The assessment incorporated a review of existing data sources, including the OPW Irish Coastal Protection Strategy Study (ICPSS) erosion mapping and the National Coastal Flood Hazard (NCFH) mapping, as well as a detailed visual survey of the coastal foreshore adjacent to the southern boundary of the site.

The results of the assessment are summarised as follows:

- The ICPSS mapping indicates a 'Medium Confidence' 2030 erosion potential line near the southern boundary; however, the proposed development does not encroach upon this line. No 2050 erosion lines are mapped in the immediate vicinity.
- The NCFH mapping confirms that the site lies outside the 0.1% AEP (1 in 1000 year) flood zones under present and future climate scenarios, with only a minor area at the south-eastern corner potentially affected under the HEFS++ scenario (2.0m sea level rise), where no structures are proposed.
- The visual survey found the foreshore to be densely vegetated with no significant signs of erosion or accretion, though minor, localized embankment face slippage was observed without evidence of structural instability.
- In line with Objective CZM35 of the Wexford County Development Plan 2022–2028, a 100m building exclusion zone has been incorporated from the foreshore embankment, and no development is proposed within the ICPSS erosion line.

The coastal erosion assessment (IE Consulting, 2025) concludes that based on current best scientific data, the Proposed Development is not expected to be at risk of coastal erosion over its lifetime and will not contribute to increased erosion or deposition in the area. The findings support the conclusion that the Proposed Development is compliant with relevant coastal zone management policies and does not pose a significant threat to coastal habitats or features (IE Consulting, 2025).

6.3.12 Geological Heritage Sites

There are no geological heritage sites recorded within the site. However, there are three (3 No.) recorded heritage sites within the vicinity of the site (refer to Figure 6-10).

According to the GSI (GSI, 2025), the area adjacent to the southern boundary of the Proposed Development is classified as a geological heritage area: St. Patrick's Bridge (Site Code: WX040). This site comprises a long, intertidal-subtidal gravel moraine (laminated muds, sand, gravel, and boulders) extending approximately 4 kilometres southward from the Nemestown shore toward the Saltee Islands. It is recommended for designation as a Geological Natural Heritage Area (NHA) and lies within the Saltee Islands SAC (000707). The moraine is interpreted as having been deposited at the margin of a grounded Irish Sea glacier.

Adjacent to the southwest boundary of the site is Kilmore Quay (Site Code: WX025), also recommended for Geological NHA designation. The GSI (2025) describes this site as comprising coastal exposures east and west of the harbour at a prominent headland on the south Wexford coast. It represents the Kilmore Quay Group, with bedrock principally composed of thin bands of gneiss and dark-grey schist.

Approximately 0.8 km west of the site lies Ballyteige Bay (Site Code: WX003), a County Geological Site (CGS) of significant importance. It is characterised by a long shingle barrier spit with well-developed sand dunes backing onto Inish and Ballyteige Slob. The site is notable for its coastal geomorphology, including beach, barrier spit, dunes, mudflats, and saltmarshes, as well as for recent (<200 years) human-induced changes along the coastline. Ballyteige is recognised as one of Ireland's most important shingle-based dune systems and is designated as Ballyteige Burrow SAC (000696), SPA (004020), and pNHA (000696).

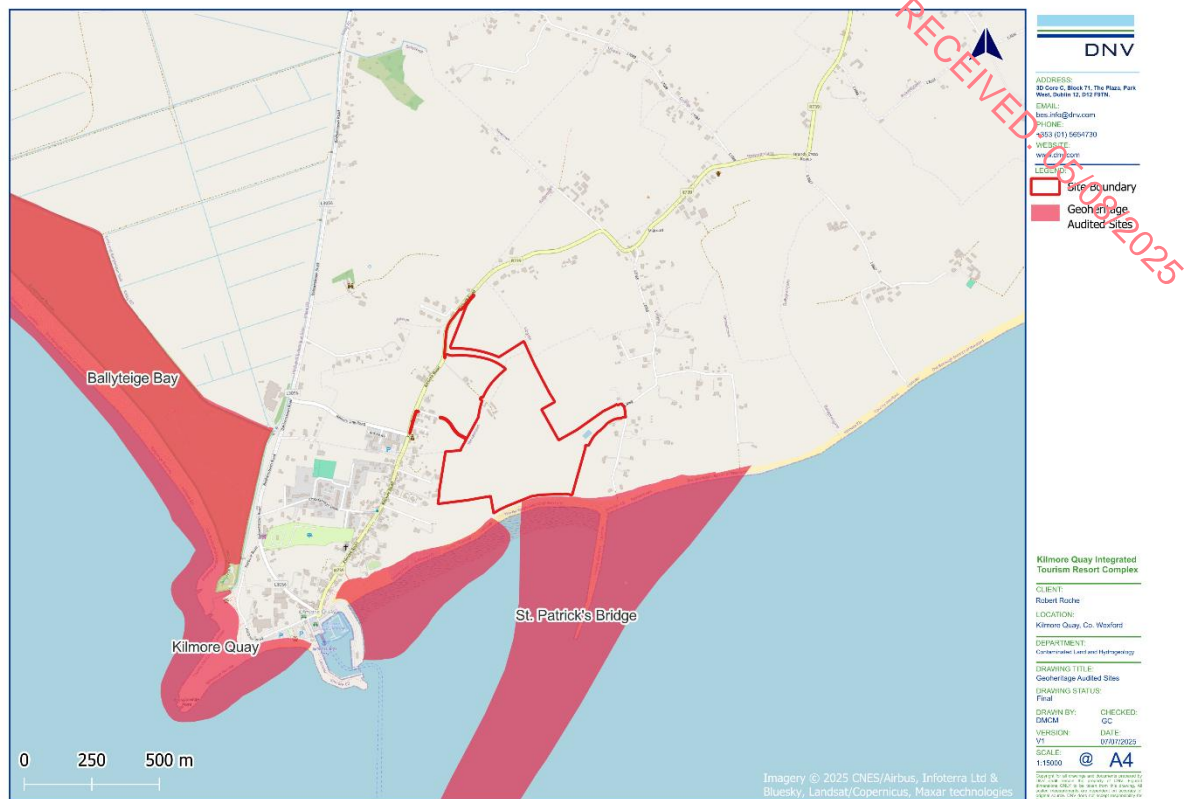


Figure 6-10. Geoheritage Audited Sites

6.3.13 Economic Geology

The lands across the majority of the site have no mapped granular aggregate potential (GSI, 2025). However, the southeast corner of the site is mapped by the GSI (GSI, 2025) as having a 'moderate' granular aggregate potential and is classified as Cambrian / Precambrian sandstone and shale sands and gravels of glaciofluvial origin (refer to Figure 6-11).

The southern portion of the site is also mapped by the GSI (GSI, 2025) as having 'moderate' potential for crushed rock aggregate (refer to Figure 6-12). While the northern area of the site is classified as having 'very low' potential for crushed rock aggregate (GSI, 2025).

There are no historical pits or quarries mapped by the Geological Survey Ireland (GSI, 2025) at the site or within a 2 km radius.

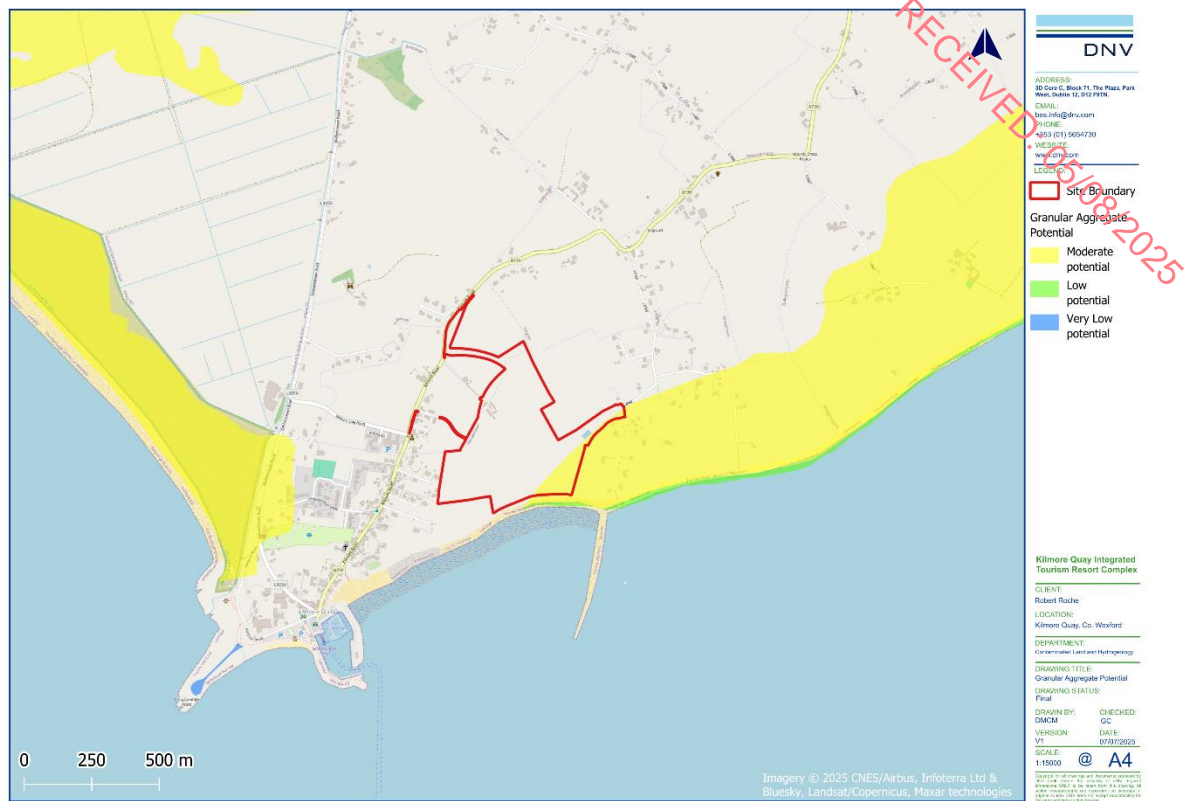


Figure 6-11. Granular Aggregate Potential

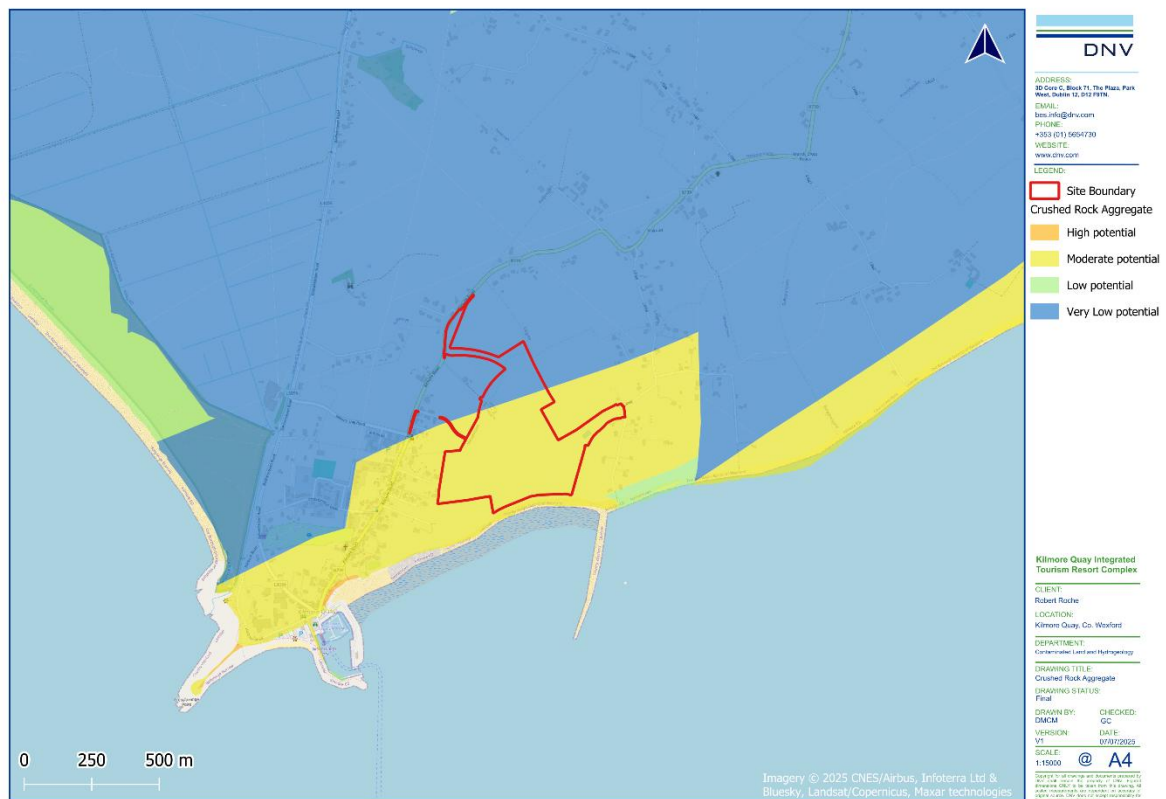


Figure 6-12. Crushed Rock Aggregate Potential

6.3.14 Importance of the Baseline Environment

In accordance with the TII Guidance as documented by the NRA (NRA, 2009) and as outlined in Table 6-1, the soil and geology underlying the site of the Proposed Development would be rated as an attribute of 'Low' importance as the majority of the site is underlain by materials with little to no granular aggregate potential. Furthermore, given the depth to bedrock encountered during ground investigations by PGL at depths ranging between 4.0mbGL to 5.5mbGL, the extraction of crushed rock is considered uneconomical as an extractable mineral resource.

While there are no geological heritage sites located within the site of the Proposed Development, there are three (3 No.) recorded heritage sites within the vicinity of the site namely St. Patrick's Bridge (Site Code: WX040; a long, intertidal-subtidal gravel moraine) located adjacent to the southern boundary of the site, Kilmore Quay (Site Code: WX025; coastal exposures east and west of the harbour at a prominent headland on the south Wexford coast) located adjacent the southwest boundary of the site and Ballyteige Bay (Site Code: WX003; a long shingle barrier spit with well-developed sand dunes backing onto Inish and Ballyteige Slob) located approximately 0.8 km west of the site.

6.4 Characteristics of the Proposed Development

Application for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

A full description of the Proposed Development is outlined in Chapter 2 of this EIAR.

The following components are of particular relevance with respect to land, soils and geology are discussed below.

6.4.1 Construction Phase

The construction phase of the Proposed Development will include:

- Building foundations will consist of piled foundations for the central hotel, function/conference centre facility and spa/leisure complex, and conventional pads and strip footings for the remaining low rise buildings.

- Excavation of soil and subsoil for the construction of building foundations, drainage and other infrastructure.
- It is anticipated that there will be no requirement for the excavation of bedrock during the construction phase of the Proposed Development.
- It is intended to reuse suitable excavated soil and subsoil for landscaping and engineering use. However, where required, the removal of unsuitable soil and subsoil offsite will be undertaken in accordance with all statutory legislation.
- The importation of aggregate fill materials will be required for the construction of the Proposed Development (e.g., granular material beneath road pavement, under floor slabs and for drainage and utility bedding / surrounds etc.).
- Temporary stockpiling of excavated material pending re-use onsite.

6.4.2 Operational Phase

There will be no excavation of soil or bedrock or infilling of waste during the operational phase of the Proposed Development as commercial Integrated Tourism Resort Complex.

The land use at the site will change from mainly undeveloped lands to commercial use with associated vehicular and pedestrian access, car parking and landscaping.

There will be no requirement for bulk storage of petroleum hydrocarbon-based fuels during the operational phase as the main operating systems for heating will be Air Source Heat Pumps (ASHP). Further details are provided in Chapter 12 of this EIAR.

6.5 Potential Impact of the Proposed Development

The procedure for determination of potential impacts on the receiving land, soils and geology is to identify potential receptors within the site boundary and surrounding environment use the information gathered during the desk study and site walkover to assess the degree to which these receptors will be impacted upon in the absence of mitigation.

The assessment will identify the likely impacts during the construction and operational phases of the Proposed Development. This will involve assessing the significance of any potential effects by determining the sensitivity of the receptors and the magnitude of the potential effect.

6.5.1 Construction Phase

The potential impacts associated with the construction phase of the Proposed Development are summarised below.

6.5.1.1 Land Take and Land Use

The Proposed Development will require approximately 20.3Ha of land, transitioning its use from agricultural to commercial, specifically for the development of an Integrated Tourism Resort Complex.

This change in land use is consistent with the Core Strategy outlined in the Wexford County Development Plan 2022–2028. The primary development approach for the area includes:

- Promoting economic and enterprise development that is appropriate in scale to the settlement, including the expansion of the marine economy and tourism potential in Kilmore Quay.

- Protecting and enhancing local amenities, heritage assets, green infrastructure, and biodiversity.

The Proposed Development is considered appropriate in scale for a Level 3b Strategic Settlement and is aligned with the objective of expanding tourism and marine-related opportunities in Kilmore Quay. Further details regarding the legislative context and alignment with strategic, national, regional, and local planning policies and objectives are provided in Chapter 3 of this EIAR

As a result, the development will involve an unavoidable land take, leading to a 'negative', 'significant', and 'permanent' impact on land and soil, particularly when assessed in the context of surrounding land uses and zoning objectives. This is considered significant in the context of the EIA Directive.

6.5.1.2 Excavation and Removal of Soil and Subsoil

It is anticipated that there will be no requirement for the excavation of bedrock during the construction phase of the Proposed Development. However, there will be an unavoidable loss of in-situ soils and subsoils from the site to achieve the formation levels for the Proposed Development including building foundations, roads, drainage and other infrastructure

It is intended to reuse suitable excavated soil and subsoil for landscaping and engineering use. However, it is anticipated that there may be a requirement for the removal of surplus and unsuitable material offsite. The soils and subsoils underlying the site of the Proposed Development are considered to be of 'low' importance. Accordingly, there will be a 'negative', 'slight' and 'permanent' impact on the underlying soils at the site and is considered non-significant in the context of the EIA Directive

The removal of surplus soil offsite will be undertaken in accordance with applicable statutory requirements. This may include where suitable, removal as by-products that meet the legislative requirements of Article 27 of the European Communities (Waste Directive) Regulations, 2011. The potential impact with removal offsite of surplus soil and other material as wastes is assessed in Chapter 12 of this EIAR.

6.5.1.3 Soil Quality and Contamination

Reuse of Soil and Subsoil

The site currently is a greenfield site. However, it contains a localised area in the centre part of the site comprising a number of derelict buildings from previous use (i.e., the Beak farmstead buildings and courtyard), thus there is a potential for low quality made ground to be present. The excavation and reuse of soil onsite will be subject to control procedures which will include soil quality testing to ensure suitability for onsite use in accordance with engineering and environmental specification for the Proposed Development that will be determined during the detailed design phase. Therefore, the reuse of soils onsite will result in a 'neutral', 'imperceptible' and 'permanent' impact on the quality of shallow soils underlying the site and is considered non-significant in the context of the EIA Directive

Concrete Works

There is a potential risk associated with the use of cementitious materials during construction of subsurface structures (such as foundations) on the underlying soil and geology at the

Proposed Development. It is considered that this may result in a 'negative', 'moderate' and 'long-term' impact on existing quality of soil within a localised area underlying the site and is considered non-significant in the context of the EIA Directive.

Handling of Fuels and Hazardous Materials

The potential accidental release of deleterious materials including fuels and other materials being used onsite, through the failure of secondary containment or a materials' handling accident on the Proposed Development could potentially result in a 'negative', 'moderate to significant', 'long-term' impact on the receiving soil and geology depending on the nature of the incident. It is noted that this impact is considered significant in the context of the EIA Directive due to the potential for long-term degradation of the impacted soils in the absence of mitigation. This worst-case scenario is deemed to be unlikely to occur

6.5.1.4 Soil Structure

The excavation and re-use of soil at the site (where possible) will result in the exposure of the materials to various elements including weather, construction traffic and temporary stockpiling. This exposure can lead to changes in the soil's moisture content, temperature, and structure (e.g., rain can cause the soil to become waterlogged, dry weather can lead to desiccation and cracking, movement of construction vehicles and equipment over the soil can cause compaction and disturbance reducing the soil's porosity, making it less able to absorb water and nutrients). Over time, the soil may become less cohesive and more prone to erosion and instability. The combined effects of exposure to elements, construction traffic, and temporary stockpiling will have a potential 'negative,' slight' and 'long term' impact on the natural strength of the materials and is considered non-significant in the context of the EIA Directive.

6.5.1.5 Importation of Fill Materials

The importation of aggregate fill materials will be required for the construction of the proposed development (e.g., construction of the piling mat and granular material beneath road pavement, under floor slabs and for drainage and utility bedding / surrounds). The potential impacts may include loss of attribute and changes in the geological regime at the source site. It is anticipated that the required aggregates identified for importation onsite will be 'indirect' and have a 'neutral,' 'imperceptible' and 'permanent' impact on the source site. This impact is considered imperceptible and non-significant in the context of the EIA Directive taking account of the fact that the statutory consent process would have required the necessary environmental impacts to be assessed and mitigated as appropriate at the source site.

6.5.1.6 Dust Generation

There is a potential for creation of windblown dust generation from the temporary stockpiling of materials onsite. There will be some exhaust emissions generated from the use of excavators, HGVs (heavy goods vehicles) and vibrating rollers during the construction phase of the Proposed Development. An assessment of the potential impact of the Proposed Development with regard to the generation of dust is addressed in Chapter 8 of this EIAR

6.5.1.7 Geological Heritage Sites

There are two (2 No.) recorded heritage sites located adjacent the southern and southwest boundaries of the site (namely St. Patrick's Bridge and Kilmore Quay).

There are no geological heritage sites located within the site of the Proposed Development and the construction works for the Proposed Development will occur outside the identified heritage sites. However, in the absence of avoidance and mitigation measures, in a worst-case scenario, there is a potential for fuel spill from the works area flowing overland and entering the downgradient geological heritage sites. In this unlikely scenario, there is a potential 'negative' 'moderate' and 'medium-term' impact on the receiving geological heritage site. The impact is considered moderate and non-significant in the context of the EIA Directive given the scale of the feature, and that any impact would be localised.

6.5.1.8 Geological Hazards

The site is not located within an area associated with karst geology and therefore there is no identified risks associated with karst features. The predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive.

All aggregates imported to the site for use in the Proposed Development will be subject to strict quality control procedures in accordance with the design specification and relevant Building Regulations therefore avoiding any potential issues with pyrite in aggregates. Therefore, the predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive.

Overall, the impacts of geohazard risks due to the Proposed Development is considered to be 'neutral' 'imperceptible' and 'permanent' and not significant in the context of the EIA Directive.

6.5.2 Operational Phase

During the operational phase of the Proposed Development, there is limited to no potential for any direct effect on the receiving land, soil and geology environment from the Proposed Development taking account of the operational design measures for the Proposed Development.

The design and construction of the Proposed Development will be in accordance with current Building Regulations will ensure that the site will be suitable for use for the operational phase as a commercial development (Integrated Tourism Resort Complex) taking account of the geological site setting.

Earthquakes are not likely to occur in the vicinity of the site at a sufficient intensity to pose a risk for the Proposed Development. The GSI database indicates that the site is located within an area of low susceptibility to landslides. Furthermore, there are no potential ground stability hazards identified for the site.

The southeast corner of the site is identified as being located within a 'High' Radon Area. However, there are no buildings proposed within this area of the site. Regardless, the design and specification for all buildings will be in accordance with current Building Regulations and therefore any potential issues associated with radon will be addressed and avoided.

The coastal erosion assessment (IE Consulting, 2025) concludes that based on current best scientific data, the Proposed Development is not expected to be at risk of coastal erosion over its lifetime and will not contribute to increased erosion or deposition in the area. The findings support the conclusion that the Proposed Development is compliant with relevant coastal zone management policies and does not pose a significant threat to coastal habitats or features (IE Consulting, 2025).

Overall, the predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive.

6.5.3 Potential Cumulative Impacts

Cumulative effects can be defined as “effects that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project”. Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor. Such effects are not caused or controlled by the project developer.

The consideration of potential cumulative effects is an important stage in the EIA process. Although the Proposed Development may not result in significant residual effects in isolation, when the Proposed Development is considered cumulatively with other projects, significant residual effects may occur. Therefore, as part of this assessment, other offsite developments and proposed offsite developments as detailed in Chapter 2 of this EIAR were reviewed and considered for possible cumulative effects with the Proposed Development.

6.5.4 Construction Phase

Excavation and Removal of Soil and Subsoil

Excavated soil, subsoil and bedrock during the construction phase of the Proposed Development could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated materials from other developments detailed in Chapter 2 of this EIAR and within the wider Wexford Area. All surplus soils and subsoils from the site will be removed offsite in accordance with the requirements of the ORWMP (DNV, 2025c) and project specific RWMP (which will be developed by the main contractor in advance of construction works commencing) and all statutory legislation. Accordingly, it is considered that any cumulative impact on lands, soils and geology associated with the Proposed Development will be ‘neutral’, ‘imperceptible’ and ‘permanent’ and is considered non-significant in the context of the EIA Directive.

Import of Aggregates and Materials

The importation of aggregates to the Proposed Development may be sourced from the same borrow site as other permitted developments detailed in Chapter 2 of this EIAR and within the wider Wexford Area. However, contract and procurement procedures will ensure that all aggregates and fill material originating from quarry sources that will be required for construction are sourced from reputable authorised suppliers operating in a sustainable manner and in accordance with the necessary statutory consents. Therefore, regardless of the number of other projects and developments using aggregates from the same source sites, there will be an ‘indirect’, ‘neutral’, ‘imperceptible’ and ‘permanent’ impact on the geological environment at the source site and is considered non-significant in the context of the EIA Directive.

There are no other cumulative impacts associated with land, soil and geology associated with the construction phase of the Proposed Development.

6.5.5 Operational Phase

There will be no cumulative effects on land, soil and geology during the operational phase of the Proposed Development.

6.5.6 “Do Nothing” Effect

The ‘Do Nothing’ scenario assesses the potential effect on the receiving land, soils, and geological environment if the Proposed Development did not proceed.

In the ‘Do Nothing’ scenario, the site would remain as undeveloped lands in the immediate term. However, the proposed change in land use is consistent with the Core Strategy outlined in the Wexford County Development Plan 2022–2028. Therefore, while the site would remain undeveloped in the short term, the potential for future development remains. As such, even in the absence of the Proposed Development, it is considered that the types of construction and operational phase impacts assessed in this chapter of the EIAR may still occur in the future, albeit under a different development proposal. In this scenario, the current assessment remains relevant as an indication of the likely nature and scale of impacts on land, soil and geology associated with residential development on the site.

6.6 Avoidance, Remedial and Mitigation Measures

The mitigation measures as outlined below, will ensure that there will be no significant effect on the receiving land, soil and geology.

6.6.1 Construction Phase

An Outline Construction Environmental Management Plan (OCEMP) and Outline Resource and Waste Management Plan (ORWMP) have been prepared by DNV (DNV, 2025b and DNV, 2025c; submitted with the planning application under separate cover). The OCEMP and ORWMP will address construction environmental and resource and waste management during the construction phase of the Proposed Development. Following appointment, the contractor will be required to further develop the OCEMP and ORWMP and prepare and project specific CEMP and RWMP, for approval by Wexford County Council prior to any works commencing. The project specific CEMP and RWMP will provide detailed construction phasing, and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532, CIRIA, 2001). The project specific CEMP and RWMP will take cognisance of measures outlined in the EIAR, the OCEMP and the ORWMP submitted with the planning application.

The project specific CEMP and RWMP will be implemented for the duration of the construction phase, covering mitigation works that will be adopted as part of the construction works for the Proposed Development.

6.6.1.1 Import of Aggregates and Materials

Contract and procurement procedures will ensure that all imported aggregates and materials required for the construction phase of the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates and materials will be subject to management and control procedures which will include testing for

contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.

6.6.1.2 Airborne Dust

Excavated soils will be carefully managed and maintained in order to minimise potential effect on soil quality and soil structure. Handling of soils will be undertaken in accordance with the documented procedures outlined in the OCEMP (DNV, 2025b) and the project specific CEMP in order to protect ground and minimise airborne dust. The normal measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This may require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Hoarding will also be provided as required around the site works to minimise the dispersion of dust from the working areas. Potential effects and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 8 of this EIAR.

6.6.1.3 Reuse of Soil and Subsoil

Soil and subsoil materials to be reused within the Proposed Development (i.e., for engineering fill and landscaping) will be subject assessment of the suitability for use in accordance with engineering and environmental specification for the Proposed Development. This will include:

- Define the criteria by which the suitability of the soils for reuse will be assessed (e.g., analytical parameters and limits), the engineering requirements such as geotechnical parameters for the material to be used within the works.
- Delineation of areas where excavated soil is intended for disposal off-site as waste, and where it is intended for reuse on site.
- Identification and recording of the location from where the soil will be excavated and its proposed reuse location and function.
- Engineering assessment to confirm its suitability for reuse.
- Any proposed treatment or processing required to enable its reuse, as well as any associated treatment permits, or licences required.

6.6.1.4 Management and Control of Soil and Stockpiles

Segregation and storage of soils for re-use on-site or removal off-site and waste for disposal off-site will be segregated and temporarily stored on-site pending removal or for reuse on-site in accordance with the OCEMP (DNV, 2025b) and the project specific CEMP which will be prepared by the main contractor in advance of construction works commencing.

Where possible, stockpiling of soil and stone on-site will be avoided. However, in the event that stockpiling is required, stockpiled materials, pending reuse on-site, will be located away from the location of any sensitive receptors (watercourse and drain).

Stockpiles of loose material will be a minimum of 20m from onsite drains. It is noted that a buffer zone of 5m from the adjacent open drainage channel along the southeast boundary of the site and a 100m coastal buffer along the southern boundary of the Site will be established by the main contractor prior to works commencing. Stockpiling of soil and stone will not be undertaken within the buffer zones.

When a stockpile has been sampled for re-use or waste classification purposes, it will be considered to be complete, and no more soil will be added to that stockpile prior to removal. An excavation/stockpile register will be maintained on-site.

The reuse of suitable excavated soil and bedrock for the proposed development (i.e., landscaping or engineering) will be undertaken in accordance with the engineered design and landscape plan for the proposed development.

Surplus material, not suitable for re-use on-site, will be segregated, and stockpiled appropriately for removal off-site. For any excavated material identified for removal offsite, while assessment and approval of acceptance at a destination re-use, recovery site or waste facility is pending, excavated soil for recovery/disposal will be stockpiled as follows:

- A suitable temporary storage area will be identified and designated.
- All stockpiles will be assigned a stockpile number.
- Material identified for reuse on site, off site and waste materials will be individually segregated; and all segregation, storage & stockpiling locations will be clearly delineated on the Site drawings.
- Soil stockpiles will be covered to prevent run-off from the stockpiled material generation and/or the generation of dust.
- Material identified for reuse on site, off site and waste materials will be individually segregated.
- Any waste that will be temporarily stored / stockpiled will be stored on impermeable surface high-grade polythene sheeting, hardstand areas or skips to prevent cross-contamination of the soil below or cross contamination with soil.
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust.
- Stockpiles will be a minimum of 20m from onsite drains.
- Stockpiling of soil and stone will not be undertaken within the buffer zones (5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site).

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be managed in accordance with the procedures which will be outlined in the ORWMP (DNV, 2025c) and the project specific RWMP and will be stored onsite in such a manner as to:

- Prevent environmental pollution (bundled and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent reuse, recycling and recovery.
- Prevent hazards to site workers and the general public during the construction phase (largely noise, vibration and dust).

Prior to site works commencing, the ORWMP (DNV, 2025) will be updated to reflect specific measures to minimise waste generation and resource consumption, including providing details of proposed waste contractors and destinations for each waste stream.

6.6.1.5 Soil Structure

The extent of the required work area and the bulk excavation at the site will be minimised where appropriate to prevent unnecessary excavation of soil and tracking over soil and subsoil

outside of the excavation work areas as a result of compaction and rutting from construction traffic.

Soil including topsoil and subsoil will be segregated and stored appropriately to prevent deterioration of soil structure and quality to ensure the material will be suitable for re-use onsite.

Dedicated internal haul routes will be established and maintained by the contractor to prevent tracking over unprotected soils. The following criteria for the siting of haul routes must be adhered to:

- The length of haul routes on the site will be minimised.
- The contour of the natural ground will be followed as much as possible.
- The slope of haul routes will not exceed 15%.
- Haul routes will be constructed using permeable material, laid on geotextile.
- Trenchless gravel banks will be used to filter runoff, and where possible existing vegetation along the perimeter of the haul routes will be retained to provide an effective buffer against sediment leaving the area.
- Haul routes will be at least 10m from a watercourse and will be isolated from any watercourses with silt fencing.
- Haul routes will not be undertaken within the buffer zones (5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site). It is noted that site traffic will only be permitted within the 100m buffer to facilitate the construction of environmental control measures (i.e., silt fencing), pedestrian walkways and the proposed SuDS attenuation area.
- Additional exclusion zones will be established where soft landscaping is proposed in particular along site boundaries which are outside of the excavation areas to ensure soil structure is maintained.

6.6.1.6 Export of Resource (Soil and Subsoil) and Waste

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be managed in accordance with all legal obligations and statutory legislation, and the procedures outlined in the ORWMP (DNV, 2025c) and the project specific RWMP (to be developed by the main contractor in advance of construction works commencing) and will be stored onsite in such a manner as to:

- Prevent environmental pollution (bundled and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery.
- Prevent hazards to site workers and the general public during Construction stage (largely noise, vibration and dust).

It will be the contractor's responsibility to either, obtain a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste offsite.

Where appropriate, excavated soil and material intended for recovery or disposal offsite will require appropriate waste classification in order to select an appropriate receiving facility. Assessment of the excavated material will be carried out with due regard to the following guidance and legislation:

- Environmental Protection Agency document entitled Waste Classification; List of waste and determining if waste is Hazardous or Non-Hazardous.
- EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).
- Environmental Protection Agency document entitled Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.
- Environment Agency, 2018. Technical Guidance WM3: Guidance on the classification and assessment of waste.
- Any other guidance or legislation that might be applicable or relevant at the time of disposal

The re-use of soil and rock offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended. Any surplus material not suitable for re-use as a by-product and other waste materials arising from the construction phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Any waste soils will be transported under a valid waste collection permit issued under the Waste Management (Collection Permit) Regulations 2007, as amended and will be delivered to an appropriately authorised waste management facility.

Materials and waste will be documented prior to leaving the site. All information will be entered into a waste management register kept on the site.

Vehicles transporting material with potential for dust emissions to an off-site location will be enclosed or covered with a tarpaulin at all times to restrict the escape of dust.

Public roads outside the Site will be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary. Where required, trucks entering / leaving the site will pass through a wheel washing system. The wheels of all lorries will be cleaned as required prior to leaving the site to prevent the generation of dust or cause the build-up of aggregates and fine material in the public domain. The correct use and management of the wheel washing system (where required) will be undertaken by the main contractor to ensure that there is no harm or impact to the receiving water environment.

6.6.1.7 Concrete Works

The use of cementitious grout during the construction of footpaths and other site infrastructure will be required. Any potential impact to water quality will be avoided through the use of appropriate design and methods that will be implemented by the Contractor and in accordance with the OCEMP (DNV, 2025b), the project specific CEMP (which will be developed by the main contractor in advance of construction works commencing) and relevant industry standards.

Where possible precast concrete will be used for concrete works. However, where cast-in-place concrete is required (i.e., foundations, footpaths), all work will be carried out to avoid

any contamination of the receiving water environment. All work must be carried out in dry conditions and be effectively isolated from any groundwater.

All ready-mixed concrete will be delivered to the site by truck. Concrete batching will take place offsite, wash down and wash out of concrete trucks will take place into a container located within a controlled bunded area which will then be emptied into a skip for appropriate compliant removal offsite in accordance with all relevant waste management legislation. Any excess concrete as part of the Proposed Development is not to be disposed of onsite.

A suitable risk assessment for wet concreting will be completed prior to works being carried out. Weather forecasting will be utilised to plan dry days for concrete pours. Prior to pours, the designated area of the site will be free of standing water and plastic covers will be ready in the case of sudden rainfall event. Pumped concrete will be monitored to ensure there is no accidental impact to land, soils and geology.

6.6.1.8 Handling of Fuels, Chemicals and Materials

The Contractor's construction compound will be located onsite for the duration of the construction phase of the project and will primarily consist of site offices & associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Any diesel, fuel or hydraulic oils stored on-site will be stored in designated areas, these areas will be bunded and located away from surface water drainage and features. It is noted that the use of cleaning chemicals will be kept to a minimum. There will be clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage. Adequate security will be provided by the appointed contractor to potential pollutants against vandalism.

Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

All fuel, soil and chemical storage will be bunded in the site compound and will be clearly marked. The bund will be at least 50m away from drains, excavations, and other locations where it may cause contamination. Furthermore, no storage of hydrocarbons or any polluting chemicals will occur within the established buffer zones (i.e., 5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site. Fuelling and lubrication of equipment will be carried out in a dedicated fuel filling point established onsite within the compound, where all equipment will be brought for refuelling.

Spill kits will be kept in these areas. Site crew will be trained in appropriate refuelling techniques. Equipment will not be left unattended during refuelling. Refuelling of construction machinery shall be undertaken in designated areas away from surface water drainage in order to minimise potential contamination of the water environment. Spill kits shall be kept in these areas in the event of spillages

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised onsite is in good working condition:

- Any equipment not meeting the required standard will not be permitted for use within the Proposed Development site.
- Only emergency breakdown maintenance will be carried out onsite.
- Drip trays and spill kits will be available onsite and identified with signage for use in the event of an environmental spill or leak, to ensure that any spills from vehicles are contained and removed offsite.
- There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the Proposed Development, which will be placed on suitable drip trays.
- Regular monitoring of the drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.
- Site crew will be trained in appropriate refuelling techniques and in addition, heavy machinery used on the site will also be equipped with its own spill kit.
- The appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan
- Furthermore, good housekeeping (e.g., site clean-ups, use of disposal bins, etc.) will be implemented on the site.

6.6.1.9 Emergency Procedures

The main contractor will maintain an emergency response action plan that will cover any foreseeable risks.

Emergency procedures will be developed by the main contractor in advance of works commencing and spillage kits will be available on-site including in vehicles operating on-site. Construction staff will be familiar with emergency procedures through induction, toolbox talks, and method statements to ensure that all staff members are well-prepared and knowledgeable about the necessary steps to take in the event of an emergency (e.g., accidental fuel spillages). Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants.
 - Containment measures.
 - Emergency discharge routes.
 - List of appropriate equipment and clean-up materials.
 - Maintenance schedule for equipment.
 - Details of trained staff, location, and provision for 24-hour cover.
 - Details of staff responsibilities.
 - Notification procedures to inform the EPA or Environmental Department of Wexford County Council.
 - Audit and review schedule.
 - Telephone numbers of statutory water consultees.
 - List of specialist pollution clean-up companies and their telephone numbers.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.

- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the proposed development site and compliantly disposed off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures for in the event of accidental fuel spillages.
- All construction works staff on-site will be fully trained on the use of equipment.

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

6.6.1.10 Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered offsite to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by an appropriately authorised contractor.

Any connection to the public foul drainage network during the construction phase of the Proposed Development will be undertaken in accordance with the necessary temporary discharge licences issued by Uisce Eireann (UE).

6.6.2 Operational Phase

Taking account of the design of the Proposed Development, it is concluded that there will be no likely significant impacts on the receiving land, soil, or geological environment during the operational phase. The predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive. Therefore, there is no requirement for mitigation measures for the operational phase.

6.7 “Worst Case” Scenario

In a ‘Worst Case’ scenario the potential accidental release of hazardous material including fuels, or other hazardous materials being used onsite during the construction phase and operational phase of the Proposed Development would present a ‘negative’, ‘moderate to significant’ and ‘long-term’ impact on the receiving land, soils, and geology environment. It is noted that this impact is considered significant in the context of the EIA Directive due to the potential for long-term degradation of the impacted soils in the absence of mitigation. However, this scenario would only occur through the failure of secondary containment or a major incident on the site. This worst-case scenario is deemed to be unlikely to occur.

6.8 Residual Impacts

Residual Impacts are defined as ‘effects that are predicted to remain after all assessments and mitigation measures’. They are the remaining ‘environmental costs’ of a project and are

the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts.

The predicted impacts of the construction phase and operational phase of the Proposed Development are described in Section 6.5 in terms of quality, significance, extent, likelihood, and duration.

These assessments informed the development of a comprehensive suite of mitigation measures as detailed in Section 6.6. These included control and management of earthworks, control and management of soils, subsoils and stockpiles, management and control procedures for the exportation of surplus soils and subsoils, management and control procedures for the importation of aggregates and materials, control and handling of cementitious materials, control and handling of fuel and hazardous materials, and accidental release of contaminants. The effectiveness of these measures was assessed in terms of their ability to break pollutant linkages and reduce the magnitude and likelihood of impacts. The residual impacts, which take these measures into account, are summarised in Table 6-5.

Overall, considering the avoidance, remedial and mitigation measures detailed in Section 6.6, the residual effects regarding the construction phase and operational phase of the Proposed Development are considered 'imperceptible' to the receiving environment (land, soil and geology) and considered non-significant in the context of the EIA Directive.

Table 6-5. Residual Impacts

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Construction Phase										
Construction of the Proposed Development	Land Use and Land take	The Proposed Development will require approximately 20.3Ha of land, transitioning its use from agricultural to commercial, specifically for the development of an Integrated Tourism Resort Complex.	Negative	Significant (significant)	Local	Likely	Permanent	Direct	Unavoidable and no mitigation. The change in land use is consistent with the Core Strategy outlined in the Wexford County Development Plan 2022–2028.	Significant (significant)
Excavation and Removal of Soil and Subsoil	Soils and Bedrock	There may be a requirement for the removal of surplus and unsuitable material offsite. infrastructure and landscaping.	Negative	Slight (non- significant)	Local	Likely	Permanent	Direct	None required. Where possible, it is intended to retain and re-use suitable excavated soil and subsoil for engineering fill and landscaping. The removal of surplus soil offsite will be undertaken in accordance with applicable	Slight (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									statutory requirements. This may include where suitable, removal as by-products that meet the legislative requirements of Article 27 of the European Communities (Waste Directive) Regulations, 2011.	
Re-Use of Soil, Subsoil and Bedrock	Soils and Subsoils	It is intended to reuse all suitable excavated soil for engineering fill and landscaping.	Neutral	Imperceptible (non-significant)	Local	Likely	Permanent	Direct	The re-use of soil onsite will be subject to control procedures which will include soil quality testing to ensure suitability for use onsite and in accordance with engineering and environmental specification for the Proposed Development.	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Removal of Soil and Subsoil Not Suitable for Re-use Onsite (Where Required)	Lands, Soils and Geology at Destination Site	Excavated soil and subsoil during the construction phase of the Proposed Development could potentially be directed to the same receiving waste facilities for recovery / disposal as excavated materials from other developments	Neutral	Imperceptible (non-significant)	Regional	Likely	Permanent	Indirect / Cumulative	All surplus soils and subsoils from the site will be removed offsite in accordance with the requirements of the ORWMP (DNV, 2025c) and all statutory legislation	Imperceptible (non-significant)
Use of Cementitious Materials	Soils and Subsoils	Potential release of cementitious material during construction works for subsurface structures (such as foundations) to the receiving soil, and geological environment.	Negative	Moderate (non-significant)	Local	Possible	Long-term	Direct	All work will be carried out to avoid any contamination of the receiving land, soil and geological environment through the use of appropriate design and methods implemented by the main contractor and in accordance with the OCEMP	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									(DNV, 2025b) and relevant industry standards.	
Accidental release of deleterious materials including cement, fuel and other material being used on-site.	Soils, Subsoils and Bedrock	Potential (albeit low) for uncontrolled release of deleterious materials including fuels, oils and other materials being used on-site, through the failure of secondary and tertiary containment or a materials handling accident, to the receiving soil, and geological environment.	Negative	Moderate to Significant (significant)	Local	Worst-case	Long-term	Direct / Worst Case	Refuelling of plant during the construction phase will only be carried in a designated impermeable area on-site equipped with spillage kits. Any other diesel, fuel or hydraulic oils stored on-site or within fuel containing equipment will be stored accordance with the OCEMP (DNV, 2025b) and in bunded storage tanks / drip trays.	Imperceptible (non-significant)
Excavation and Removal of Soil and Subsoil	Geological Heritage	There is a potential for fuel spill from the works flowing over the road surface and entering two (2 No.) recorded heritage	Negative	Moderate (non-significant)	Local	Worst Case	Medium-term	Direct / Worst Case	There are no geological heritage sites located within the site of the Proposed Development and the construction	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
		sites located adjacent the southern and southwest boundaries of the site (namely St. Patrick's Bridge and Kilmore Quay).							works for the Proposed Development will occur outside the identified heritage sites. Regardless, refuelling of plant and storage of any deleterious materials including fuels will be undertaken in accordance with the requirements and procedures outlined in the OCEMP (DNV, 2025b).	
Excavation and Re-use of Soil and Subsoil	Soil Structure	Stockpiling of soil and subsoil pending reuse on-site will result in the exposure of the materials to various elements including weather and construction traffic.	Negative	Slight (non-significant)	Local	Possible	Long Term	Direct	Soil including topsoil and subsoil will be segregated and stored appropriately to prevent deterioration of soil structure and quality to ensure the material will	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									be suitable for re-use onsite.	
Import of Required Aggregates and Materials	Land, Soil and Geology at the Source Site	The Proposed Development will require the importation of aggregates for the construction of roads and utility infrastructure. The potential impacts may include loss of attribute and changes in geological setting at the source site.	Neutral	Imperceptible (non-significant)	Regional	Likely	Permanent	Indirect / Cumulative	Only certified materials from authorised sources will be used.	Imperceptible (non-significant)
Operational Phase										
There are no likely significant residual impacts on the receiving land, soil, or geological environment during the operational phase. The predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive										

6.9 Monitoring

6.9.1 Construction Phase

During the construction phase the following monitoring measures will be considered:

- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.
- Inspections and monitoring will be undertaken during excavations and other groundworks to ensure that measures that are protective of water quality are fully implemented and effective.
- The appointed contractor will monitor excavations to ensure consistency with the descriptions and classifications according to waste acceptance criteria testing carried out as part of the site investigations which will be undertaken in advance of construction works commencing.
- A dust deposition monitoring programme will be implemented during the construction phase in order to verify the continued compliance with relevant standards and limits. Where required, the appointed contractor will undertake dust monitoring at a range of nearest sensitive receptors during the construction phase of the Proposed Development with the Technical Instructions on Air Quality Control (TA Luft) dust deposition limit set at 350 mg/m²/day, averaged over one year and applied as a 30-day average.
- Materials management and waste audits will be carried out at regular intervals to monitor the following:
 - Management of soils on-site and for removal offsite.
 - Record keeping.
 - Traceability of all materials, surplus soil and other waste removed from the subject site.
 - Ensure records are maintained of material acceptance at the end destination.

6.9.2 Operational Phase

There are no monitoring requirements specifically in relation to land, soil and geology during the operational phase of the Proposed Development.

6.10 Interactions

6.10.1 Population and Human Health

An assessment of the potential impact of the Proposed Development on human health is included in Chapter 4 of this EIAR.

There is a potential risk of dust generated from excavation and stockpiling of soil during the construction phase of the Proposed Development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Appropriate industry standards and health and safety legislative requirements will be implemented during the construction phase of the Proposed Development that will be protective of site workers.

6.10.2 Biodiversity

An assessment of the potential impacts of the Proposed Development on the Biodiversity of the site, with emphasis on habitats, flora and fauna which may be impacted as a result of the excavation and importation of materials to the site are included in Chapter 5 of this EIAR. It also provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.

6.10.3 Hydrology and Hydrogeology

An assessment of the potential effect of the Proposed Development on the hydrological and hydrogeological environment is included in Chapter 7 of this volume.

In the absence of avoidance, remedial, and mitigation measures, construction activities may potentially create pathways for potential sources of contamination to enter underlying groundwater. During the construction phase of the Proposed Development, groundwater vulnerability is expected to temporarily increase. Construction activities will involve the use of potentially hazardous materials such as cementitious materials, fuels, oils, and other substances. An uncontrolled release of these materials, whether through containment failure or handling accidents, could effect the surrounding environment. In addition, in the absence of avoidance, remedial and mitigation measures, there is a potential for sediment from excavated soils entering runoff and discharging into the site drainage during the construction phase. Procedures for the protection of the receiving water environment are set out in Chapter 7 of this EIAR.

6.10.4 Air Quality (including Odour)

The excavation of soils across the site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance impacts (i.e., dust) during the construction phase of the Proposed Development. An assessment of the potential impact of the Proposed Development on air quality and climate is included in Chapter 8 of this EIAR.

6.10.5 Landscape and Visual

During the construction phase and into the operational phase of the Proposed Development, the site landscape will undergo a change from undeveloped lands to commercial with associated landscaping, specifically the development of an Integrated Tourism Resort Complex. An assessment of the potential impact of the Proposed Development on the receiving landscape is included in Chapter 10 of this EIAR.

6.10.6 Material Assets – Waste and Utilities, and Traffic and Transport

Where possible, it is intended to retain and re-use the excavated soil and subsoil on the site for engineering fill and landscaping. However, where required, unsuitable soil and subsoil will be removed offsite in accordance with all statutory legislation. There is also a requirement to import aggregate materials during the construction phase of the Proposed Development. An assessment of the potential impact of the Proposed Development on the and Material Assets (Waste and Utilities) and Material Assets (Traffic and Transport) are included in Chapter 12 and Chapter 13 of this EIAR respectively.

6.11 Difficulties Encountered When Compiling

No difficulties were encountered in the preparation of this Chapter of the EIA.

6.12 References

Construction Industry Research and Information Association, 2015. Environmental good practice on site guide (CIRIA -C741).

Construction Industry Research and Information Association, 2001. Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (CIRIA – C532).

DRA Consulting Engineers, 2025. Civil Engineering Planning Report.

DNV, 2025a. Hydrogeological Risk Assessment.

DNV, 2025b. Outline Construction Environmental Management Plan.

DNV, 2025c. Outline Resource and Waste Management Plan.

Enterprise Ireland. Best Practice Guide BPGCS005. Oil Storage Guidelines.

Environmental Protection Agency, 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.

Environmental Protection Agency, 2025. EPA Envision Maps. <https://gis.epa.ie/EPAMaps/>. Consulted on 24/06/2025.

Environmental Protection Agency, 2020. Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.

Environmental Protection Agency, May 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports.

Geological Society of Ireland, 2025. GSI web mapping. <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>. Consulted on 24/06/2025.

Google Earth Pro, 2025. Consulted on 24/06/2025.

Institute of Geologists of Ireland Guidelines, 2002. Geology in Environmental Impact Statements, A Guide.

Institute of Geologists of Ireland Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements.

National Roads Authority, 2009. Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.

Ordnance Survey Ireland, 2025. Ordnance Survey Ireland webmapping <http://map.geohive.ie/mapviewer.html>. Consulted on 24/06/2025.

S.I. No. 92 of 2011- European Parliament and of the Council on the assessment of the effects of certain public and private projects on the environment including amendments S.I. No. 52 of 2014.

S.I. No. 98 of 2008- European Parliament and of the Council on waste and repealing certain Directives

Teagasc, 2025 webmapping. <http://gis.teagasc.ie/soils/map.php>. Consulted on 24/06/2025.

Wexford County Council, 2022. Wexford County Development Plan, 2022-2028.

RECEIVED: 05/08/2025

RECEIVED: 05/08/2015

7 HYDROLOGY

7.1 Introduction

This chapter of the EIAR was prepared to assess the potential significant effects of the Proposed Kilmore Quay Tourism Resort on the receiving hydrology and hydrogeology (water) environment at Beak and Nemestown, Kilmore Quay, Co. Wexford (hereafter referred to as the 'site' and 'Proposed Development') and sets out any required mitigation measures where appropriate.

The principal objectives of this chapter are to identify:

- Hydrological and hydrogeological characteristics of the receiving environment at the site.
- Potential impacts that the proposed development may have on the receiving water environment.
- Potential constraints that the environmental attributes may place on the proposed development.
- Required mitigation measures which may be necessary to minimise any adverse impacts related to the proposed development.
- Evaluate the significance of any residual impacts.

This chapter of the EIAR should be read in conjunction with Chapter 4 Population and Human Health, Chapter 5 Biodiversity, Chapter 6 Land, Soils and Geology and Chapter 12 Material Assets: Utilities of the EIAR and other information provided by the Applicant pertaining to the design proposals for the Proposed Development and submitted with the planning application.

7.1.1 Quality Assurance and Competency of Experts

This chapter of the EIAR was prepared by Gareth Carroll BA BEng MEnvSc CEnv, a Principal Consultant of DNV. Gareth is a Chartered Environmentalist (CEnv) with the Institute of Environmental Sciences (IES) with over 12 years' experience of preparing environmental and hydrogeological assessments for a range of project types and geological and hydrogeological site settings. This chapter of the EIAR was approved by Patrick Higgins BSc, MSc, MEnvSc, CEnv, with over 19 years' experience of preparing environmental and hydrogeological assessments for a range of project types and geological and hydrogeological site settings and who is Technical Director with DNV, is professionally competent and accredited to undertake hydrogeological assessments.

7.2 Study Methodology

The methodology adopted for this assessment takes cognisance of the relevant guidelines in particular the following:

- Council Directive 2006/118/EEC, 2006. On the protection of groundwater against pollution and deterioration. European Parliament and the Council of European Communities.

- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy with amendments 2455/2001/EC, 2008/32/EC and 2008/105/EC (Water Framework Directive (WFD)).
- European Commission, 2022. WFD Reporting Guidance 2022. Final Draft V4.
- Act No. 30/2007, Water Services Act 2007 as amended.
- Act No. 21/1990, Local Government (Water Pollution) (Amendment) Act, 1990 as amended.
- Act No. 1/1977, Local Government (Water Pollution) Act, 1977 as amended.
- S.I. No. 722/2003 – European Communities (Water Policy) Regulations 2003 as amended.
- S.I. No. 489/2011 – European Communities (Technical Specifications for the Chemical Analysis and Monitoring of Water Status) Regulations, 2011.
- S.I. No. 122/2010 – European Communities (Assessment and Management of Flood Risks) Regulations 2010 as amended.
- S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended.
- S.I. No. 9 of 2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended.
- WFD Working Group, 2005. Guidance on the Assessment of the Effect of Groundwater Abstractions (WFD, 2005).
- Wexford County Council, 2022. Wexford County Development Plan 2022-2028

Other guidance used in the assessment of potential effects on the receiving water environment include:

- Construction Industry Research and Information Association, 2001. Control of Water Pollution from Construction Sites (CIRIA – C532).
- Construction Industry Research and Information Association, 2015. Environmental Good Practice on Site Guide (CIRIA – C741).
- Construction Industry Research and Information Association, 2016. Groundwater Control: Design and Practice (CIRIA – C750).
- Department of the Environment, Heritage and Local Government, Environmental Protection Agency and Geological Survey of Ireland, 1999. Groundwater Protection Schemes (DEHLG/EPA/GSI, 1999).
- Department of the Environment, Heritage and Local Government, 2009. Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, 2009).
- Department of Housing, Planning and Local Government, August 2018. Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG, 2018).
- Environmental Protection Agency, 2014. Guidance on the Authorisation of Direct Discharges to Groundwater.
- Environmental Protection Agency, 2013. Storage and Transfer of Materials for Scheduled Activities.
- Environmental Protection Agency, May 2022. Guidelines on the information to be contained in Environmental Effect Assessment Reports (EPA, 2022).

7.2.1 Phased Approach

A phased approach was adopted for this EIAR in accordance with Environmental Protection Agency (EPA) and Institute of Geologists of Ireland (IGI) guidelines as set out above and is described in the following sections.

Element 1: An initial assessment and effect determination stage was carried out by DNV to establish the project location, type and scale of the Proposed Development, the baseline conditions, and the type of hydrological and hydrogeological environment, to establish the activities associated with the Proposed Development and to undertake an initial assessment and effect determination. This element of the assessment also included developing the Conceptual Site Model (CSM) for the Site and receiving environment.

This stage of the assessment included a desktop study that comprised a review of published environmental information for the site. The study area, for the purposes of assessing the baseline conditions for this chapter of the EIAR, extends beyond the site boundaries and includes a 2.0km radius of the site and Proposed Development and potential receptors outside of this radius that are potentially hydraulically connected with the site were also considered. The extent of the wider study area was based on the Institute of Geologists of Ireland (IGI) Guidelines (IGI, 2013) that recommends a minimum distance of 2.0km radius from the site. This broader area is necessary to identify and evaluate all potential receptors that could be affected by the Proposed Development, either directly or indirectly. The distinction between the application site and the study area is crucial. The site of the Proposed Development is the focal point of the Proposed Development, while the study area includes any potential hydrogeological / hydrological connections to sensitive receptors including habitats that might experience secondary effects.

The desk study involved collecting all the relevant data for the Proposed Development site and surrounding area including published information and details pertaining to the Proposed Development provided by the Applicant and design team.

Site walkover inspections and surveys were conducted by DNV on the 26th of August 2024, the 17th of September 2024, and the 22nd of October 2024. These inspections aimed to identify and assess the site condition, the site setting, and the receiving environment, including local hydrological and hydrogeological features and potential receptors. Additionally, the condition of the existing supply well and the newly installed observation wells were evaluated.

The Element 1 stage of the assessment was completed by DNV and included the review of the following sources of information:

- Environmental Protection Agency (EPA) web mapping (EPA, 2025).
- Geological Survey Ireland (GSI) Datasets Public Viewer and Groundwater web mapping (EPA, 2025).
- National Parks and Wildlife Services (NPWS) web mapping (NPWS, 2025).
- Ordnance Survey Ireland (OSI) web mapping (OSI, 2025).
- Water Framework Directive Ireland (WFD) web mapping (WFD, 2025).
- Office of Public Works (OPW) database on historic flooding and the Catchment Flood Risk Assessment and Management (CFRAM) maps (OPW, 2025).
- Information provided by the Applicant pertaining to the design proposals for the Proposed Development.

Element 2: Involves direct and indirect site investigation and studies stage where necessary to refine the CSM developed as part of Element 1 and evaluate the potential impacts associated with the Proposed Development. Intrusive ground investigations (installation of three (3 No.) groundwater monitoring wells, groundwater level monitoring and hydrogeological tests (i.e., step tests and pumping tests) were undertaken by Priority Geotechnical Limited (hereafter referred to as PGL) between September and October 2024 (PGL, 2024). Groundwater level monitoring and sampling was undertaken by DNV on the 19th and 21st of October 2024.

The results of the site investigations, hydrogeological testing and sampling were used to prepare a hydrogeological assessment (DNV, 2025a) to determine if the supply requirement could be sustainably obtained from the onsite groundwater supply well (PW1). The hydrogeological assessment (DNV, 2025a) including the results of the site investigation report (PGL, 2024) and laboratory analysis are included in the EIAR Volume 3: Appendix 7.1.

Element 3: Evaluation of Impacts, Mitigation Measures, Residual Impacts and Final Impact Assessment were based on the outcome of the information gathered in Element 1 and Element 2 of the assessment. Mitigation measures to address all identified adverse impacts that were identified in Element 1 and Element 2 of the assessment were considered in relation to the construction and operational phases of the Proposed Development. These mitigation measures were then considered in the impact assessment to identify any residual impacts.

Element 4: Completion of the Hydrology and Hydrogeology sections of the EIAR in this Chapter which includes all the associated figures and documents.

7.2.2 Description of Importance of the Receiving Environment

The Transport Infrastructure Ireland (TII) criteria for rating of the importance of hydrogeological features at the site as documented in the National Roads Authority Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009), are summarised in Table 7-1.

Table 7-1. Criteria for Rating Site Importance of Hydrogeological Features

Importance	Criteria	Typical Example
Extremely High	Attribute has a high quality or value on an international scale.	Groundwater supports river, wetland or surface water body ecosystem protected by European Union (EU) legislation e.g., SAC or SPA status.
Very High	Attribute has a high quality or value on a regional or national scale.	Regionally Important Aquifer with multiple wellfields. Groundwater supports river, wetland, or surface water body ecosystem protected by national legislation – e.g., NHA status. Regionally important potable water source supplying >2500 homes Inner source protection area for regionally important water source.
High	Attribute has a high quality or value on a local scale.	Regionally Important Aquifer.

Importance	Criteria	Typical Example
		<p>Groundwater provides large proportion of baseflow to local rivers.</p> <p>Locally important potable water source supplying >1000 homes.</p> <p>Outer source protection area for regionally important water source.</p> <p>Inner source protection area for locally important water source.</p>
Medium	Attribute has a medium quality or value on a local scale.	<p>Locally Important Aquifer</p> <p>Potable water source supplying >50 homes.</p> <p>Outer source protection area for locally important water source.</p>
Low	Attribute has a low quality or value on a local scale.	<p>Poor Bedrock Aquifer.</p> <p>Potable water source supplying <50 homes.</p>

7.2.3 Description and Assessment of Potential Impact

Impacts will vary in quality from negative, to neutral or positive. The effects of impacts will vary in significance on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the 'impact' significance and the corresponding 'effect' throughout this chapter is described in Table 7-2 in accordance with EPA, 2022 guidelines on the information to be contained in EIARs.

Table 7-2. Description of Effects

Quality of Effects/Impacts	Definition
Negative	A change which reduces the quality of the environment
Neutral	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Positive	A change that improves the quality of the environment
Significance of Effects / Impacts	Definition
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 a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.
Extend and Context of Effects	Definition

Extend	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
Probability of Effects	Definition
Likely Effects	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.
Duration of Effects / Impacts	Definition
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting one year or less
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration
Types of Effects	Definition
Indirect Effects	Effects 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 insignificant 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.

Figure 7-1 identifies how comparing the character of the predicted effect to the sensitivity of the receiving environment can determine the significance of the effect.

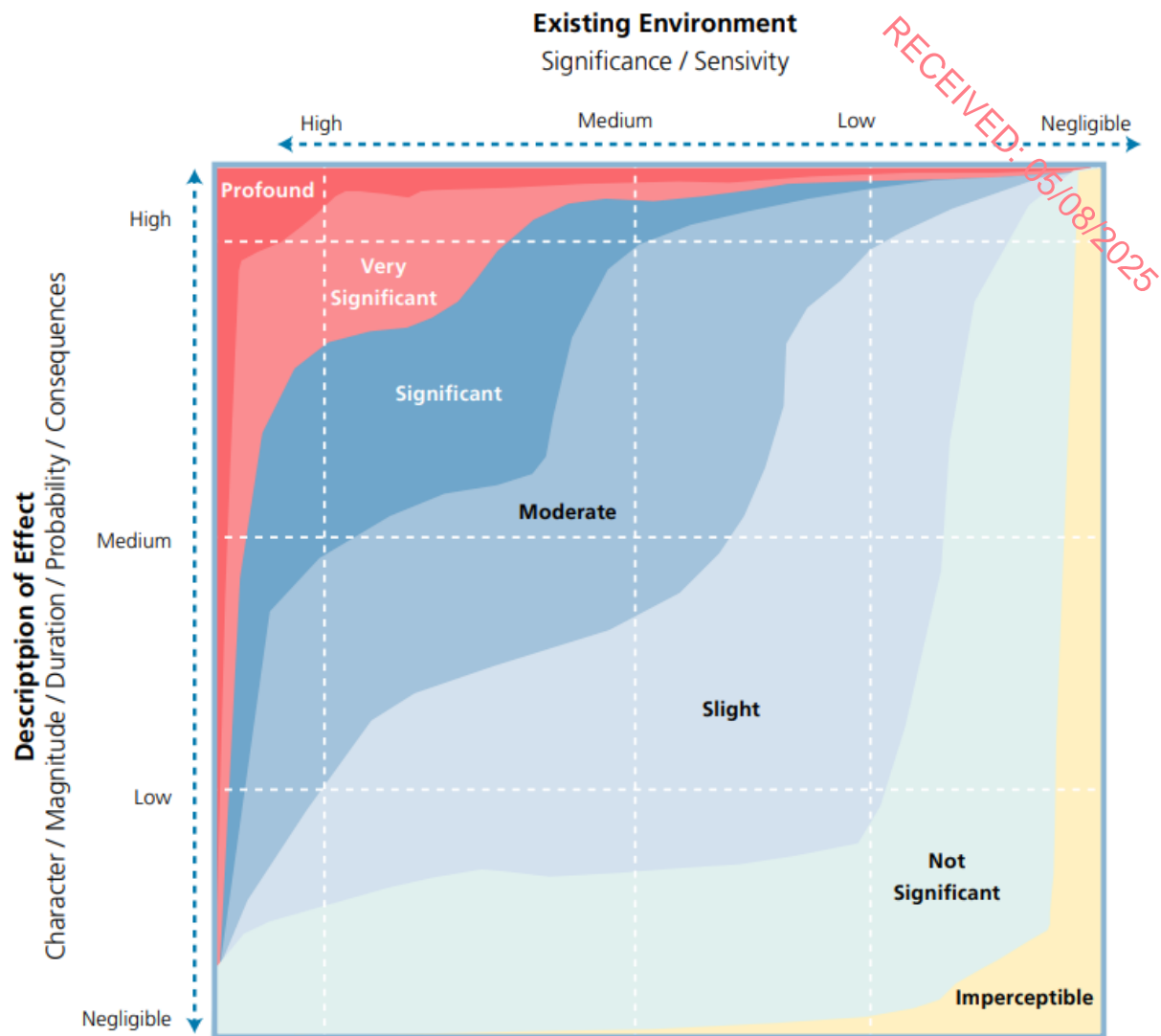


Figure 7-1. Determining Significance

7.3 The Existing and Receiving Environment (Baseline Situation)

7.3.1 Site Location and Description

The site of the proposed development is located at Beak and Nemestown, Kilmore Quay, Co. Wexford, and is accessed off the R739 regional road. It is situated to the northeast of Kilmore Quay town and harbour.

The site comprises greenfield lands that have historically been used for agriculture. During the site walkover undertaken by DNV, it was confirmed that the site is currently used for horticulture, specifically for growing carrots.

There are derelict farmstead buildings, and a courtyard located in the northern portion of the site. An access track, bound by a historic stone wall, traverses the centre of the site from the derelict farmstead buildings and courtyard in the north to the southern boundary of the site.

The site is bounded to the north by the R739 regional road, with individual residential dwellings beyond. To the east, it is bordered by agricultural lands, the newly constructed UE secondary

wastewater treatment plant, and individual residential dwellings. To the west, there are individual residential dwellings with the village of Kilmore Quay beyond, and to the south, it is bordered by Kilmore Bay Beach.

The site location is presented in Figure 7-2 and the existing layout of the site is presented in Figure 7-3.

Further details regarding the site location and surrounding land use are detailed in Chapter 2 of this EIAR.

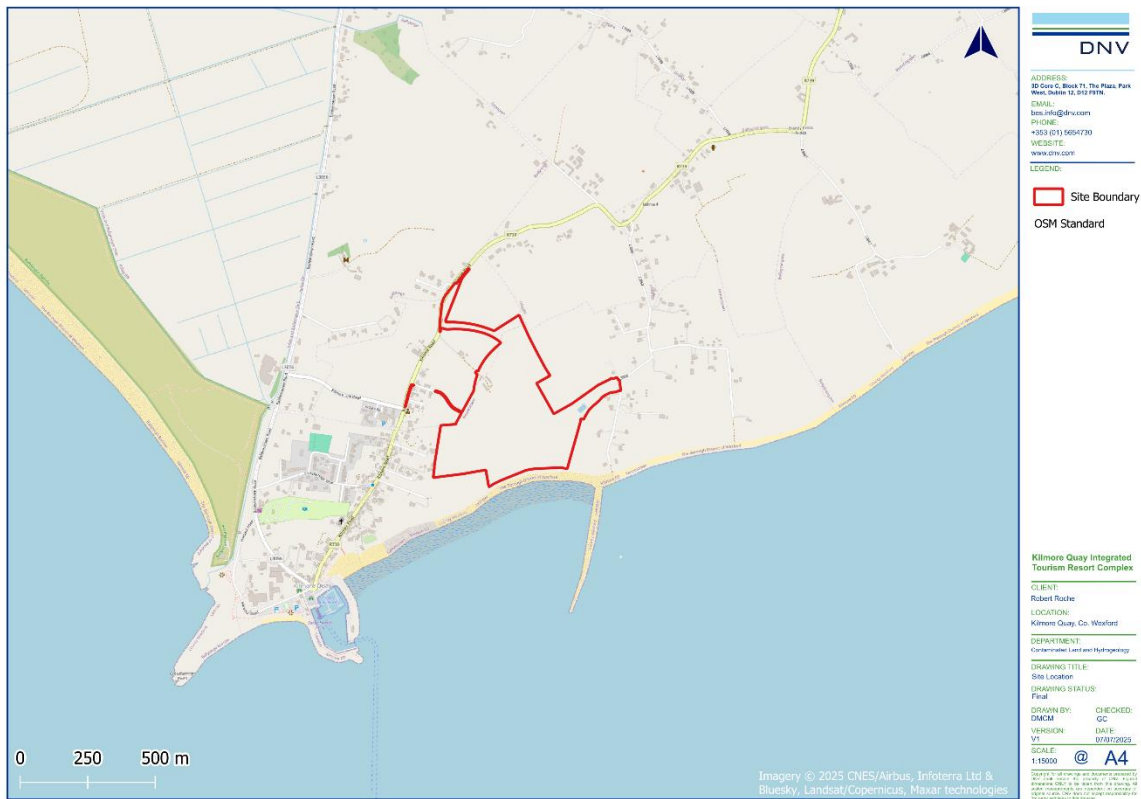


Figure 7-2. Site Location



Figure 7-3. Current Site Use

7.3.2 Topography

The topography is mapped as part of the LiDAR Coverage Office of Public Works (OPW) National Aerial Survey Contract (NASC) (OPW, 2011) between approximately 14 meters above Ordnance Datum (mOD) to approximately 4mOD (refer to Figure 7-4). The lowest point onsite being the top of the coastal embankment along the southern boundary. The top of the coastal embankment ranges from approximately 7mOD to 4mOD from west to east. The beach below the coastal embankment is at approximate sea level (0mOD).

During site investigations, ground elevations at the site measured at the three (3 No.) newly installed observation groundwater monitoring wells and the existing supply well ranged from approximately 12.86mOD at BH01 in the west to approximately 7.47mOD in the south at BH02.

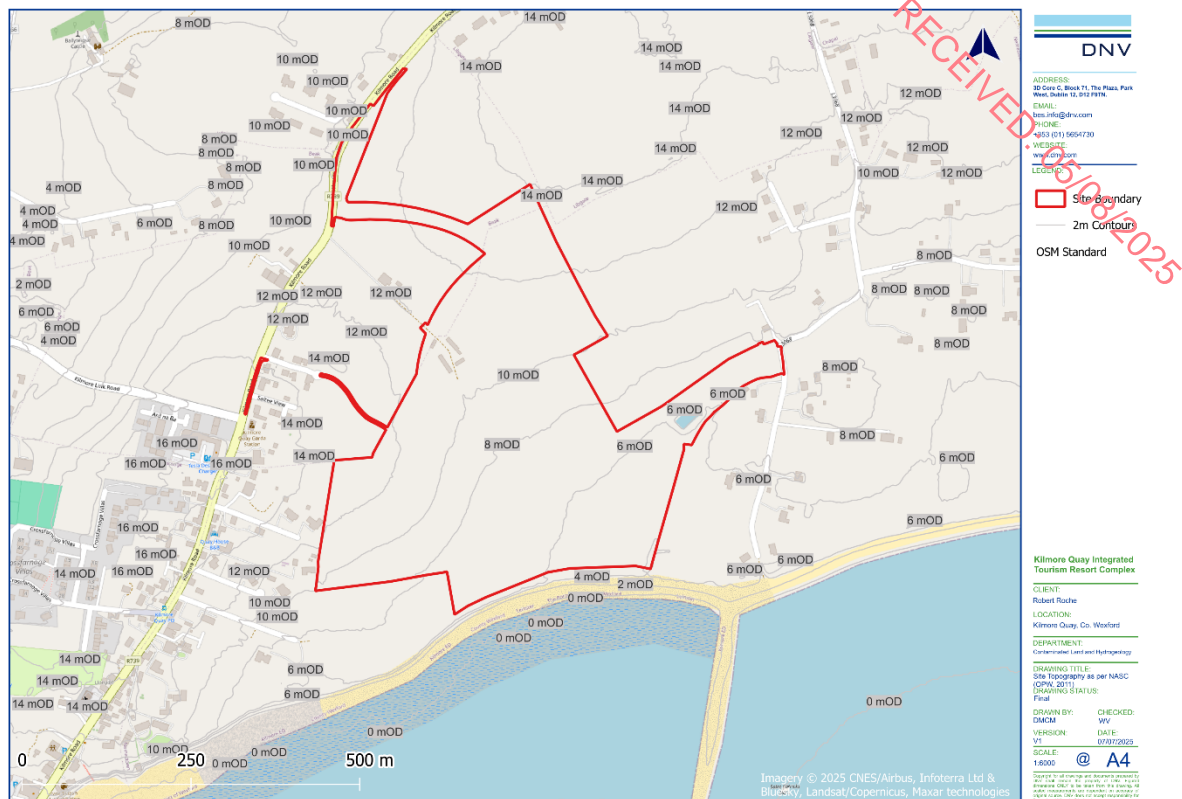


Figure 7-4. Site Topography

7.3.3 Soil, Subsoil and Geology

The soils and geology at the subject site are described and assessed in Chapter 6 of this EIAR and summarised as follows:

- The majority of the soils beneath the site are mapped by the GSI (GSI, 2025) as deep well drained mineral (mainly acidic), Acid Brown Earths, Brown Podzolics derived from mainly non-calcareous parent materials (IFS Soil Code: AminDW). The soils present within a small area to the south of the site are classified as shallow well drained mineral (Mainly acidic), Lithosols, Regosols derived from mainly non-calcareous parent materials (IFS Soil Code: AminSW).
- The subsoil or quaternary sediments beneath the majority of the site are mapped by the GSI (GSI, 2025) as till derived from Metamorphic rocks (TMp). The subsoils present within a small portion to the south of the site are mapped by the GSI (GSI, 2025) as gravels derived from Cambrian sandstones and shales (GCSsS). Subsoil described as sandy GRAVEL and silty clayey GRAVEL overlying slightly gravelly sandy CLAY was encountered below the topsoil at depths of up to 1.0 meters below ground level (mbGL) during ground investigations by PGL (refer to DNV, 2025a Hydrogeological Assessment included in Volume 3: Appendix 7.1 of the EIAR).
- The bedrock beneath the Site is mapped by the GSI (GSI, 2025) as the Kilmore Quay Group described as banded quartzo-feldspathic. There is a structural feature classified by the GSI (GSI, 2025) as a shear zone boundary which is traversing east to west through the middle of the site. Bedrock was mainly described as medium strong to very strong, grey, pink, white, medium-grained, GNEISS was encountered during ground

investigations by PGL (refer to DNV, 2025a Hydrogeological Assessment included in Volume 3: Appendix 7.1 of the EIAR) at depths ranging between 4.0 meters below ground level (mbGL) at BH3 and 5.5mbGL at BH2.

There are no karst features mapped by the GSI (GSI, 2025) at the site or within a 2km radius of the site.

7.3.4 Hydrogeology

7.3.4.1 Groundwater Body and Flow Regimes

The bedrock aquifer beneath the site is mapped by the GSI (GSI, 2024) to be within the Bridgetown groundwater body (GWB) (EU Code: IE_SE_G_022). The Bridgetown GWB covers some 137 km² (GSI, 2024).

The Bridgetown GWB Report (GSI, 2024) identifies that there is likely to be very little recharge to this GWB due to the thick layer of almost impermeable till overlying it. However, when there are sand and gravel deposits present within this GWB, these represent the most likely location for recharge. Although the gravel layers appear to be underlain by the till and therefore, there may be no hydraulic connection between the gravel and the bedrock.

The main discharge mechanisms within the Bridgetown GWB Report (GSI, 2024) are to the associated surface water bodies. Discharge is not expected to be significant as there is very little recharge within this GWB. According to the Bridgetown GWB Report (GSI, 2024), the groundwater flow occurs in short, shallow flow paths in the upper 10 meters of the weathered zone through features and joints. The travel time of any recharging waters will be short, and therefore the age of these groundwaters is young. As the distance travelled will be short, it will most likely be to the closest surface water body. Since recharge is minimal, only small discharge is expected, which will occur along the coast and to surface water bodies where the subsoil thickness and permeability allow hydraulic connectivity.

Locally, groundwater flow direction in the vicinity of the site is likely to be to the south towards the Irish Sea but may vary locally based on topography. Site-specific groundwater flow direction is assessed in Section 7.3.4.4 below.

7.3.4.2 Aquifer Classification

The GSI provides a methodology for aquifer classification based on resource value (regionally important, locally important and poor) and vulnerability (extreme, high, moderate or low). Resource value refers to the scale and production potential of the aquifer whilst vulnerability refers to the ease with which groundwater may be contaminated by human activities (vulnerability classification primarily based on the permeability and thickness of subsoils).

The GSI (GSI, 2025) has classified the bedrock beneath the site as a Poor Aquifer (PI), which is generally unproductive except for local zones. As documented by the GSI (GSI, 2017 A Description of Irish Aquifer Categories), poor aquifers are capable of supplying small abstractions (e.g., domestic supplies, small group schemes) or 'moderate' to 'low' yields (<100 m³/day). They have a limited and relatively poorly connected network of fractures, fissures, and joints, giving a low fissure permeability that tends to decrease further with depth. The lack of connection between the limited fissures results in relatively poor aquifer storage and flow paths that may only extend a few hundred meters. Overall permeability, storage capacity,

recharge acceptance, length of flow path, and baseflow are likely to be less than in Locally Important aquifers.

The GSI (GSI, 2025) has also classified the gravel aquifer beneath a small area to the southeast of the site as the Kilmore Quay gravel body (Unique I.D.: IE_GSI_sgAq_40K_158), which is a Locally Important gravel aquifer (Lg). As documented by the GSI (GSI, 2017 A Description of Irish Aquifer Categories), locally important gravel aquifers are similar to Regionally Important Sand/Gravel Aquifers (Rg), but with a smaller continuous area (approximately 1-10 km²) and/or less consistent permeability. Although the aquifer may supply 'excellent' yields, the smaller size limits the amount of recharge available to meet abstractions.

From the GSI database (GSI, 2025), a well (GSI Well Name: 2909NEW004) located approximately 8.67km east of the site has a yield of 109.10 m³/day, within the same bedrock formation (Kilmore Quay Formation) and the same bedrock aquifer (PI) as the site.

The bedrock and gravel aquifers beneath the site is presented in Figure 7-5.

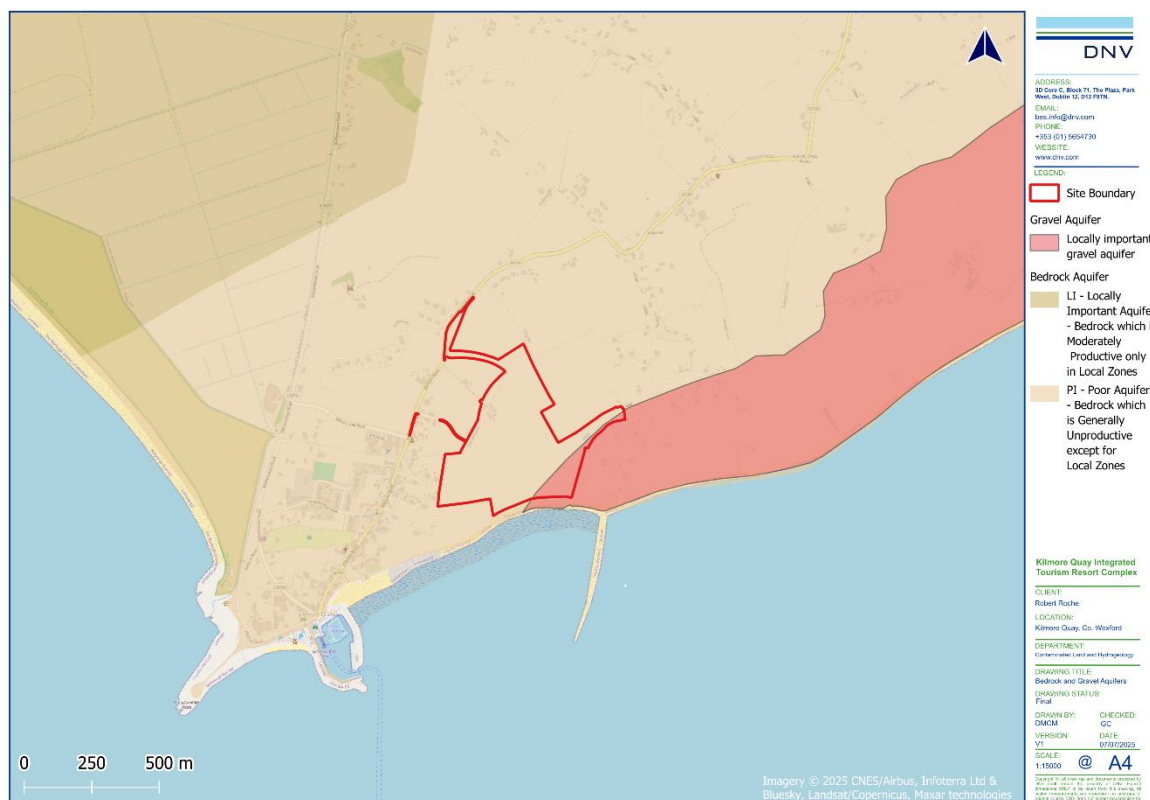


Figure 7-5. Bedrock Aquifer and Sand and Gravel Aquifer

7.3.4.3 Groundwater Vulnerability

The vulnerability categories, and methods for determination, are presented in the Groundwater Protection Schemes publication (DEHLG/EPA/GSI, 1999) and summarised in Table 7-3. The publications state that 'as all groundwater is hydrologically connected to the land surface, it is the effectiveness of this connection that determines the relative vulnerability to contamination. Groundwater that readily and quickly receives water (and contaminants) from the land surface is considered to be more vulnerable than groundwater that receives water (and contaminants) more slowly and in lower quantities. The travel time, attenuation

capacity and quantity of contaminants are a function of the following natural geological and hydrogeological attributes of any area'.

Table 7-3. Vulnerability Mapping Criteria (DEHLG/EPA/GSO, 1999)

Subsoil Thickness	Hydrogeological Requirements				
	Diffuse Recharge			Point Recharge	Unsaturated Zone
	Subsoil Permeability and Type			(Swallow Holes, Losing Streams)	(Sand and Gravel Aquifers Only)
	High Permeability (Sand and Gravel)	Moderate Permeability (Sandy Subsoil)	Low Permeability (Clayey Subsoil, Clay, Peat)		
0-3m	Extreme	Extreme	Extreme	Extreme (30m radius)	Extreme
3-5m	High	High	High	N/A	High
5-10m	High	High	Moderate	N/A	High
>10m	High	Moderate	Low	N/A	High
Notes: (i) N/A = not applicable (ii) Permeability classifications relate to the material characteristics as described by the subsoil description and classification method.					

The GSI (GSI, 2025) has assigned a groundwater vulnerability rating of 'Low' (L) for the groundwater beneath the majority of the site and 'High' (H) for the groundwater beneath a small area in the southeast of the site. As documented in the Hydrogeological Assessment (refer to DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the thickness of the subsoil present at the site ranges from approximately 4.0m in the area surrounding BH3 to 5.5m in the area surrounding BH2. Therefore, the groundwater vulnerability can be considered High (H) locally beneath the site.

The groundwater vulnerability rating map is provided in Figure 7-6.

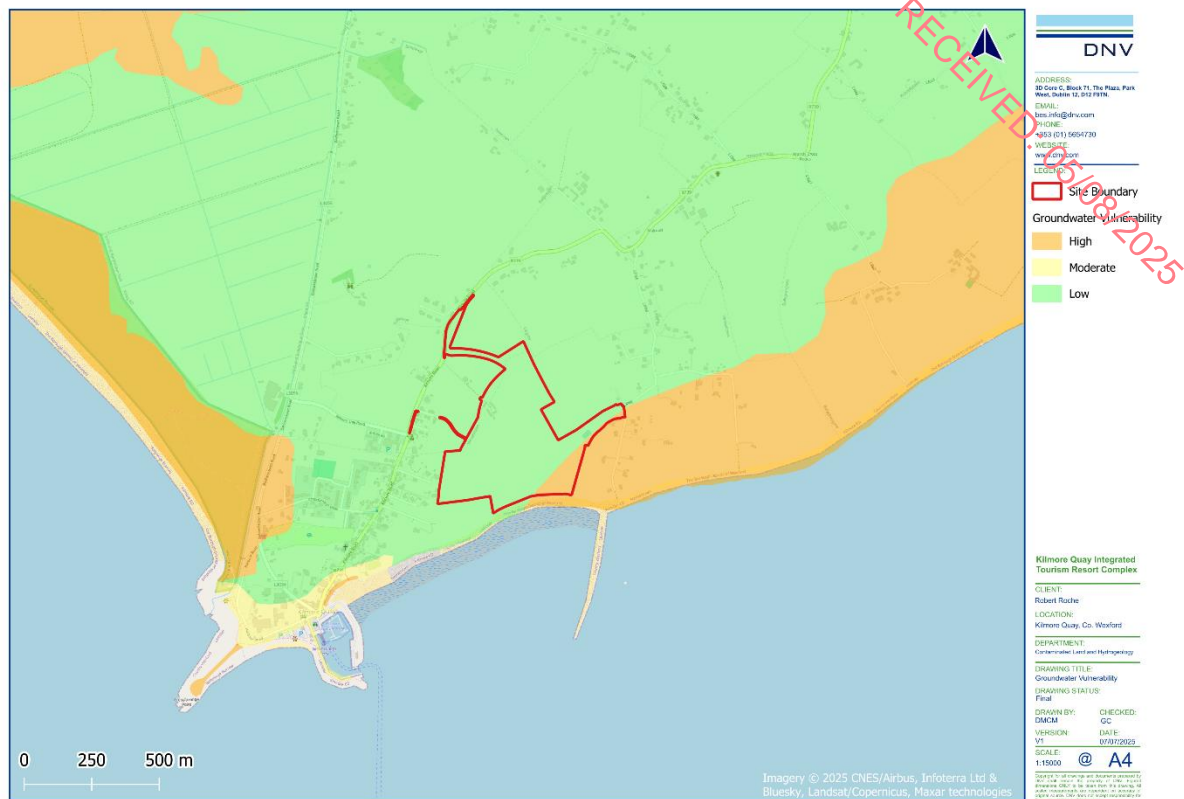


Figure 7-6. Groundwater Vulnerability

7.3.4.4 Groundwater Recharge

The GSI (GSI, 2025) has also calculated a recharge coefficient of 8% with an effective recharge of 27.58mm/year for the majority of the site and a recharge coefficient of 85% with an effective recharge of 312.59mm/year at the southern portion of the site. It is noted that a recharge cap has been applied for the area of the site with a recharge of 27.58mm/year which corresponds with a poor aquifer (PI). Therefore, this indicates a low capacity of the aquifer to accept recharge via infiltration of rainfall. However, no recharge cap has been applied to the southern part of the site (effective recharge of 312.59mm/year), which corresponds with the sand and gravel aquifer and has a higher subsoil permeability rate and potential for groundwater to accept rainfall recharge.

7.3.4.5 Site Hydrogeology

Ground investigations completed at the site by PGL in 2024 (refer to DNV, 2025a Hydrogeological Assessment included in Volume 3: Appendix 7.1 of the EIAR) included the installation of three (3 No.) groundwater monitoring wells and hydrogeological testing at the existing water supply well and newly installed groundwater monitoring wells. The location of the newly installed groundwater monitoring wells (BH1, BH2 and BH3), the existing production well (water supply well) (PW1) and the surface water location (SW1) are presented in Figure 7-7 below and the borehole logs are included in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR).



Figure 7-7. Groundwater Wells at the Site

Groundwater levels were recorded by PGL at the wells during pre-pumping conditions (baseline conditions) on the 7th and 16th of October 2024, post-pumping conditions on the 21st of October 2024 and during the hydrogeological tests (i.e. step test and pumping tests) undertaken.

As documented in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR), the groundwater level at PW1 ranged between 2.37mOD (10th October 2024) and 4.13mOD (8th October 2024). The groundwater levels at the newly installed groundwater monitoring wells ranged from 4.08mOD (16th October 2024) to 4.66mOD (8th October 2024) at BH1, from 4.61mOD (7th October 2024) to 4.77mOD (8th October 2024) at BH2, from 6.38mOD (16th October 2024) to 6.59mOD (8th October 2024) at BH3.

Based on the groundwater elevations measured in the observation monitoring wells installed across the site (BH1 through BH3) the overall inferred flow direction at the site is to the south / southwest towards the Irish Sea. The inferred groundwater flow direction based on the measured groundwater levels taken at the monitoring wells on the 8th of October 2024 is presented in Figure 7-8. It is noted that the measured groundwater levels indicate a local variance in the groundwater flow direction toward the existing supply well (PW1). It is considered that the presence of a shear zone in the bedrock beneath the site (as shown in the GSI, 2024 online mapping) and in which the existing supply well (PW1) is located, is likely creating a localised flow pattern that directs groundwater towards the supply well.

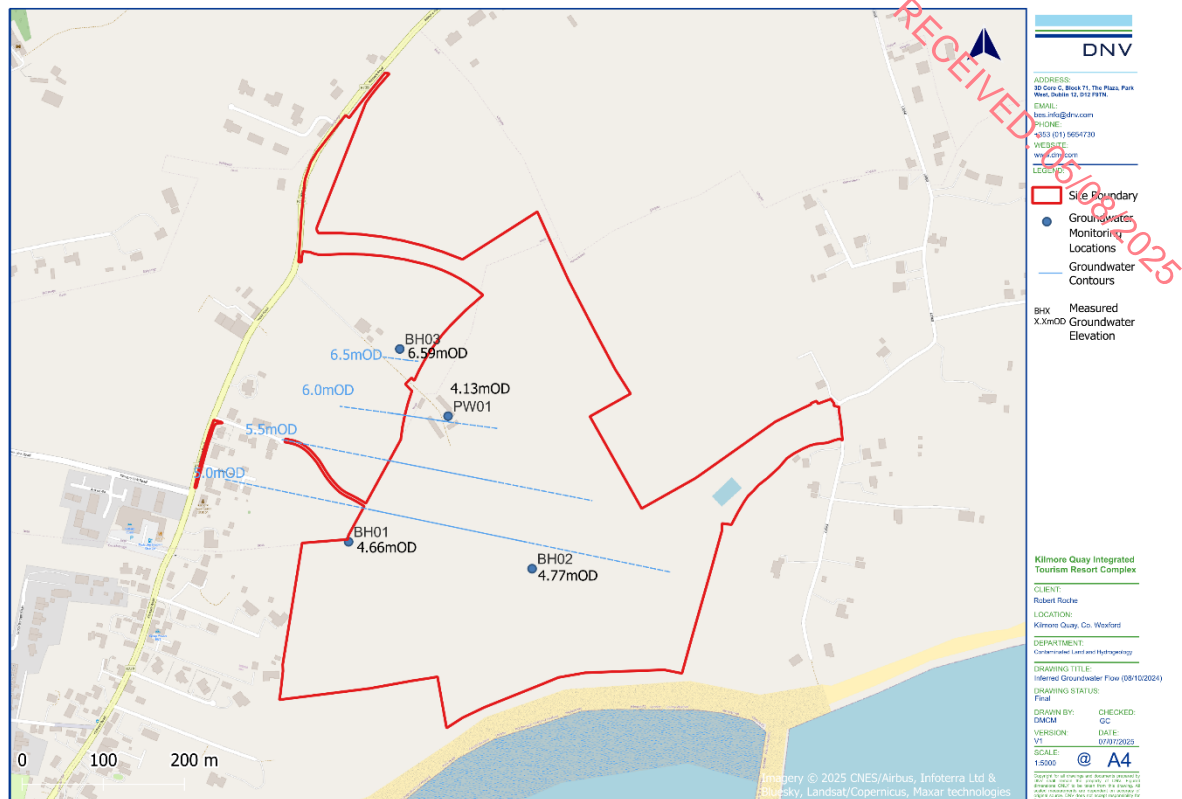


Figure 7-8. Inferred Groundwater Flow Direction (8th of October 2024)

7.3.5 Hydrology

7.3.5.1 Catchment and Surface Water Features

The site is mapped by the EPA (EPA, 2024) as within the Ballyteigue-Bannow (Catchment I.D.: 13), the Kisha_SC_010 Water Framework Directive (WFD) Sub-catchment (Sub-catchment I.D.: 13_14) and the Ballyteigue_Burrow_010 WFD River Sub-Basin (River Waterbody Code: IE_SE_13B330460).

The closest surface water features are recorded on the EPA database (EPA, 2024) as follows:

- The Eastern Celtic Sea coastal waterbody (EU Code: IE_SE_050_0000) is located adjacent to the southern boundary of the site.
- The Ballyteigue_Burrow River (WFD Name: Ballyteigue_Burrow_010; River Waterbody Code: IE_SE_13B330460) is located approximately 1.48km north of the site at its closest point. The Ballyteigue_Burrow River flows west before discharging to the Eastern Celtic Sea approximately 10.04km northwest of the site at its closest point. It is noted that there is no identified hydraulic connection between the site and the Ballyteigue_Burrow River.
- The Ballygrangans Stream (WFD Name Grongan_Burrow_010; River Waterbody Code: IE_SE_13G050890) is located approximately 1.94km east of the site. The Ballygrangans Stream flows south before discharging to the Eastern Celtic Sea approximately 2.36km east of the site at its closest point. It is noted that there is no identified hydraulic connection between the site and the Ballygrangans Stream.

- The Sarshill Stream (WFD Name Grongan_Burrow_010; River Waterbody Code: IE_SE_13G050890) is located approximately 2.12km east of the site. The Sarshill Stream flows east before converging with the Ballygrangans Stream approximately 2.14km east of the site at its closest point. It is noted that there is no identified hydraulic connection between the site and the Sarshill Stream.

During the site walkover, a drainage channel was identified along the southeastern boundary of the site. The drainage channel, which was observed to contain standing water at the time of inspection, is connected to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).

There is also a water retention pond located at the southeastern boundary of the site. No outlet was observed from this pond during the site walkover. It is understood that the farmer who currently rents the site lands from the Applicant for agricultural purposes (i.e., growing carrots), uses the existing onsite water supply (PW1) to fill this pond as a backup water supply during periods of dry weather.

The local surface waterbodies within a 2km radius of the site are presented in Figure 7-9.

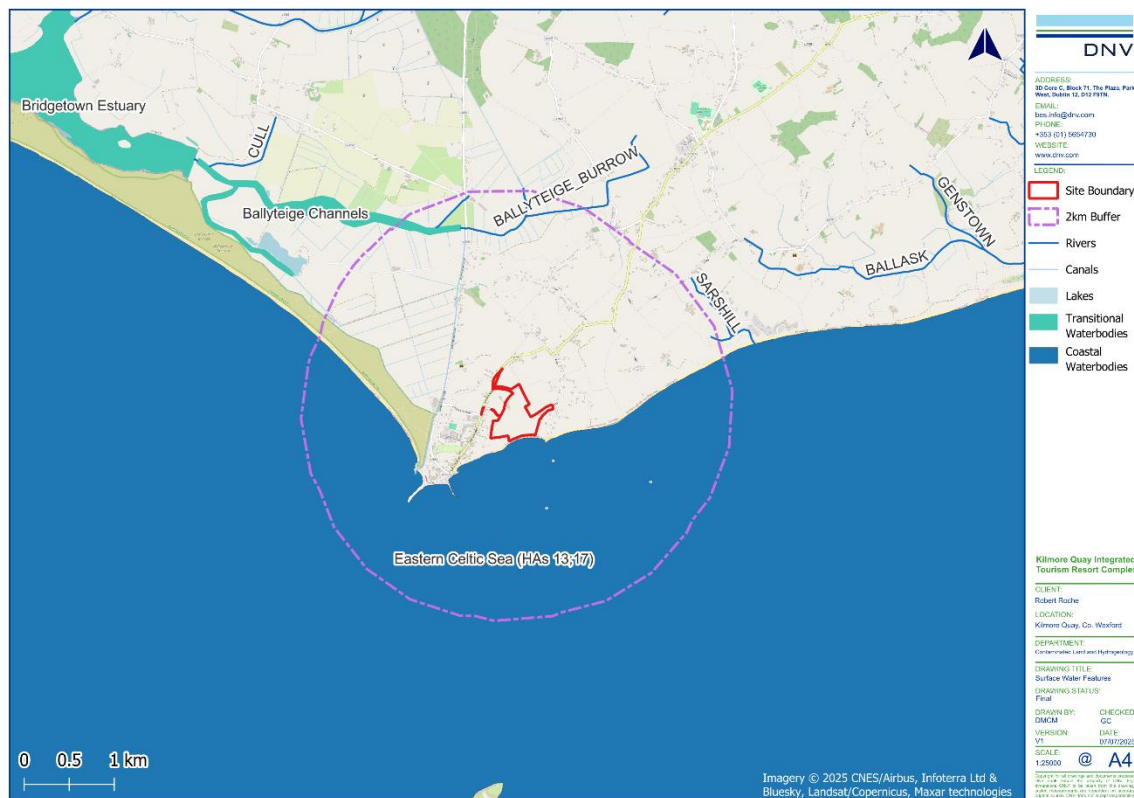


Figure 7-9. Local Surface Water Features

7.3.5.2 Existing Drainage Infrastructure

According to the DRA Consulting Engineers (DRA) Civil Engineering Planning Report (DRA 2025 submitted with the planning application under separate cover), there is no formal public surface water network at or in near proximity to the site. Currently, the existing lands are drained via infiltration into the underlying aquifer and by overland flow discharging at unrestricted flow rates to the drainage channel identified along the southeastern boundary of the site and the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).

There is no existing wastewater infrastructure at the site of the Proposed Development. The Kilmore Quay Waste Water Treatment Plant (WWTP) is located adjacent the eastern boundary of the site. As documented in the DRA Civil Engineering Planning Report (DRA 2025 submitted with the planning application under separate cover), a 160mm diameter inlet pipe has been constructed by Uisce Éireann (UE) during the Phase 1 construction works of the WWTP to facilitate the Proposed Development.

7.3.5.3 Flood Risk

A site-specific flood risk assessment (SSFRA) (DNV, 2025d) was conducted for the site and Proposed Development in accordance with the Department of the Environment, Heritage and Local Government (DoEHLG) guidelines, specifically "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (DoEHLG, 2009). This assessment involved a thorough flood risk identification process to determine if there were any potential flooding or surface water management issues that might affect the site or the Proposed Development. The results of the flood risk identification indicated that there is no significant flood risk to the site. Consequently, the Proposed Development is deemed appropriate for the site, which is classified as Flood Zone C, indicating a low probability of flooding (DNV, 2025d).

7.3.6 Water Supply and Drinking Water Source Protection

A review of the GSI wells and springs database (GSI, 2025) was conducted to identify registered wells and groundwater sources in the vicinity of the Site. There are no registered groundwater wells recorded within a 2km radius of the site (GSI, 2025) (refer to Figure 7-10).

It is noted that the existing groundwater supply well (PW1) identified at the site is not listed on the GSI database (GSI, 2025). As documented in the Hydrogeological Assessment Report (DNV, 2025a) refer to Volume 3: Appendix 7.1 of the EIAR, the estimated transmissivity of the existing supply well (PW1) using the pumping data and recovery data from the site investigation undertaken by PGL in 2024 is between 44.9m²/day and 80.16m²/day. Furthermore, a yield of approximately 9.7m³/hour (232.8m³/day) was determined to be the sustainable yield for the existing supply well (DNV, 2025a).

The site of the Proposed Development is located in an area serviced by mains water supply and there is a 100mm diameter watermain located to the north of the site within the R739 regional road.

There are no groundwater source protection areas (SPA) mapped by the GSI (GSI, 2024) within a 2km radius of the site. The closest Public Water Supply (PWS) SPA (Fardystown PWS) is located approximately 10km northeast of the site.

There are no surface water drinking water sources, under Article 7 of the Water Framework Directive, identified by the EPA (EPA, 2024) within a 2km radius or hydraulically connected to the site.

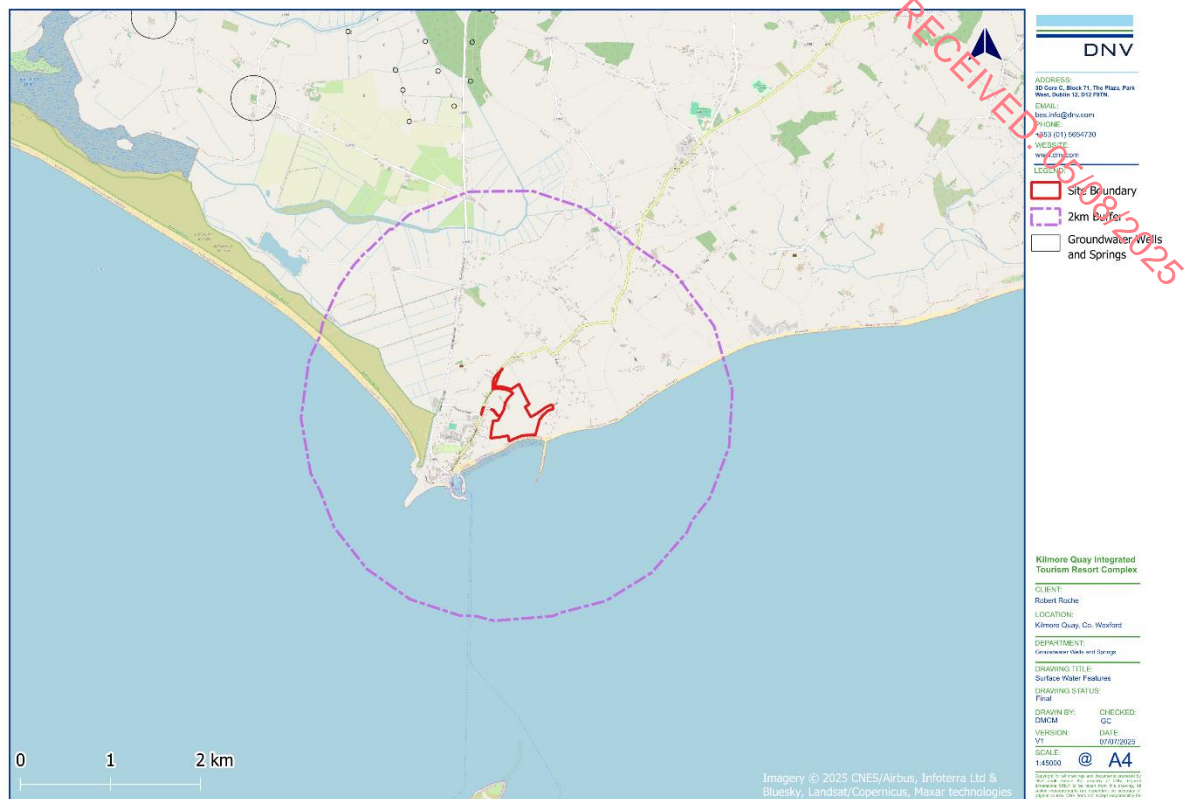


Figure 7-10. Groundwater Wells, Springs and SPA's

7.3.7 Water Quality Data

7.3.7.1 Published Regional Surface Water Quality

The EPA surface water quality monitoring database (EPA, 2025) was consulted. A number of coastal water monitoring stations are located downstream of the site, however, there was no available water quality data at the time of writing this chapter of the EIAR. There are no other surface water quality monitoring stations that are hydraulically connected to the site (EPA, 2025).

7.3.7.2 Published Regional Groundwater Quality

The EPA (EPA, 2025) groundwater monitoring data was reviewed and there are no groundwater quality monitoring stations within a 2km radius of the site or that are hydraulically connected to the site.

7.3.7.3 Site Investigation Results

As documented in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR), groundwater and surface water samples were collected by DNV on the 19th of October 2024 and the 22nd of October 2024 in order to establish baseline water quality conditions at the site and determine groundwater quality conditions during the hydrogeological testing (i.e. pumping test).

7.3.7.4 Groundwater Quality

Groundwater samples were collected from the existing supply well (PW1) during the hydrogeological testing and post completion of testing. An additional groundwater sample was collected from observation monitoring well BH2 post completion of the hydrogeological testing to establish baseline groundwater quality conditions.

The groundwater analytical results are discussed in detail in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR) and summarised below.

At the existing supply well (PW1) and the observation monitoring well (BH2), detectable concentrations of dissolved metals were found to be below the Groundwater Generic Threshold Values (GW GTV) and Surface Water Environmental Quality Standards (SW EQS). Similarly, total metals at PW1 were also below these thresholds. However, at BH2, the concentrations of total metals, specifically arsenic (56 mg/l), chromium (144.5 mg/l), lead (93.2 mg/l), and nickel (89.8 mg/l), exceeded the applicable Drinking Water Parametric Values (DW PVs). These exceedances are likely attributed to sampling disturbances and sediment entrainment in the monitoring well.

Hydrocarbon compounds, including TPHCWG, BTEX, and MTBE, were not detected at any sample location. All values were below laboratory detection limits and the applicable DW PV, GW GTV, and SW EQS.

Nitrate concentrations slightly exceeded the GW GTV of 37.5 mg/l at both PW1 (44.1 mg/l during pumping and 43 mg/l under baseline conditions) and BH2 (46 mg/l). Despite this, all values remained below the DW PV, and the consistency between pumping and baseline conditions at PW1 was noted.

Orthophosphate levels at PW1 exceeded the GW GTV and SW EQS (both 0.035 mg/l) during baseline sampling, reaching 0.05 mg/l. However, during the pumping test, orthophosphate concentrations were below the applicable thresholds. There is no DW PV for orthophosphate.

Ammonia concentrations at BH2 (0.09 mg/l as N and 0.12 mg/l as NH_4) exceeded the GW GTV and SW EQS but remained below the DW PV of 0.5 mg/l as N. At PW1, ammonia was not detected in either the pumping or baseline samples, with all values below laboratory detection limits.

In conclusion, the results from PW1 (both during baseline and pumping conditions) meet all applicable drinking water quality assessment criteria. Furthermore, there is no evidence of saline intrusion affecting the existing pumping well

7.3.7.5 Surface Water Results

A surface water sample (SW1) was collected downstream of the site from the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody) located adjacent to the southern boundary of the site.

The surface water analytical results are discussed in detail in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR) and summarised below

Detectable concentrations of dissolved metals were reported to be below the applicable SW EQS. Similarly, hydrocarbon compounds, including TPHCWG, BTEX, and MTBE, were not detected. All values were below both the laboratory detection limits and the applicable SW EQS.

The reported concentration of orthophosphate at SW1 was reported at 0.06 mg/l, which exceeds the SW EQS of 0.035 mg/l. This exceedance is considered representative of the baseline conditions of the site. Likewise, the concentration of ammonia at SW1 was measured at 0.09 mg/l, exceeding the SW EQS of 0.065 mg/l. This, too, is interpreted as reflective of baseline conditions of the site.

7.3.7.6 Hydrochemical Analysis of Groundwater and Surface Water Sources

As documented in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3, Appendix 7.1 of the EIAR), surface and groundwater samples (SW1, PW1, and BH2) were analysed for major ions and plotted using a Piper diagram to assess their chemical composition and potential relationships. The groundwater samples (PW1 and BH2) showed similar ionic profiles, suggesting a common hydrochemical source.

In contrast, the surface water sample (SW1) had higher levels of chloride, sodium, and potassium, indicating a saline nature, which shows a hydrochemical composition similar to sea samples (i.e. saline component). Therefore, it is concluded that there is no indication of saline intrusion into the pumping well (PW1) observed during the 72-hours pumping test undertaken for the site (DNV, 2025a).

7.3.7.7 Receiving Water Quality

As documented in the DRA Engineering Infrastructure Report (DRA 2025a submitted with the planning application under separate cover), foul water from the Proposed Development will discharge via the Kilmore Quay WWTP to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).

The Kilmore Quay WWTP is operated under relevant statutory approvals. The most recent available Annual Environmental Report (AER) for the Kilmore Quay WWTP is 2023 (UE, 2025). The AER identified that overall, the final effluent (untreated) was non-compliant with the Emission Limit Values (ELV) specified in the discharge license (EPA Licence No. D0232-01). The parameters falling to meet the ELV's included ammonia, BOD, COD and Suspended Solids. It was reported that the non-compliances for all parameters was due to the fact that the agglomeration was not served by a wastewater treatment plant until late 2024.

While exceedances in the ELV's are recorded, the following is also noted under the significance of results section of the 2023 AER:

- *'The coastal/transitional ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.*
- *The discharge from the wastewater treatment plant does not have an observable impact on the water quality.*
- *The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status'.*

7.3.8 Water Framework Directive

The WFD status for river, lake, groundwater, transitional and/or coastal water bodies that have a potential hydraulic connection to the subject site as recorded by the EPA (EPA, 2024) in accordance with European Communities (Water Policy) Regulations 2003 (SI No. 722/2003) are provided in Table 7-4 and presented in Figure 7-11.

Table 7-4. Water Framework Directive Status

Waterbody Name	Waterbody EU Code	Location from Site	Distance Downstream of the site (km)	WFD Status (2016-2021)	WFD Risk	Hydraulic Connection to the Site
River Waterbodies						
Ballyteige_Burrow_010	IE_SE_13B330460	Northwest	1.5	Poor	Review	Not hydraulically connected to Site
Grongan_Burrow_010	IE_SE_13G050890	East	1.94	Moderate	Review	Not hydraulically connected to Site
Coastal Waterbodies						
Eastern Celtic Sea (HAs 13;17)	IE_SE_050_000	South	Adjacent to the south boundary of the site	High	Not at Risk	Yes, downstream of the Site
Groundwater Bodies						
Bridgetown	IE_SE_G_022	Underlying	0.0	Good	Not at Risk	Yes, underlying the site

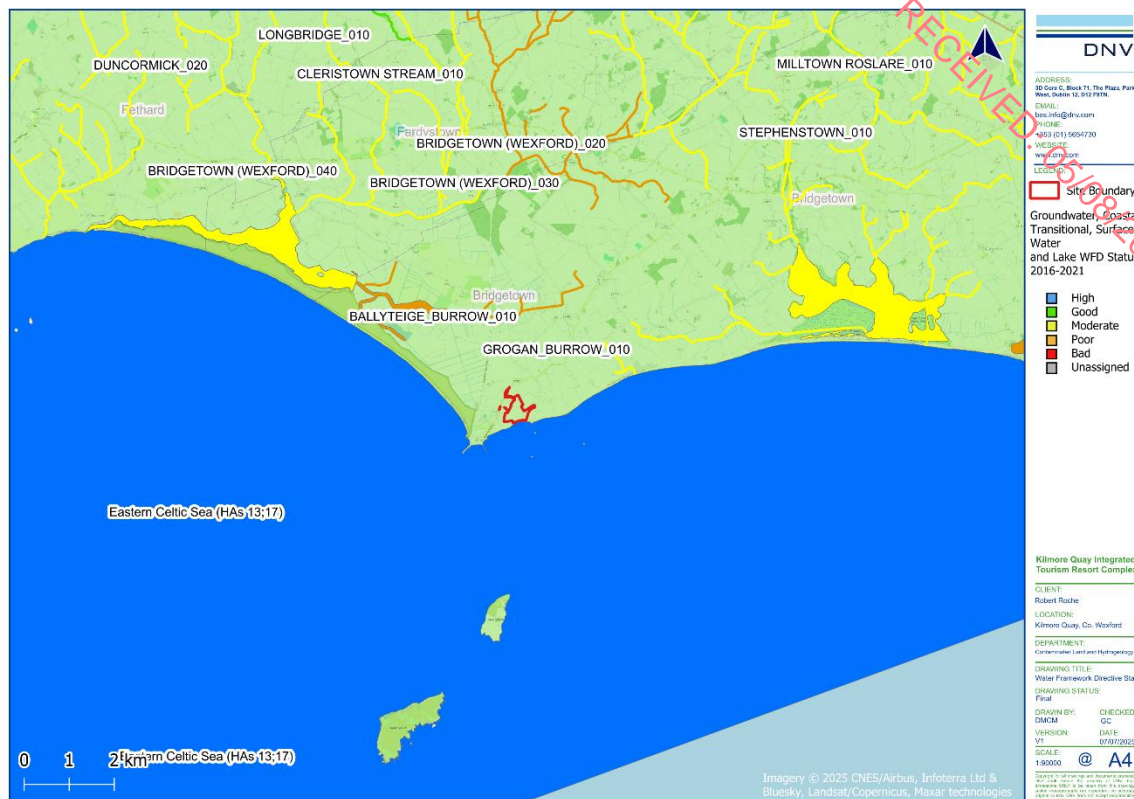


Figure 7-11. Water Framework Directive Status

7.3.8.1 Nature Conservation

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of Special Protection Areas (SPAs). SACs and SPAs are collectively known as Natura 2000 or European sites (referred to hereafter as Natura 2000 site).

National Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with SAC and/or SPA Sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

There are five (5 No.) Natura 2000 sites that are identified in the close vicinity of the site, with three (3 No.) of them having a potential hydraulic connection to the site and proposed development. There are also two (2 No.) proposed Natural Heritage Areas (pNHA) identified with one (1 No.) of them having a potential hydraulic connection to the site and proposed development. There are no Natural Heritage Areas (NHA) present within close vicinity of the site. The Natura 2000 sites and other protected and designated sites or areas within close vicinity of the site are summarised in Table 7-5 and Figure 7-12.

Further details and assessment of the of the potential impacts of the Proposed Development on habitats, flora and fauna are included in Chapter 5 of this EIAR.

Table 7-5. Designated and Protected Sites

Designated Site	Site Code	Distance from Site (km)	Direction	Potential Risk
Special Area of Conservation (SAC)				
Saltee Islands SAC	000707	Adjacent to the southern boundary of the Site	South	Yes, hydrological connection via the unmapped stream present at the site and downstream waterbodies.
Ballyteige Burrow SAC	000696	0.67	West	No, located upstream of surface waterbodies hydraulically connected to the Site
Special Protection Area (SPA)				
Saltee Islands SPA	004002	3.0	South	Yes, hydrological connection via the unmapped stream present at the site and downstream waterbodies.
Seas off Wexford SPA	004237	Adjacent to the southern boundary of the site	South	
Ballyteige Burrow SPA	004020	1.9	West	No, located upstream of surface waterbodies hydraulically connected to the Site
Proposed Natural Heritage Area (pNHA)				
Ballyteige Burrow pNHA	000696	1.9	West	No, located upstream of surface waterbodies hydraulically connected to the Site
Saltee Islands pNHA	000707	3.0	South	Yes, hydrological connection via the unmapped stream present at the site and downstream waterbodies.

Designated Site	Site Code	Distance from Site (km)	Direction	Potential Risk
<p>Note:</p> <p>'**' = Distance is measured as closest point to the Site</p>				

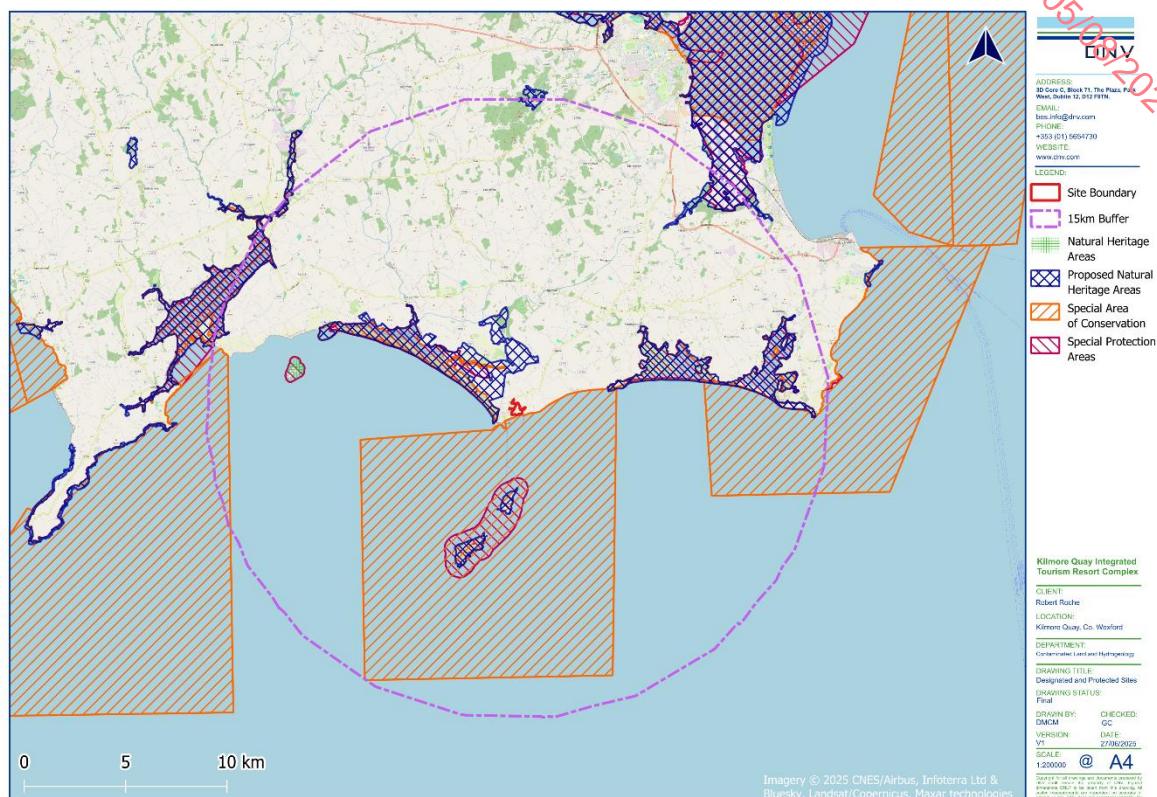


Figure 7-12. Designated and Protected Sites

7.3.8.2 Drinking Water

The river drinking water protected areas (DWPA) are represented by the full extent of the WFD river waterbodies from which there is a known qualifying abstraction of water for human consumption as defined under Article 7 of the WFD.

There are no surface water drinking water sources, under Article 7 of the Water Framework Directive, identified by the EPA (EPA, 2023) within a 2km radius or hydraulically connected to the Site. However, there is a groundwater drinking water source under Article 7 (WFD) hydraulically connected to the site namely the Bridgetown GWB (IE_SE_G_022).

7.3.8.3 Shellfish Areas

Although the Shellfish Waters Directive (SWD) has been repealed, areas used for the production of shellfish that were designated under the SWD, are protected under the WFD as 'areas designated for the protection of economically significant aquatic species'.

The requirement from a WFD perspective is to ensure that water quality does not impact on the quality of shellfish produced for human consumption. In Ireland, 64 areas have been designated as shellfish waters (S.I. No. 268 of 2006, S.I. No. 55 of 2009, S.I. 464 of 2009).

The closest designated Shellfish Area is located approximately 16.2km northwest of the site, which is an upstream location of the site.

7.3.8.4 Nutrient Sensitive Areas

EU member states are required under the Urban Wastewater Treatment Directive (91/271/EEC) to identify nutrient-sensitive areas. These have been defined as "natural freshwater lakes, other freshwater bodies, estuaries and coastal waters which are found to be eutrophic or which in the near future may become eutrophic if protective action is not taken".

There are no designated nutrient sensitive areas associated with any water courses in the vicinity of the site. However, the Wexford Harbour (Urban Waste Water Treatment Directive Sensitive Area) is located approximately 16.7km northeast of the site, which is associated with the Rosslare Strand and Environs (Urban Waste Water - D0173), the Wexford town (Urban Waste Water - D0030) and the Castlebridge (Urban Waste Water - D0235).

7.3.8.5 Bathing Waters

Bathing waters are designated under Regulation 5 of Directive 2006/7/EC. Designated Bathing Waters exist under S.I. No. 79/2008 and S.I. No. 351/2011 Bathing Water Quality (Amendment) Regulations 2011. EC Bathing Water Profiles - Best Practice and Guidance 2009.

The closest designated bathing water location is Carne Beach located approximately 15.4km northeast of the site (upstream of the site).

7.3.9 Importance of Receiving Environment

The receiving water bodies have been assigned a WFD Status of 'good' for groundwater, and 'high' for the closest surface water bodies hydraulically connected to the Proposed Development (i.e. Eastern Celtic Sea) (EPA, 2024). The bedrock aquifer beneath the site is classified as a Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones (PI) and there is a locally important gravel aquifer (Lg) located in the south of the site. The site is not mapped within a groundwater SPA or currently located in the vicinity of a significant water supply source.

Overall, taking account of the receiving hydrological environment, in accordance with the criteria set out in Table 7-1, the site is considered to be of 'low' importance

7.4 Characteristics of the Proposed Development

Application for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

A full description of the Proposed Development is outlined in Chapter 2 of this EIAR.

The following components are of particular relevance with respect to hydrology and hydrogeology are discussed below.

7.4.1 Construction Phase

The construction phase of the Proposed Development will include:

- Building foundations will consist of piled foundations for the central hotel, function/conference centre facility and spa/leisure complex, and conventional pads and strip footings for the remaining low rise buildings.
- Excavation of soil and subsoil for the construction of building foundations, drainage and other infrastructure.
- It is anticipated that there will be no requirement for the excavation of bedrock during the construction phase of the Proposed Development.
- It is intended to reuse suitable excavated soil and subsoil for landscaping and engineering use. However, where required, the removal of unsuitable soil and subsoil offsite will be undertaken in accordance with all statutory legislation.
- The importation of aggregate fill materials will be required for the construction of the Proposed Development (e.g., granular material beneath road pavement, under floor slabs and for drainage and utility bedding / surrounds etc.).
- Temporary stockpiling of excavated material pending re-use onsite.
- It is anticipated that excavations for the construction of the Proposed Development will be above groundwater, however, there may be a requirement for management of surface water (rainwater) and localised shallow groundwater dewatering where encountered within excavations during groundworks.
- Construction of a new surface water drainage designed in accordance with the principles and objectives of Sustainable Drainage Systems (SuDS) and the requirements of Wexford County Council.
- Construction of new foul drainage and mains water connections in accordance with the requirements and recommendations contained in UE's Code of Practice for Wastewater Infrastructure (IW-CDS-5030-03) and UE's Code of Practice for Water Infrastructure (IW-CDS-5020-03).

7.4.2 Operational Phase

7.4.2.1 Surface Water Drainage

As outlined in the Civil Engineering Planning Report (DRA, 2025 submitted with the planning application under separate cover), surface water from the Proposed Development will be managed in accordance with the principles and objectives of Sustainable Drainage Systems (SuDS), the Greater Dublin Strategic Drainage Study (GDSDS) and Wexford County Council to treat and attenuate water prior to discharging to ground and offsite to the Irish Sea (i.e., the

Eastern Celtic Sea coastal waterbody) via the existing open channel drain located on the southeastern boundary of the site, mimicking the existing greenfield runoff. It is noted that collected stormwater will be infiltrated to ground up to the 1 in 10 year storm event, while events greater than the 1 in 10 storm will discharge to the existing open channel.

The surface water drainage for the Proposed Development has been designed to cater for surface water runoff from all hard surfaces including roadways, carparks, and roofs, and will adequately accommodate the 1 in 100 year rainfall event plus 20% to account for the effects of climate change and 10% to allow for creep.

The following attenuation and SuDS measures will be incorporated into the Proposed Development as detailed in the Civil Engineering Planning Report (DRA, 2025):

- Bioretention systems and rain gardens: Temporarily hold runoff on the surface, then filter it through vegetation and soil layers. These layers store water during heavy rain and release it slowly, reducing flow to nearby watercourses. A stone layer helps filter pollutants.
- Swales: Shallow, vegetated channels that store and treat runoff as it flows through a site. They also support biodiversity.
- Filter strips: Gently sloped, vegetated areas that slow down runoff, filter it through plants, and allow particles to settle.
- Attenuation tanks: Collect, filter, and store stormwater during heavy rain, then release it gradually. They may also allow water to infiltrate into the ground.

The water will also be directed through a hydrocarbon interceptor prior to discharge from the site.

The proposed surface water drainage layout is presented in Drawing No.23246-140 to 23246-148 (DRA, 2025) submitted with the application under separate cover.

7.4.2.2 Foul Drainage

As outlined in the Civil Engineering Planning Report (DRA, 2025 submitted with the planning application under separate cover), the Applicant has an agreement with UE to connect wastewater from the Proposed Development, up to a maximum of 744 population equivalent (PE), to the Kilmore Quay WWTP. It is understood that a 160mm inlet pipe was installed during Phase 1 of the Kilmore Quay WWTP to support this.

Foul drainage for the Proposed Development is designed to fully utilise the 744PE capacity. A Pre-Connection Enquiry was submitted on 1st of November 2024, and after detailed discussions between DRA and UE, a Confirmation of Feasibility (COF) was issued on the 29th of April 2025 (UE COF Reference: CDS24009493). The UE COF confirms the connection is feasible, contingent on the WWTP being upgraded to its Phase 2 design granted under existing planning (Planning Ref 2019/1633). In agreement with UE, these works will be funded by the Applicant.

Due to the lack of a gravity connection near the site, a private pumping station and rising main will be constructed to transport wastewater to the Kilmore Quay WWTP. These will comply with UE's technical standards (IW-TEC-800-02). The private foul sewer network will also follow UE's Code of Practice and remain under the applicant's ownership and maintenance.

Treated foul water from the Kilmore Quay WWTP (EPA Licence No. D0232-01) will ultimately discharge to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).

The proposed foul water drainage design layout is presented in drawing: 2268-DOB-XX-SI-DR-C-0300 (DRA, 2025) submitted with the application.

The proposed foul water drainage layout is presented in Drawing No. 23246-140 to 23246-148 (DRA, 2025) submitted with the application under separate cover.

7.4.2.3 Water Supply

Water supply for the Proposed Development will be from an onsite supply served by 2 no. proposed groundwater wells with a supplementary back-up mains supply from UE feeding into a drop tank to prevent backflow into the mains water system (24-hour water storage will be provided on site) (DRA, 2025).

As documented in the Hydrogeological Assessment Report (DNV, 2025a) (refer to Volume 3: Appendix 7.1 of the EIAR), the required groundwater supply for the Proposed Development of approximately 241m³/day (approximately 10m³/hour) could be sustainably derived from the underlying bedrock aquifer according to the assessment of the data gathered during the 72-hour pumping tests at the existing onsite supply well (PW1) (average discharge rate of approximately 9.7m³/hour maintained for the duration of the pumping test) and the fact that it reached near steady state towards the end of the pumping test.

A Pre-Connection Enquiry was submitted on 1st of November 2024, and a Confirmation of Feasibility (COF) was issued on the 29th of April 2025 (UE COF Reference: CDS24009493). The UE COF confirms the connection is feasible, subject to 1.6km of water network upgrades being undertaken to provide additional network capacity. In agreement with UE, these works will be funded by the Applicant.

The 24-hour potable water storage tank will be combined with the firefighting storage tank which will provide a minimum water supply of 120,000 litres in the event of a fire. The tanks will initially fill with treated well water, if the level falls due to demand or potentially reduced flow from the boreholes, a low-level switch will open the mains water inlet and allow the mains water to supply the tank. When the water level gets to the high-level switch, both valves will close. The tank will be fitted with a Type "AB" Air Gap to prevent backflow to the public main.

Mains pumps and booster sets will charge the site water main. A fire hydrant system and water supply will be provided to serve the development in accordance with Wexford County Council's guidance on 'Standard Requirements for Fire Hydrants and Water Supplies in Developments in County Wexford'.

The proposed water supply layout and location of the 2 no. proposed groundwater wells is presented in Drawing No. 23246-160 to 23246-165 (DRA, 2025) submitted with the application under separate cover.

7.5 Potential Impact of the Proposed Development

The procedure for determination of potential impacts on the receiving hydrology and hydrogeology is to identify potential receptors within the site boundary and surrounding environment and use the information gathered during the desk study, site walkover, and the Hydrogeological Assessment (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR)

to assess the degree to which these receptors will be impacted upon in the absence of mitigation.

The potential impacts associated with the construction phase and operational phase of the Proposed Development are summarised below.

7.5.1 Construction Phase

7.5.1.1 Hydrological and Hydrogeological Flow Regime

During the Construction Phase, there will be no direct discharges to or abstractions from surface water at the Proposed Development.

Diversions of water courses are not required for the construction phase, however based on the findings of the ground investigations (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), there may be a requirement for management (e.g., localised dewatering or sump pumping) of surface water (rainwater) and shallow groundwater (recorded at levels ranging between 2.37mbGL and 6.59mbGL), on a temporary basis where encountered during groundworks.

Therefore, there may be a requirement for localised dewatering or sump pumping on a temporary basis during the excavations. Appropriate construction measures to enable working in the dry during excavations, and methods to minimise the volume of dewatering water generated that will require management will be considered in the detailed design and the contractor's construction methods. Where water must be pumped from the excavations, it is considered that there will be a temporary drawdown of local groundwater levels during the dewatering operations. As documented in the Hydrogeological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), a sustained pumping rate of approximately 10m³/hour could be derived from the underlying bedrock aquifer. Therefore, it is considered that the extent of any impact will be localised to the immediate area surrounding the excavations and there will be a 'negative', 'slight' and 'temporary' effect on the groundwater levels and flow regime. The overall effect is considered non-significant in the context of the EIA Directive.

It is anticipated that there may be a requirement for an onsite groundwater supply for the construction phase. However, it is noted that other than for dust suppression, this requirement will be minimal. Therefore, given the minimal water supply demand during the construction phase of the Proposed Development and the available yield of the aquifer (DNV, 2025a), it is considered that there will be a 'negative', and 'imperceptible' and 'temporary' effect on the underlying aquifer at the site and is considered non-significant in the context of the EIA Directive.

7.5.1.2 Water Quality

Sources of contamination that could impact on water quality arising from the construction of the Proposed Development include:

- Storage and use of fuels, oils and chemicals used during construction which in the event of an accidental release could infiltrate to the underlying groundwater or migrate via surface water runoff to offsite water bodies.

- Use of concrete and cementitious materials or other potentially hazardous materials during construction in particular for below ground structures and foundations where shallow groundwater may be encountered.
- Runoff with entrained sediment or other contaminants from stockpiled soils onsite to surface water drainage.
- Sediment or contaminants entrained in surface water and groundwater encountered during the dewatering of excavations.
- Accidental release of wash-water or foul water from facilities at the site (e.g., wheel wash and temporary welfare facilities).
- Release of foul water from existing foul water drainage during connection to live sewers.

The potential pathway and pollutant linkages for the construction phase are identified as:

- Infiltration of contaminants to the substrate and bedrock aquifer via potential conduits introduced through groundworks.
- Overland flow during rainfall events entering the drainage channel was identified along the southeastern boundary of the site and / or the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).
- Infiltration through subsoils during excavations where the groundwater vulnerability is increased (i.e., the thickness of low permeability materials is reduced thus there is a more direct pathway for surface contaminants to underlying bedrock aquifer).
- Lateral migration within the underlying aquifer.
- Discharge of water (groundwater / surface water runoff) to sewer, watercourses or groundwater in accordance with all statutory requirements and obligations. Unauthorised discharge of water during the construction phase of the Proposed Development will not be permitted.

In the absence of appropriate mitigation measures during the construction phase of the Proposed Development there could be an effect on the receiving water environment including the following receptors:

- Underlying Poor Aquifer (PI) which is part of the Bridgetown GWB and Locally Important sand and gravel aquifer at the southern portion of the site.
- Groundwater flow beneath the site is inferred to be towards the sea (refer to Figure 7-8).
- Downstream receiving waterbodies (i.e. Eastern Celtic Sea coastal waterbody).
- There are five (5 No.) Natura 2000 sites and two (2 No.) proposed Natural Heritage Areas (pNHA). The Natura 2000 sites are assessed and described in further detail in Chapter 5 of the EIAR

Excavation

During excavation, there is a risk to the underlying bedrock aquifer due to any accidental release of fuels or other contaminants to exposed granular subsoils or bedrock creating a direct pathway to the underlying aquifer. In a worst case, un-mitigated scenario there is a 'negative', 'significant' and 'long-term' impact to the underlying aquifer depending on the nature of the incident. It is noted that this impact is considered significant in the context of the EIA Directive due to the potential for long-term degradation of groundwater quality in the absence of mitigation.

Dewatering of Groundwater and Surface Water Runoff

The appointed contractor will ensure that any run-off from the site or any areas of exposed soil will be managed as required with temporary pumping. Where dewatering of excavations is required or where water must be pumped from the excavations, water will be discharged by the contractor, following appropriate treatment (e.g., settlement and / or hydrocarbon interceptor), to sewer, watercourses or groundwater in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from Wexford County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990 for discharges to surface water / groundwater. There will be no unauthorised discharge of water (groundwater / surface water runoff) to sewer, watercourses or groundwater during the construction phase of the Proposed Development. Therefore, the potential impacts will have been adequately assessed and mitigated as part of the statutory consent and there will be 'neutral', 'imperceptible' and 'temporary' impact on the receiving water environment and is considered non-significant in the context of the EIA Directive.

Surface Water Runoff

During rainfall events surface water runoff at the site drains via overland flow to the drainage channel identified along the southeastern boundary of the site and / or directly to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody). During the construction phase of the Proposed Development, there is a potential for release of suspended sediments entrained in surface runoff from groundworks or indirectly tracked on vehicles / machinery entering the the receiving waterbodies. This may result in a 'negative' 'slight to moderate' and 'short-term' impact on the quality of the receiving surface waterbodies including the onsite drainage channel and locally in the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody). It is noted that this impact is considered non-significant in the context of the EIA Directive, due to its limited spatial extent, short duration, and the implementation of standard construction mitigation measures detailed in Section 7.6.1.

Piling

Piling during the construction phase of the Proposed Development, may potentially create pathways for contaminants such as grout or other materials to enter underlying groundwater. In the event of such scenarios, it is considered that this could result in 'negative', 'moderate' to 'significant' and 'medium-term' impact on a local area of the underlying aquifer environment depending on the nature of the incident. This impact is considered potentially significant in the context of the EIA Directive, however, appropriate controls will be in place to prevent this unlikely scenario.

Removal of Surplus Materials and Waste

All surplus materials and waste that will require removal offsite will be managed in accordance with all statutory obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27). In the unlikely event that surplus soil or other waste materials are directed to an unauthorised location there is potential to impact on the receiving hydrogeology at that location. In the event of such a scenario it is considered that this could result in a 'negative', 'slight to moderate' and 'medium-term' impact on the hydrogeology at any receiving unauthorised locations. This impact is considered

potentially significant in the context of the EIA Directive, however, appropriate controls will be in place to prevent this unlikely scenario.

Concrete Works

There is a potential risk associated with the cementitious materials used during the construction of deeper infrastructure where groundwater may be encountered that could result in a 'negative', 'moderate' to 'significant' and 'medium-term' impact on the underlying groundwater quality beneath the site. In the absence of mitigation and considering the potential for adverse effects on the underlying groundwater body, this impact is considered significant in the context of the EIA Directive.

Handling of Fuels and Hazardous Materials

If the accidental release of hazardous material including fuels, chemicals and materials being used onsite, through the failure of secondary containment or a materials handling accident at the site, were to occur over open ground which will result in a temporary increase in groundwater vulnerability to potential contaminants, then these materials could infiltrate to the underlying groundwater or flow as overland flow and enter the drainage channel identified along the southeastern boundary of the site and ultimately the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody). In the event of such scenario, it is considered that this could result in a 'negative' 'moderate to significant' and 'long-term' impact on the receiving hydrogeological and hydrological environment depending on the nature of the incident. In the absence of mitigation and considering the potential for widespread and lasting effects on both hydrogeological and hydrological receptors, this impact is considered significant in the context of the EIA Directive.

Welfare

Foul water discharge from the temporary welfare units at the site during the Construction Phase will be either tankered offsite in accordance with waste management legislation or discharged under temporary consent to the UE mains foul network for treatment at Kilmore Quay WWTP subject to agreement with UE. It is considered that any impact on the relating to waste water during the construction phase will be 'neutral', 'imperceptible' and 'temporary' and is considered non-significant in the context of the EIA Directive.

Groundwater Supply

The groundwater supply at the site will not be used for drinking water during the construction phase of the Proposed Development and therefore there will be no associated human health issues for construction workers. Human health is assessed in Chapter 4 of this EIAR.

7.5.2 Operational Phase

The assessment of the potential effects on the receiving environment during the operational phase of the Proposed Development will take account of the embedded design avoidance measures (i.e., SUDS design,) to manage the potential for effects to the receiving water environment.

7.5.2.1 Hydrological and Hydrogeological Flow Regime

The Proposed Development will result in an increase of hardstanding on the site. Stormwater will be infiltrated to ground up to the 1 in 10 year storm event. The proposed SuDS include unlined elements allowing for infiltration to ground. This combined with the close proximity to

the coast means any effect on groundwater flow will be highly localised within the site. Therefore, it is considered that there will be little to no change to the overall recharge potential to the aquifer. Taking account of the baseline hydrogeological setting and nature of the Proposed Development there will be a 'negative', 'imperceptible' and 'permanent' effect on the hydrogeological flow regime within a very localised zone of the aquifer and is considered non-significant in the context of the EIA Directive.

The water supply for the Proposed Development will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a) included in Volume 3: Appendix 7.1 of the EIAR, the estimated transmissivity of the on-site groundwater supply well (PW1) is between 44.9m²/day and 80.16m²/day. The well was capable of sustaining a pumping rate of 9.7m³/hour (232.8m³/day) with near steady state conditions achieved after 7hrs pumping, with an induced drawdown of 9.71m. It is noted that the well achieved 90% recovery after 72hrs and full recovery after 29hrs from when pumping stopped. Furthermore, there was no noticeable drawdown observed at the three (3 No.) newly installed groundwater monitoring wells. Therefore, it was concluded that the well could sustainably meet the supply requirement of 10m³/day. The ZOC and outer source protection zone for PW1 based on the required groundwater supply of 10m³/hour plus 50% contingency (i.e. 361.5m³/day or approximately 15m³/hr) as per the Groundwater Protection Schemes guidelines (DoEHLG/EPA/GSI, 1999) was calculated to be 422,110.43m² (42.21ha). Accordingly, taking account of the supply requirement of a maximum of 10m³/day, that, the zone of contribution and distance to the closest known supply wells are located over 2km from the site there will be negligible impact on other supplies or the groundwater resource of the bedrock aquifer. Therefore, it is considered that there will be an unavoidable but 'negative', 'imperceptible' and 'long-term' impact on the groundwater resource and flow regime and is considered non-significant in the context of the EIA Directive.

7.5.2.2 Drainage and Flood Risk

The Civil Engineering Planning Report (DRA, 2025) notes the surface water drainage at the Proposed Development has been designed in accordance with SuDS and satisfies the requirements of the Greater Dublin Strategic Drainage Study (GDSDS) to meet the following design criteria.

- Criterion 1 – River Water Quality Protection.
- Criterion 2 – River Regime Protection.
- Criterion 3 – Level of Service (Flooding) / Flood Risk Assessment.
- Criterion 4 – River Flood Protection.

The SSFRA (DNV, 2025d) identifies that the site is located within Flood Zone C where the probability of flooding is low. The SSFRA (DNV, 2025d) concludes that the Proposed Development is appropriate for the site. Therefore, it is considered that the potential flooding impacts associated with the Proposed Development are 'neutral', 'imperceptible' and 'long-term' and are considered non-significant in the context of the EIA Directive

7.5.2.3 Water Quality

There will be no discharges to ground from drainage and only rainfall on public open spaces will infiltrate to ground.

As outlined in the Civil Engineering Planning Report (DRA, 2025), during events greater than the 1 in 10 year storm event and prior to surface water discharge to the open drainage channel along the south eastern boundary of the site and ultimately the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody), all surface water runoff will be treated and attenuated in accordance with the principals and objectives of SuDS (i.e., Bioretention systems, rain gardens, swales, filter strips and attenuation tanks). Therefore, it is considered that there will be a 'neutral', 'imperceptible', and 'long-term' impact on to the quality of receiving hydrological receptors including the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody) and is considered non-significant in the context of the EIA Directive.

There is a potential risk of contaminants that enter the groundwater to flow laterally towards the existing onsite water supply. In the absence of design avoidance measures, there is a potential 'negative' 'moderate to significant' and 'long term' impact on the receiving water supply and drinking water users depending on the nature of the incident.

The water supply for the Proposed Development will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the results for samples collected (baseline and during pumping) at the existing supply well (PW1) meet the applicable drinking water quality assessment criteria (DW PVs) for the parameters analysed. Furthermore, the results do not provide evidence of saline intrusion affecting the existing pumping well. Therefore, there are no associated human health issues with for site workers associated with groundwater. Human health is assessed in Chapter 4 of this EIAR. It is noted that the potential for seasonal variations in groundwater quality will be considered in the detailed design of the supply wells.

Foul water from the Proposed Development will discharge via the Kilmore Quay WWTP (EPA Licence No. D0232-01) to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody) in accordance with agreement from UE. The UE CoF letter (UE COF Reference: CDS24009493) states that the wastewater connection is feasible subject to upgrades which will be funded by the Applicant. The Applicant will ensure that any connection will be under the consent of UE and subject to a connection offer. The Kilmore Quay WWTP is operated under existing statutory consents. Therefore, any connection agreement will ensure that there will be adequate capacity within the Kilmore Quay WWTP to accept foul effluent from the Proposed Development and the discharge of treated effluent from the Proposed Development will have a 'neutral', 'imperceptible', 'long-term' impact on receiving water quality and WFD status of the Eastern Celtic Sea coastal waterbody. This impact is considered non-significant in the context of the EIA Directive.

Furthermore, the foul drainage for the Proposed Development has been designed in accordance with the principles and methods set out in UE's Code of Practice for Wastewater Infrastructure (IW-CDS-5030-03) thereby, preventing any potential leakage of foul effluent to ground and risk of infiltration into the underlying groundwater and bedrock aquifer.

7.5.3 Potential Cumulative Impacts

Cumulative Impacts can be defined as "impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project". Effects which are caused by the interaction of effects, or by associated or offsite projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of

different effects that are individually minor. Such effects are not caused or controlled by the project developer.

As part of this assessment, other offsite developments and proposed offsite developments as detailed in Chapter 2 of this EIAR were reviewed and considered for possible cumulative effects with the Proposed Development.

7.5.3.1 Water Resources

Water supply to the Proposed Development will be from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the required groundwater supply for the Proposed Development of approximately 241m³/day (approximately 10m³/hour) could be sustainably derived from the underlying bedrock aquifer according to the assessment of the data gathered during the 72-hour pumping tests at PW1 (average discharge rate of approximately 9.7m³/hour maintained for the duration of the pumping test) and the fact that it reached near steady state towards the end of the pumping test. There are no registered groundwater wells recorded within a 2km radius of the site (GSI, 2025). Therefore, there will be no cumulative effects associated with the Proposed Development on the supply network and water resources. The associated cumulative effect on the hydrological and hydrogeological receiving environment will be 'neutral', 'imperceptible' and 'permanent' and this impact is considered non-significant in the context of the EIA Directive.

A supplementary back-up mains supply from UE feeding into a drop tank to prevent backflow into the mains water system will be provided for the Proposed Development. The UE CoF (UE CoF Reference: UE COF Reference: CDS24009493) letter states that the water supply connection is feasible subject to upgrade works that will be funded by the Applicant. The mains water supply is operated in accordance with relevant existing statutory consents, therefore there will be a 'neutral', 'imperceptible', 'long-term' impact associated with the Proposed Development on the supply network and water resources of other developments detailed in Chapter 2 of this EIAR and within the wider County Wexford area. This impact is considered non-significant in the context of the EIA Directive.

7.5.3.2 Water Quality

Foul water from the Proposed Development will be discharged to the mains foul network for treatment at Kilmore Quay WWTP in accordance with the agreement in place with UE. The UE CoF (UE CoF Reference: UE COF Reference: CDS24009493) letter states that the foul water connection is feasible subject to upgrade works that will be funded by the Applicant. The Applicant will ensure that any connection will be under the consent of UE and subject to a connection offer. The Kilmore Quay WWTP is operated in accordance with relevant statutory approvals and therefore, there will be a 'neutral', 'imperceptible', 'long-term' impact on receiving water quality and WFD status of the Eastern Celtic Sea coastal waterbody associated with the discharge of foul water from the Proposed Development via the Kilmore Quay WWTP individually or in-combination with other developments detailed in Chapter 2 of this EIAR and within the wider County Wexford area. This impact is considered non-significant in the context of the EIA Directive.

Considering the design of the surface water drainage network in accordance with the principles and objectives of SuDS, the GDSDS and Wexford County Council to treat and attenuate water prior to discharging offsite, it is considered that there will be a 'neutral',

‘imperceptible’, and ‘long-term’ impact on to the quality of receiving hydrological receptors including the drainage channel along the southeast boundary of the site and the receiving Irish Sea (i.e., Eastern Celtic Sea coastal waterbody) individually or in-combination with other developments detailed in Chapter 2 of this EIAR and within the wider County Wexford area. This impact is considered non-significant in the context of the EIA Directive.

7.5.3.3 Flooding

The SSFRA (DNV, 2025d) identifies that the site is located within Flood Zone C where the probability of flooding is low. The SSFRA (DNV, 2025d) concludes that the Proposed Development is appropriate for the site. Therefore, the Proposed Development is not expected to result in an adverse impact on the hydrological regime of the areas or increase flood risk elsewhere. It is considered that there will be a ‘neutral’, ‘imperceptible’ and ‘long-term’ cumulative impact on the receiving surface water environment in terms of flood risk associated with the Proposed Development and considered offsite developments detailed in Chapter 2 of this EIAR. This impact is considered non-significant in the context of the EIA Directive.

There are no other potential cumulative impacts associated with the Proposed Development.

7.5.4 “Do Nothing” Impact

In the “Do Nothing” Scenario, it is assumed that the Proposed Development does not proceed. In this scenario it is considered that the site would remain as undeveloped lands in the immediate term., however, the potential for future development remains. As such, even in the absence of the Proposed Development, it is considered that the types of construction and operational phase impacts assessed in this chapter of the EIAR may still occur in the future, albeit under a different development proposal. In this scenario, the current assessment remains relevant as an indication of the likely nature and scale of impacts associated with the development on the site.

7.6 Avoidance, Remedial & Mitigation Measures

The mitigation measures, as outlined below, will ensure that there will be no significant impact on the receiving groundwater and surface water environment. Hence, the Proposed Development will not have any impact on compliance with the EU Water Framework Directive, European Communities (Environmental Objectives) Surface Water Regulations, 2009 (S.I. 272 of 2009, as amended 2012 (S.I. No 327 of 2012), and the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010), as amended 2012 (S.I. 149 of 2012) and 2016 (S.I. No. 366 of 2016).

7.6.1 Construction Phase

An Outline Construction Environmental Management Plan (OCEMP) has been prepared by DNV (DNV, 2025b; submitted with the planning application under separate cover). The OCEMP will address construction environmental management during the construction phase of the Proposed Development. Following appointment, the contractor will be required to further develop the OCEMP and prepare and project specific CEMP, for approval by Wexford County Council prior to any works commencing. The project specific CEMP will provide detailed construction phasing, and methods to manage and prevent any potential emissions to ground

and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532', CIRIA, 2001). The project specific CEMP will take cognisance of measures outlined in the EIAR and the OCEMP submitted with the planning application.

The project specific CEMP will be implemented for the duration of the construction phase, covering mitigation works that will be adopted as part of the construction works for the Proposed Development. The measures will address the main activities of potential impact which include:

- Control and Management of water and surface runoff.
- Control and management of shallow groundwater during excavation and dewatering
- Management and control of soil and materials.
- Control of Management of works near water courses.
- Control of Management of materials from off-site sources.
- Control and management of piling.
- Appropriate fuel and Chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.

The construction works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good construction management practices will minimise the risk of pollution from construction activities at the site including where appropriate but not limited to:

- Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- CIRIA, 2015. Environmental Good Practice on Site (C741).
- Enterprise Ireland Oil Storage Guidelines (BPGCS005).
- Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.
- CIRIA, 2007. The SuDS Manual (C697).
- UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG).
- CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648).
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters

7.6.1.1 Control and Management of Water and Surface Runoff

There will be no direct discharge to groundwater or surface water during the construction phase of the Proposed Development.

All runoff from the site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to onsite settlement ponds to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be managed in accordance with best practice

standards (i.e., CIRIA C750), the OCEMP (DNV, 2025), the project specific CEMP and regulatory consents to minimise the potential impact on the local groundwater flow regime within the soil and bedrock.

All water leaving the site during construction will be desilted using standard techniques (e.g., settlement ponds, silt busters, silt socks etc.). Where required, local silt traps will be established onsite, these will be reviewed and moved regularly as necessary. Where required, the water will also be directed through a hydrocarbon interceptor prior to discharge from the site.

A buffer zone of 5m from the adjacent open drainage channel along the southeast boundary of the site. Furthermore, a 100m coastal buffer along the southern boundary of the Site, within which no building development is to occur with the exception of small path and a SuDS attenuation area / wetland habitat creation (for waterbirds) which will be situated within this buffer zone. Site traffic will only be permitted within this buffer to facilitate the construction of pedestrian walkways and the proposed SuDS attenuation area. Buffer zones will be established by erecting a temporary fence along the length of the site in that area with cognisance to Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (IFI, 2016). Silt fencing will comprise a silt curtain to prevent surface water runoff to the water course and will be retained in place for the duration of the construction phase until the development is complete. The project specific CEMP (which will be prepared by the main contractor in advance of construction works commencing) will identify how this silt curtain is to be installed and maintained throughout the construction phase.

All works carried out during the construction of the outfall to the open drainage channel along the southeast boundary of the site will adhere to the Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (IFI, 2016) and CIRIA C648 Control of Water Pollution from Linear Construction Projects (CIRIA, 2006). The following measures will be adhered to during the construction of the outfall.

- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch onsite.
- Prior to excavation of the drainage channel, the fenced exclusion zone will be set up to a maximum width of 5m.
- Silt traps will be staggered along the length of the drainage ditch, and not only at the lower reaches towards its outflow. Silt trap design can vary, from depressions added to the watercourse bed, to log sections laid lengthways into the drain, to the use of geotextile barriers. Once silt traps and silt fences become functional, they will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout operations.
- The outfall headwall is to be constructed from precast concrete to allow its construction offsite, while hoisting of the structure will be carried out from the western side in line with the proposed underground drainage pipework.
- Once excavations for the outfall trench are complete, the base and sides of the trench will be seeded with a native wetland wild flora seed mix which will be allowed to establish for a 6-8 week period prior to the outfall trench becoming operational and receiving surface waters from the Proposed Development. This is a grass mix with some wildflower elements which will aid the overall biodiversity approach/green

infrastructure and provide “green” erosion prevention of the outfall channel and prevent siltation of the drainage channel and ultimately the Irish Sea.

Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. Existing surface water drainage located along public roads (i.e., Bóthar Maol, the R172 Blackrock Road and Finnabair Crescent) will be protected for the duration of the works. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from Wexford County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990 for discharges to surface water.

There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works. Where necessary, surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor. Furthermore, the appointed contractor will ensure that machinery does not enter the groundwater if encountered during construction.

A regular review of weather forecasts of heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden runoff is higher during these weather conditions, no work will be carried out during such periods where possible.

7.6.1.2 Drainage Construction and Commissioning

All new infrastructure will be installed and constructed to the relevant codes of practice and guidelines.

All surface water infrastructure will be pressure tested by an approved method during the construction phase in accordance with Local Authority Requirements.

Connections to the public network will be carried out to the approval and / or under the supervision of the Local Authority prior to commissioning.

All new sewers will be inspected by CCTV survey post construction, to identify any possible physical defects for rectification prior to operational phase.

In respect of surface water networks, during the construction period the system and traps are to be inspected a minimum 4 times a year as the accumulation of silt is prevalent during this period. The number of inspections should be pro-active and if silting is found to be excessive in any of the apparatus the number of inspections should be raised accordingly and continually monitored and reviewed.

Pipe ends associated with the surface water network should be blocked/capped off with proprietary fittings until connected to the completed drainage system.

7.6.1.3 Handling of Fuels and Hazardous Materials

Fuelling and lubrication of equipment will be carried out in a designated area of the site away from any watercourses and drains (where not possible to carry out such activities offsite).

Any diesel, fuel or hydraulic oils stored onsite will be stored in designated areas, these areas will be bunded and located away from surface water drainage and features. It is noted that the use of cleaning chemicals will be kept to a minimum. There will be clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage. Adequate security will be provided by the appointed contractor to potential pollutants against vandalism.

Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

All fuel storage areas will be bunded in the site compound and will be clearly marked. The bund will be at least 50m away from drains, excavations, and other locations where it may cause contamination. Fuel will then be transported from the compound to the plant and equipment in mobile units based on need, a dedicated fuel fill point will be set up onsite with all plant brought to this point for filling.

Spill kits will be kept in these areas. Site crew will be trained in appropriate refuelling techniques. Equipment will not be left unattended during refuelling. Refuelling of construction machinery shall be undertaken in designated areas away from surface water drainage in order to minimise potential contamination of the water environment. Spill kits shall be kept in these areas in the event of spillages.

7.6.1.4 Concrete Works

The use of cementitious grout during the construction of footpaths and other site infrastructure will be required. Any potential impact to water quality will be avoided through the use of appropriate design and methods that will be implemented by the appointed contractor and in accordance with the project specific CEMP (which will be developed by the appointed contractor in advance of construction works commencing) and relevant industry standards.

Where possible precast concrete will be used for concrete works. However, where cast-in-place concrete is required (i.e., foundations, footpaths, headwalls), all work will be carried out to avoid any contamination of the receiving water environment. All work must be carried out in dry conditions and be effectively isolated from any groundwater and surface water.

The following mitigation measures will be implemented.

- Any in-situ concrete work to be lined and areas bunded (where possible) to stop any accidental spillage.
- No direct discharges made to waters where there is potential for cement or residues in the discharge.
- Designated impermeable cement washout areas must be provided and which are to drain into a designated settlement tank onsite pending removal offsite.
- Concrete batching will take place offsite or in a designed area with an impermeable surface.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.

- Concrete wash down and wash out of concrete trucks will take place offsite or in an appropriate facility and any excess concrete is not to be disposed of onsite.

Weathering forecasting should be utilised to plan dry days for concrete pours. Prior to pours, the designated area of the site shall be free of standing water and plastic covers will be ready in the case of sudden rainfall event.

7.6.1.5 Piling

The project specific CEMP (which will be prepared by the main contractor in advance of construction works commencing) will identify how the proposed piling methodology will minimise the potential for the introduction of any temporary conduit between any potential sources of contamination at the ground surface and underlying groundwater. The piling method will include procedures to ensure any potential impact to water quality is prevented, including preventing surface runoff or other piling/drilling fluids from entering the pile bores and surrounding formation. Where there is a requirement to use lubricants, drilling fluids or additives, the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

7.6.1.6 Emergency Procedures

Emergency procedures will be developed by the appointed contractor in advance of works commencing and spillage kits will be available onsite including in vehicles operating onsite. Construction staff will be familiar with emergency procedures through induction, toolbox talks, and method statements to ensure that all staff members are well-prepared and knowledgeable about the necessary steps to take in the event of an emergency (e.g., accidental fuel spillages). Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed offsite. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All construction works staff onsite will be fully trained on the use of equipment.

This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

7.6.1.7 Stockpile Management

Stockpiled materials pending removal offsite or reuse onsite will be located in the designated areas only and there will be no storage of materials within 20m of the onsite drainage channel

located along the southeast boundary of the site. Stockpiles will be located, arranged, and managed so that the risk to the receiving water from silt and contamination is minimised.

Stockpiles and runoff areas following clearance will have suitable silt barriers to prevent runoff of fines offsite. Stockpiles of earthwork and site clearance materials will be located on impermeable surface and covered with appropriate measures.

7.6.1.8 Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations through either a temporary connection to mains foul sewer (subject to receipt of the relevant consent from UE) or by tankering of waste offsite by an appropriately authorised contractor.

7.6.1.9 Wheelwash

Public roads outside the site will be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary. Trucks entering / leaving the site will pass through a wheel washing system. The wheels of all lorries will be cleaned prior to leaving the site so that traffic leaving the site compound will not generate dust or cause the build-up of aggregates and fine material in the public domain. This will be carried out in a dedicated wash down zone with dedicated site personnel. The correct use and management of these will be undertaken by the appointed contractor to ensure that there is no harm or impact to the receiving water environment.

Discharge from any vehicle wheel wash area is to be directed to an onsite settlement tank for discharge to the UE foul network (subject to receipt of the relevant consent from UE) or by tankering of waste offsite by an appropriately authorised contractor. Any debris or sediment within the wheel-wash will be emptied periodically for disposal offsite at a licenced facility.

7.6.1.10 Removal of Surplus Materials and Waste

All surplus materials and waste that will require removal offsite will be managed in accordance with all statutory obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27).

7.6.2 Operational Phase

It is considered that the design of the Proposed Development is in line with the objectives of the Water Framework Directive (2000/60/EC as amended) (WFD) to prevent or limit any potential impact on water quality of the receiving environment.

Water supply for the Proposed Development will be from an onsite supply served by 2 no. proposed groundwater wells (refer to Drawing No. 23246-160 to 23246-165 (DRA, 2025) submitted with the application under separate cover). Well-head protection will be constructed in accordance with the IGI Guidelines (IGI, 2007).

As documented in the Hydrogeological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the required groundwater supply for the Proposed Development of approximately 241m³/day (approximately 10m³/hour) could be sustainably derived from the

underlying bedrock aquifer. However, the potential for seasonal variations in groundwater quality and capacity will be considered in the detailed design of the supply wells.

The ZOC and outer source protection zone for PW1 based on the required groundwater supply of 10m³/hour plus 50% contingency (i.e. 361.5m³/day or approximately 15m³/hr) as per the Groundwater Protection Schemes guidelines (DoEHLG/EPA/GSI, 1999) was calculated to be 422,110.43m² (42.21ha). A groundwater source protection plan, taking account of the identified ZOC, will be implemented at the Proposed Development to ensure that there will be no impacts to groundwater.

Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be incorporated into the overall management strategy for the Proposed Development. This will ensure that there are no impacts on water quality and quantity (flow regime) during the operational phase of the Proposed Development.

With regard to the proposed discharge of treated operational surface water from the Proposed Development to the open drainage channel located along the southeast boundary of the site and ultimately Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody), the potential for surface water generated at the Proposed Development to cause significant effects to downstream sensitivities during the operational phase is considered negligible due in part to the SuDS measures and petrol interceptor incorporated in the fundamental scheme design.

7.6.3 “Worst Case” Scenario

During the construction phase and operational phase of the Proposed Development, in a worst-case scenario, such as a fuel spill or accidental unmitigated release of other hazardous compounds occurring, and in the absence of any mitigation measures it is considered that there would be a potential ‘negative’, ‘moderate to significant’ and ‘long term’ impact on the quality of the underlying aquifers. However, taking account of standard management practices and mitigation measures any environmental harm can be avoided and it is considered that there would be a ‘neutral’, ‘imperceptible’ and ‘short-term’ impact on the receiving environment.

7.7 Water Framework Directive

The EU Water Framework Directive (2000/60/EC), as amended by Directives 2008/105/EC, 2013/39/EU, and 2014/101/EU (“WFD”), was established to ensure the protection and enhancement of the water environment across all EU member states. In Ireland, the WFD has been transposed through the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003).

The WFD requires that all member states protect and improve water quality in all waters, with the objective of achieving at least ‘good’ status by 2027. It applies to all surface waters (including rivers, lakes, reservoirs, streams, and canals), groundwater, transitional (estuarine), and coastal waters. Any new development must ensure that this objective is not compromised.

A risk-based assessment was undertaken to evaluate the potential impact of the Proposed Development on water quality within the surrounding hydrological environment. This assessment considered both the baseline conditions and the relevant legislative framework, including the WFD and associated national regulations.

7.7.1 Waterbody Status

The risk-based assessment focused on the following waterbodies that have a potential hydraulic connection to the site:

- Bridgetown GWB
- Eastern Celtic Sea Coastal Waterbody

The WFD status for groundwater and coastal water bodies outlined above as recorded by the EPA (EPA, 2025) in accordance with European Communities (Water Policy) Regulations 2003 (SI no. 722/2003) are provided in Table 7-4 and Figure 7-11.

7.7.2 Assessment

The findings of the risk-based assessment identified that in the absence of any mitigation and avoidance measures there could be a potential effect on the water quality (WFD Status) within receiving water bodies associated with the Proposed Development, specifically within the Bridgetown GWB, and downstream waterbodies (i.e., the Eastern Celtic Sea Coastal Waterbody). The potential impact on WFD status for water bodies was assessed based on the worst-case scenario, taking account of the baseline hydrological and hydrogeological conditions at the subject site and the WFD status assigned by the EPA (EPA, 2025)

To address potential risks, the Proposed Development incorporates design avoidance and mitigation measures as outlined in this chapter of the EIAR, including the implementation of a project specific CEMP during the construction phase and the incorporation of SuDS in the design of the Proposed Development. These measures will serve to mitigate any potential impact on the receiving groundwater and surface water environment. Hence, the Proposed Development will not have any effect on compliance with the EU Water Framework Directive

7.7.3 Conclusion

Taking into account the embedded design and mitigation measures, the Proposed Development:

- Will not result in deterioration of the status of hydrologically and hydrogeologically connected waterbodies.
- Will not compromise the objective of achieving 'good' surface water status or good ecological potential.
- Will remain compliant with the WFD and relevant national legislation.

There will be no adverse effect on the existing WFD status of hydraulically connected waterbodies associated with the Proposed Development including the Bridgetown GWB, and downstream waterbodies (i.e., the Eastern Celtic Sea Coastal Waterbody).

Overall, there will be a 'neutral to positive', 'slight to moderate' and 'long-term' impact on the WFD Status and is considered non-significant in the context of the EIA Directive.

7.8 Residual Impacts

Residual impacts are defined as 'effects that are predicted to remain after all assessments and mitigation measures'. They are the remaining 'environmental costs' of a project and are

the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts.

The predicted effects of the construction and operational phases of the Proposed Development are described in Table 7-6 in terms of quality, significance, extent, likelihood, and duration. The relevant mitigation measures are detailed, and the residual effects are determined which take account of the avoidance, remedial and mitigation measures.

Overall, considering the avoidance, remedial and mitigation measures detailed in Section 7.6, the residual effects regarding the construction and operational phases of the Proposed Development are considered 'imperceptible' to the receiving water environment (hydrology and hydrogeology) and considered non-significant in the context of the EIA Directive.

There will be no effect to the existing WFD Status of water bodies associated with the Proposed Development including the Bridgetown GWB, and downstream waterbodies (i.e., the Eastern Celtic Sea Coastal Waterbody as a result of the Proposed Development taking account of design avoidance and mitigation measures where required.

Table 7-6. Residual Impacts

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Construction Phase										
Dewatering Works	Hydrogeological Flow Regime	There may be a requirement for localised dewatering or sump pumping on a temporary basis during excavation works. However, it is considered that the extent of any impact will be localised to the immediate area surrounding the excavations.	Negative	Slight (non-significant)	Local	Likely	Temporary	Direct	Water pumped from excavations will be managed in accordance with best practice standards (i.e., CIRIA C750), the project specific CEMP and regulatory consents.	Imperceptible (non-significant)
Groundwater Supply	Hydrogeological Flow Regime	There may be a minimum requirement for an onsite groundwater supply for the construction phase (i.e., for dust suppression etc.)	Negative	Imperceptible (non-significant)	Local	Likely	Temporary	Direct	None required. A sustained pumping rate of approximately 10m ³ /hour can be derived from the underlying bedrock aquifer (DNV, 2025a).	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Introduction of Contaminants to Open Excavations	Groundwater and Receiving Surface Water Quality and WFD status	During excavation, there is a risk to the underlying bedrock aquifer due to any accidental release of fuels or other contaminates to exposed granular subsoils or bedrock creating a direct pathway to the bedrock aquifer.	Negative	Significant (significant)	Regional	Unlikely	Long-term	Direct / Worst Case	Emergency procedures will be developed by the appointed Contractor in advance of works commencing and spillage kits will be available on-site including in vehicles operating on- site. Construction staff will be familiar with emergency procedures for in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential impacts in	Imperceptible (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									accordance with industry standards and legislative requirements.	
Discharge of Water (Groundwater / Surface Water Runoff) to Sewer, Watercourses or Groundwater	Groundwater and Receiving Surface Water Quality and WFD status	Water will be discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor), to sewer, watercourses or groundwater in accordance with the necessary discharge licences issued by UE or WCC.	Neutral	Imperceptible (non-significant)	Local	Possible	Temporary	Direct	There will be no unauthorised discharge of water (groundwater / surface water runoff) to sewer, watercourses or groundwater	Imperceptible (non-significant)
Discharge of Entrained Sediment or Other Contaminants in Surface Runoff	Receiving Surface Water Quality and WFD status	There is a potential for release of suspended sediments entrained in surface runoff from groundworks	Negative	Slight to Moderate (non-significant)	Local	Possible	Short Term	Direct	Implementation of appropriate procedures in accordance with the project-specific CEMP, including silt fences and	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
(Overland Flow)		or indirectly tracked on vehicles / machinery entering the open drainage channel along the southeast boundary of the site of located at the eastern boundary of the site and / or directly to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).							buffer zones will be implemented to prevent fugitive runoff.	
Piling	Groundwater Quality and WFD status	Piling during the construction phase of the Proposed Development may potentially create pathways for contaminants such as grout or other materials to enter underlying groundwater	Negative	Moderate to Significant (significant)	Local	Possible	Medium Term	Direct	Implementation of appropriate procedures in accordance with the project- specific CEMP including preventing surface runoff or other piling/drilling fluids from	Imperceptible (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									entering the pile bores and surrounding formation.	
Removal of Surplus Materials and Waste	Groundwater Quality and WFD status at the destination site.	In the unlikely event that surplus soil or other waste materials are directed to an unauthorised location there is potential to impact on the receiving hydrogeology at that location	Negative	Slight to Moderate (non- significant)	Regional	Unlikely	Medium Term	Direct	All surplus materials and waste that will require removal offsite will be managed in accordance with all statutory obligations including where appropriate re- use as by- product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27).	Imperceptible (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Introduction of Cementitious Materials to Groundwater	Groundwater Quality and WFD status	Potential release of cementitious material during construction works for foundations, pavements and infrastructure.	Negative	Moderate to Significant (significant)	Local	Worst-case	Medium Term	Direct / Worst Case	Where cast-in- place concrete is required, all work will be carried out to avoid any contamination of the receiving water environment through the use of appropriate design and methods implemented by the appointed Contractor and in accordance with the project specific CEMP and relevant industry standards.	Imperceptible (non- significant)
Potential Uncontrolled Release of Hazardous Materials Including, Fuels, Oils	Groundwater and Receiving Surface Water Quality and WFD status	Potential for uncontrolled release of deleterious materials to the underlying groundwater and	Negative	Moderate to Significant (significant)	Local	Worst-case	Long Term	Direct / Worst Case	Refuelling of plant and storage of any deleterious materials including fuels will be	Imperceptible (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
and Other Materials		surface water environment with potential impact on the receiving water quality / WFD Status of the Bridgetown GWB and receiving Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).							undertaken in accordance with the requirements and procedures outlined in the project specific CEMP.	
Waste Water Generated Onsite	Receiving Surface Water Quality and WFD status	Foul water generated from welfare facilities onsite will be managed and discharged offsite through a temporary connection to mains foul sewer (subject to receipt of the relevant consent from UE) or by tankering offsite by an appropriately	Neutral	Imperceptible	Regional	Unlikely	Temporary	In-direct	All waste from welfare facilities will be managed in accordance with the relevant statutory obligations.	Imperceptible (non- significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
		authorised contractor.								
Operational Phase										
Construction of the Proposed Development	Hydrogeological Regime	The Proposed Development will result in an increase of hardstanding on the site resulting in a potential impact on the on the hydrogeological flow regime within a very localised zone of the aquifer.	Negative	Imperceptible (non-significant)	Local	Likely	Long Term	Direct	None required. Storm water from the proposed development will infiltrate to ground up to the 1 in 10year storm event. Furthermore, the proposed SuDS include unlined elements allowing for infiltration to ground. This combined with the close proximity to the coast means any effect on groundwater flow will be highly localised within the site.	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
Water Supply	Hydrogeological Regime	The water supply for the Proposed Development will be derived from an onsite supply served by 2 no. groundwater wells.	Negative	Imperceptible (non-significant)	Regional	Likely	Long Term	Direct / Cumulative	None required. The underlying aquifer can sustainably meet the supply requirement of 10m3/day (DNV, 2025a). The potential for seasonal variations in groundwater quality and capacity will be considered in the detailed design of the supply wells.	Imperceptible (non-significant)
Flooding	Hydrological Regime	The SSFRA (DNV, 2025d) identifies that the site is located within Flood Zone C where the probability of flooding is low.	Neutral	Imperceptible (non-significant)	Local	Likely	Long Term	Direct / Cumulative	None required. The Civil Engineering Planning Report (DRA, 2025) notes the surface water drainage at the Proposed Development has been designed in	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									accordance with SuDS and satisfies the requirements of the Greater Dublin Strategic Drainage Study (GSDSDS)	
Management of Surface Water Runoff	Receiving Surface Water Quality and WFD status	For events great than the 1 in 10year storm event, surface water runoff from the Proposed Development will discharge to the open drainage channel along the south eastern boundary of the site and ultimately the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).	Neutral	Imperceptible (non-significant)	Local	Likely	Long Term	Direct / Cumulative	All surface water runoff will be treated and attenuated will be treated and attenuated in accordance with the principals and objectives of SuDS (i.e., Bioretention systems, rain gardens, swales, filter strips and attenuation tanks).	Imperceptible (non-significant)
Foul Water	Receiving Surface Water Quality and WFD status	Foul water from the Proposed Development will discharge via the Kilmore Quay	Neutral	Imperceptible (non-significant)	Regional	Likely	Long Term	Direct / Cumulative	The UE CoF letter (UE COF Reference: CDS24009493) states that the	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
		WWTP (EPA Licence No. D0232-01) to the Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody).							wastewater connection is feasible subject to upgrades which will be funded by the Applicant. The Applicant will ensure that any connection will be under the consent of UE and subject to a connection offer.	
Back-up Mains Water Supply	Water Supply Network and Water Resources	A supplementary back-up mains supply from UE feeding into a drop tank to prevent backflow into the mains water system will be provided for the Proposed Development.	Neutral	Imperceptible (non-significant)	Regional	Likely	Long Term	Direct / Cumulative	The UE CoF (UE CoF Reference: UE COF Reference: CDS24009493) letter states that the water supply connection is feasible subject to upgrade works that will be funded by the Applicant. The Applicant will ensure that	Imperceptible (non-significant)

Activity	Attribute	Predicted Impact	Quality	Significance (Significance in the Context of EIA Directive)	Extent	Probability	Duration	Type	Mitigation	Residual Impact (Significance in the Context of EIA Directive)
									any connection will be under the consent of UE and subject to a connection offer.	

7.9 Monitoring

7.9.1 Construction Phase

During the demolition and construction phase of the Proposed Development, the following monitoring measures will be considered:

- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch onsite.
- Inspections will be undertaken during excavations and other groundworks to ensure that measures are protective of water quality outlined in this EIAR and the project specific CEMP are fully implemented and effective.
- All surface water control measures including silt traps, silt fences and settlement ponds will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout the construction phase.
- Discharges to surface water / foul sewers will be monitored where required in accordance with statutory consents (i.e., discharge license). Where required, water pumped from excavations will be treated and pumped to a holding area, where it will be sampled and tested by the contractor before discharge. Upon receiving analysis results and screening against required consent limits, the contractor will arrange for appropriate disposal. Groundwater will be treated and discharged to the foul sewer in accordance with the temporary discharge consent.
- Monitoring prior to, during and post headwall construction works of the outfall to open drainage channel along the southeast boundary of the site will be undertaken to ensure minimum disturbance of water quality in the receiving environment. The monitoring programme will include daily checks, weekly inspections and monthly audits. The programme of water quality monitoring and locations of sampling will be agreed with the local authority in advance of construction works commencing.
- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.

7.9.2 Operational Phase

The water supply for the Proposed Development will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the underlying aquifer can sustainably meet the supply requirement of 10m³/day for the Proposed Development. Furthermore, the results for samples collected (baseline and during pumping) at the existing supply well (PW1) meet the applicable drinking water quality assessment criteria (DW PVs) for the parameters analysed. However, further monitoring and assessment of the potential for seasonal variations in groundwater quality and capacity will be further considered in the detailed design of the supply wells.

Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be undertaken throughout the lifetime of the operational phase of the Proposed Development.

7.10 Interactions

7.10.1 Populations and Human Health

An assessment of the potential impacts of the Proposed Development on human health is included in Chapter 4 of this EIAR.

No public health issues associated with the water (hydrology and hydrogeology) conditions at the site have been identified for the construction phase or operational phase of the Proposed Development.

Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase that will be protective of site workers.

During the operational phase of the Proposed Development the water supply will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), there are no human health issues for site workers associated with groundwater quality beneath the site. However, the potential for seasonal variations in groundwater quality will be considered in the detailed design of the supply wells.

7.10.2 Biodiversity

An assessment of the potential impacts of the Proposed Development on the biodiversity of the site, with emphasis on habitats, flora and fauna which may be impacted, as is included in Chapter 8 - Biodiversity of this EIAR, such as potential pollution of waterbodies impacting on flora and fauna in the absence of mitigation measures.

Chapter 5 of this EIAR addresses impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.

7.10.3 Land, Soils and Geology

An assessment of the potential impact of the Proposed Development on the existing land, soils and geological environment during the construction phase and operational of the Proposed Development is set out in Chapter 6 of this EIAR. In the absence of avoidance and mitigation measures, there is a potential for sediments from excavated soils entering the drainage network and tracking downstream during the construction phase.

7.10.4 Material Assets – Utilities

An assessment of the potential impact of the Proposed Development on the material assets including built services and infrastructure has been set out in Chapter 12 of this EIAR.

During the construction phase of the Proposed Development, discharges of water to the public foul sewer will be in accordance with the necessary discharge licence issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations.

During the operational phase of the Proposed Development the water supply will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological

Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the underlying aquifer can sustainably meet the supply requirement of 10m³/day for the Proposed Development. However, the further monitoring and assessment of the potential for seasonal variations in groundwater quality and capacity will be further considered in the detailed design of the supply wells.

In addition, during the operation phase of the Proposed Development, any discharges to the public foul sewer and supplementary water supply to the Proposed Development will be under consent from UE.

7.11 Difficulties Encountered When Compiling

There were no difficulties were encountered in the preparation of this chapter of the EIAR.

7.12 References

Construction Industry Research and Information Association, 2015. Environmental good practice on site guide (CIRIA -C741).

Construction Industry Research and Information Association, 2001. Control of water pollution from construction sites – guide to good practice, (CIRIA 532).

Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.

Department of the Environment, Heritage and Local Government, Environmental Protection Agency and Geological Survey of Ireland, 1999. Groundwater Protection Schemes (Groundwater Protection Schemes, 1999).

DRA Consulting Engineers, 2025. Civil Engineering Planning Report.

DNV, 2025a. Hydrogeological Risk Assessment.

DNV, 2025b. Outline Construction Environmental Management Plan.

DNV, 2025c. Outline Resource and Waste Management Plan.

DNV, 2025d. Site Specific Flood Risk Assessment.

DNV, 2025e. Appropriate Assessment Screening and Natura Impact Statement Report.

Enterprise Ireland. Best Practice Guide BPGCS005. Oil Storage Guidelines.

Environmental Protection Agency, 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.

Environmental Protection Agency, 2025. EPA Envision Maps. <https://gis.epa.ie/EPAMaps/Water>. Consulted on 18/06/2025.

Geological Society of Ireland, 2025. GSI webmapping, 2023. <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>. Consulted on 18/06/2025.

Geological Survey of Ireland, 2017. A Description of Irish Aquifer Categories.

Geological Survey of Ireland, 2004. Groundwater Body Reports, Bridgetown GWB: Summary of Initial Characterisation.

Inland Fisheries Ireland, 2016. Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Met Éireann, 2025. Barry Coonan, Mary Curley, Ciara Ryan 'Long-term rainfall averages for Ireland 1991-2020', Climatological Note, No.22, 2024.

National Parks and Wildlife Services (NPWS) webmapping 2025. <https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba>. Consulted on 18/06/2025.

Ordnance Survey Ireland, 2025. Ordnance Survey Ireland webmapping <http://map.geohive.ie/mapviewer.html>. Consulted on 18/06/2025.

Office of Public Works, 2025. <http://www.floodinfo.ie/map/floodmaps/>. Consulted on 18/06/2025.

Teagasc, 2025 webmapping. <http://gis.teagasc.ie/soils/map.php>. Consulted on 18/06/2025.

Uisce Eireann, 2025. Kilmore Quay WWTP (EPA Licence No. D0232-01) Annual Environmental Report 2023.

Water Framework Directive, 2025. Water Framework Directive web mapping - http://watermaps.wfdireland.ie/NsShare_Web/. Consulted on 18/06/2025.