Fingal Development Plan 2023-2029

Strategic Environmental Assessment (SEA) Non-Technical Summary

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Environmental Assessment **Built Environment**

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1 Non-Technical Summary (NTS)

1.1 Introduction

This is the Non-technical Summary (NTS) of the Strategic Environmental Assessment (SEA) Environmental Report for the Fingal Development Plan 2023-2029 (hereafter the 'Plan').

The Fingal Development Plan 2023-2029 is a strategic document setting the vision and direction for the future development of Fingal for the benefit of all its citizens up to 2029, which will shape the future development of the county and will identify zones where different land uses are considered to be appropriate.

The preparation of the Plan is required to undergo a Strategic Environmental Assessment (SEA), including the preparation of an SEA Environmental Report, in accordance with Directive 2001/42/EC (known as the 'SEA Directive') and associated implementing national legislation on the Assessment of the Effects of Certain Plans and Programmes on the Environment[1].

The purpose of the Environmental Report is to evaluate the *likely environmental effects* of the Plan and the alternatives, and to have their significance evaluated with regard to the environmental baseline. This will provide stakeholders and the public with a clear understanding of the likely environmental consequences of implementing the Plan.

The preparing of the Non-Technical Summary (NTS) (this report) and the Strategic Environmental Assessment (SEA) has been undertaken by Brady Shipman Martin, Environmental, Landscape and Planning Consultants on behalf of Fingal County Council. The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan, including material amendments.

1.1.1 What is included in the SEA Environmental Report?

- A description of the environment and the key environmental issues.
- A description and assessment of alternatives for the Plan.
- An assessment of the provisions of the Plan
- An assessment of the proposed amendments, including material amendments.

[1] EC (2001). DIRECTIVE 2001/42/EC

- Mitigation measures, which will avoid / reduce the environmental effects of implementing the Plan, and the material amendments and will contribute towards compliance with important environmental protection legislation.
- Monitoring programme for review of environmental performance of implementation of adopted Plan.

2 Strategic Environmental Assessment (SEA) Process

2.1 What is SEA?

Strategic Environmental Assessment (SEA) is the process by which environmental considerations are required to be fully integrated into the preparation of plans and programmes prior to their final adoption. The objectives of SEA are to provide for a high level of protection of the environment and to promote sustainable development[2].

SEA enables the planning authority to direct development towards robust, well-serviced and connected areas in the County, thereby facilitating the general avoidance of incompatible areas in the most sensitive, least well-serviced and least well-connected areas.

SEA provides greater certainty to the public and to developers. Plans are more likely to be adopted without delays or challenges and planning applications are more likely to be granted permission.

2.2 Steps in the SEA Process

Table 2.1 highlights the four key stages in the SEA process and the progress made to date.

Table 2.1: Key Stages in SEA

Stage	Description	Status
1. Screening	Screening will determine if SEA is required.	Completed ✓
2. Scoping	Determines the spatial and temporal scope of the SEA in consultation with the designated statutory consultees.	Completed ✓
3. Environmental Report	Formal and transparent assessment of the likely significant impacts on the environment due to implementation of a Plan / Programme including all reasonable alternatives. The output from this stage is an Environmental Report which is required to go on public display along with the draft Plan / Programme.	Completed ✓
4. SEA Statement	Summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme.	Completed ✓

[2] Environmental Protection Agency (EPA) (2021). *Strategic Environmental Assessment.*

Stage	Description	Status
5. SEA Monitoring	Monitoring of and reporting on the environmental effects of implementing the Plan	Current Stage

2.3 Scoping (Stage 2)

The Scoping Stage (Stage 2) ensures that the SEA is focused on the relevant environmental issues and examines issues at the appropriate level of detail. Scoping also includes consultation with the Environmental Authorities, and allows for the incorporation of the views of the Environmental Authorities within the Draft Plan / Programme and the SEA Environmental Report.

2.4 SEA Environmental Report (Stage 3)

The SEA Environmental Report (Stage 3) and is the main assessment and written output of the SEA process. Consultation submissions received the SEA Scoping Stage (Stage 2), are considered in the Plan and the environmental assessment process.

The SEA Environmental Report predicts and evaluates the *likely significant effects* of the Plan and the alternatives. The Environmental Report provides FCC, stakeholders and the public with a clear understanding of the likely environmental consequences of implementing the Plan. The SEA Environmental Report considers all of the following in accordance with the requirements of the SEA Directive:

1. Biodiversity (Flora & Fauna);
2. Population & Human Health;
3. Soil and Geology;
4. Water Quality;
5. Air, Noise and Climate;
6. Landscape;
7. Material Assets;
8. Cultural Heritage; and
9. Interaction and Cumulative Impacts.

Table 2.2 summarises the content of the SEA Environmental Report. In the first instance, the SEA Environmental Report details the current condition of the environment of the study area under each

of the sub-headings set out above. The SEA Environmental Report also summarised the significant environmental pressures that may affect each of the environmental topics and the current (baseline) condition of the environment.

Table 2.2: Content of the SEA Environmental Report

No.	Chapter	Description
1	Introduction	A brief introduction to the SEA Environmental Report.
2	Fingal Development Plan 2023-2029	A description of the Development Plan and a summary of its key policies and objectives.
3	Methodology	The steps taken in preparation of the SEA, including the methods used and technical difficulties encountered.
4	Review of relevant Policies, Plans and Programmes	The relationship of the Plan to other relevant plans and programmes is highlighted.
5	Environmental Baseline	A description of the current environment of the area of the Plan is given, highlighting any existing environmental problems. This exercise results in a baseline against which the likely effects of implementing the Plan can be examined.
6	SEA Objectives, Targets & Indicators	A number of environmental protection objectives which have been established at international, EU or national Level and are relevant to the Plan are listed. Following this, a description of how the objectives and any environmental considerations have been taken into account in the preparation of the Plan is given.
7	Description of Alternatives	An assessment of the proposed alternatives to the Plan are considered and assessed and a preferred alternative selected.
8	SEA: Fingal Development Plan	An examination of the Plan policies and objectives in terms of their potential effects on the various environmental parameters.
9	Mitigation Measures	Should potentially significant effects be discovered, measures to avoid, reduce or offset these effects are proposed and integrated into the Plan.
10	Monitoring Programme	Proposals for monitoring the significant effects of the Plan on the environment are put forward. A number of indicators of change and targets are identified and existing monitoring arrangements are utilised.
11	Conclusion	A conclusion with regard to the overall potential impact on the environment resulting from the implementation of the Plan.

2.5 SEA Statement (Stage 4)

As the Plan comes into effect (Stage 4), a *SEA Statement* is provided alongside the final Fingal Development Plan 2023-2029, (together with a final SEA Environmental Report and Natura Impact Report (NIR)) setting out how the SEA and any consultation responses have influenced the preparation of the Development Plan.

The SEA Statement will also include the measures decided upon to *monitor the significant environmental effects* of implementing of the Plan.

2.6 Screening for Appropriate Assessment (AA)

A Screening Stage for '*Appropriate Assessment'* (AA) (Stage 1) was undertaken for the Plan. The need for Appropriate Assessment arises out of the Habitats Directive[3] (on the conservation of natural habitats and of wild fauna and flora), which requires that proposed plans and programmes[4] undergo a screening test for *likely or potential effects* on European Sites (also known as the Natura 2000 network) arising from their implementation.

The screening concluded that due to the types of development that could arise as a result of implementing the Development Plan, that significant effects could not be ruled out and that the Plan would need further assessment during its preparation.

Therefore, a Stage 2 Appropriate Assessment was required and a Natura Impact Report (NIR) has prepared in parallel with the preparation of the Plan and the SEA Environmental Report.

2.7 Screening for Strategic Flood Risk Assessment (SFRA)

A Strategic Flood Risk Assessment (SFRA) has been undertaken for the preparation of the Plan. The requirement for SFRA is provided under *'The Planning System and Flood Risk Management Guidelines for Planning Authorities'*.

The preparation of the Plan, Strategic Flood Risk Assessment, Strategic Environmental Assessment and Appropriate Assessment have taken place concurrently and the findings have informed both the making of the Plan and the SEA.

[3] 92/43/EEC
[4] including amendments or variations to Plans and programmes

2.8 Consultation

Fingal County Council gave notice of its intention to review the existing Development Plan (2017-2023) and to prepare a new Plan for the period 2023-2029 on 12 March 2021. A *Strategic Issues Paper* was prepared to help identify the issues relevant to the Fingal area.

Pre-draft public consultation was undertaken over an eight week period from 12 March 2021 to 12 May 2021 and written submissions or observations were invited with regard to the review of the current Plan and the preparation of the new Plan. This pre-Draft public consultation included:

- Webpage and Online Portal.
- Virtual Room for Public Consultation.
- Social Media (Twitter, Facebook and Instagram).
- Information Brochure - circulated to all households in the county.
- Printed Media - newspapers (Fingal Independent, Irish Independent, The Herald, Gazette and North Side People).
- Presentations to Elected Members.
- Consultation with Prescribed Bodies & others.
- Webinars on Development Plan webpage.
- Outdoor advertisements (bus shelters / stop advertisements).

A total of 551 no. submissions were received, in relation to the pre-draft Plan. These submissions were summarised in the Chief Executive's Report (2 July 2021) and informed the SEA Scoping with the Environmental Authorities and the preparation of the Draft Plan. A pre-Draft Plan was considered by the Elected Members of Fingal County Council and changes incorporated in to the Draft Plan, which was placed on public display from 24 February 2022 to the 12 May 2022. During the consultation period 1937 submissions and observations were received.

Submissions made on the Draft Plan and associated documents, including the SEA and AA documents, were reviewed, and a Chief Executive's Report (July 2022) on the submissions and observations was issued to the Elected Members for review. Following review of the CE's Report with the Elected Members, amendments, including material amendments, were agreed.

The proposed amendments, including material amendments were placed on public display together with updated versions of the SEA Environmental Report, Natura Impact Report (NIR) and SFRA from the 11 November 2022. Errata to the Proposed Material Alterations to the Draft Fingal Development Plan 2023-2029 were identified and published as a document '*Errata to the Proposed Material Alterations to the Draft Fingal Development Plan 2023-2029.*' This 'Errata Document' was on display during the public consultation period for the Proposed Material Alterations to the Draft Fingal Development Plan 2023-2029 from 24 November 2022 and accordingly, the final date for submissions on the Proposed Material Alterations to the Draft Fingal Development Plan 2023-2029 was extended to 22 December 2022.

The Chief Executive prepared a report on the submissions received on the Proposed Material Alterations and the Environmental Report and Natura Impact Report and SFRA and submitted this to the Elected Members on 15 January 2023. Following consideration of the CE Report as well as the material alterations at a number of Special Council Meetings in February 2023, the Elected Members adopted the Fingal Development Plan 2023-2029 on Wednesday 22nd February 2023.

In accordance with the provisions of the Planning and Development Act 2000 (as amended) the adopted Development Plan comes into effect on 5 April 2023.

2.9 SEA Scoping Consultation

A SEA Scoping Report was issued to the specified Environmental Authorities, which includes the EPA, various governmental departments and surrounding local authorities.

Observations or submissions, which informed the preparation of the Draft Plan and the SEA, were received from:

- The Environmental Protection Agency (EPA);
- Geological Survey, Ireland (GSI) - under the Department of the Environment, Climate and Communications (DECC);
- Department of Housing, Local Government and Heritage (Development Applications Unit);
- Meath County Council (MCC); and
- Waste Policy & Resource Efficiency – (Department of the Environment, Climate and Communications).

3 The Plan

3.1 Introduction

Fingal County Council has prepared the Fingal Development Plan 2023-2029. The Plan is a land use plan and overall strategy for the proper planning and sustainable development of the functional area of Fingal over a six-year period.

3.1.1 Geographical Area of the Plan

Fingal County is one of four Local Authority areas in the Dublin region. The Plan covers the administrative area of Fingal County, which is 452 square kilometres metres (sq.km) in extent, and includes 88km of coastline, which stretches from Howth Head north to Balbriggan. Fingal hosts a variety of landscapes, enjoys significant economic advantages and is the fastest growing county in Ireland.

Dublin International Airport is the country's primary airport serving both Dublin and the country, and is located within Fingal. Fingal is well served by air, rail and national roads and the county has one of the youngest and most diverse populations in the State. Fingal has experienced significant population and economic development since the adoption of the current Plan.

Fingal was the third most populous local authority in Ireland (after Dublin City and Cork County) with a total of 296,020 people in 2016 which increased to 329,218 persons in 2022. Between 2006 and 2016 the population in Fingal increased by 23.3% or by just over 56,000 people. There was an increase of 7.4% (22,029 persons) between 2011 and 2016 and an increase of 11% (33,198 persons) between 2016 and 2022. This was considerably higher than the national average growth rate of 3.8% between 2011 and 2016 and growth rate of 7.6% between 2016 and 2022. The population of Fingal is projected to increase to between 327,000 and 333,000 up to 2026.

3.2 Content of the Plan

The Plan is set out in a series of volumes and comprises a written statement that outlines the development policies and objectives for the Plan Area. The Written Statement is accompanied by maps, settlement plans, the SEA Environmental Report, a Natura Impact Report (NIR), a Strategic Flood Risk Assessment (SFRA) and other supporting appendices.

The preparation of the Plan has regard to key recent development trends and national, regional and local policy developments, in particular, the *National Planning Framework (NPF)* and *National*

Development Plan (NDP), the E*astern Midlands Regional Spatial and Economic Strategy (RSES)* and the *Dublin Metropolitan Area Strategic Plan (MASP)*.

The Plan (2023-2029) consists of:

- The Written Statement (Chapters 1 to 14) and associated land use mapping - constitutes the main body of the Plan outlining the vision, Core Strategy, policies and objectives of the Plan.
- Appendices (1 to 12).
- Supporting assessments and documents.

3.3 Aims and Vision of the Plan

The aim of the Core Strategy is to set out an evidence based strategy for the future development and planning of the Plan area. The Core Strategy presents the medium to long-term strategy for the county. It must show that the development objectives in the Plan, are consistent as far as practicable, with national and regional development objectives.

The Core Strategy of the Plan will focus on environmental protection, integration of transport and land use, reduction of anthropogenic gasses and climate change. The Core Strategy is set out in following three parts:

The Core Strategy is set out in Chapter 2 of the Plan and addresses:

- Legislative Basis
- Housing Strategy
- Policy Context
- Quantitative Data Underpinning the Core Strategy
- Fingal County Council Population Baseline
- Population Growth Pattern
- Population Projections
- Fingal County Council Housing Baseline
- Housing Delivery
- Housing Supply Targets
- The Core Strategy
- Strategic Long Term Reserve

In setting the context for the Core Strategy, the Plan notes that as the county grows, we must be cognisant of climate change impacts and ensure that Fingal's growth strategy is underpinned by sustainable land management practices which result in the compact and consolidated development of existing urban and rural settlements. Adhering to a clearly focused settlement hierarchy which is in line with a wider regional strategy will ensure we can achieve balanced growth within Fingal and provide for a network of settlements which are resilient, people focused and sustainable into the future.

In taking this approach, it is vital therefore that the unique characteristics, historic qualities and sense of place associated with Fingal's towns and villages are safeguarded and protected and a balance must be struck between expansion and the need to ensure that such growth is accommodated in a holistic manner with enhancement rather than loss of character to existing settlements.

3.4 Monitoring and Progress

A Development Plan must be able to respond to changing circumstances within its lifetime. Regular monitoring of the relationship between the Plan and changes within a wider EU and national policy context, development pressures and varying local priorities are important if the policies and objectives are to remain effective and relevant throughout the lifetime of the Plan.

Monitoring will identify whether the Plan remains consistent with national and regional policy, and where changes occur at national and / or regional level, advise whether the Plan should be varied as necessary to ensure consistency with these higher level plans.

It is a requirement under the Planning and Development Act 2000 (as amended) that a report be prepared, two years after the making of the Plan, on the progress achieved in securing the objectives of the Development Plan.

The SEA process through the recommendation of mitigation measures, by its nature requires environmental monitoring throughout the lifetime of the 6-year Plan.

4 Policy Context - Policies, Plans & Programmes

The preparation of the Plan was considered within the context of a hierarchy of policies, plans and programmes of international, national, regional and local level as detailed in Chapter 4 (Review of Relevant Policies, Plans & Programmes) of the SEA Environmental Report.

The Plan must comply with relevant higher-level strategic actions and will, in turn, guide lower level strategic actions. In this instance, the Plan must comply with higher level plans including *Project Ireland 2040: National Planning Framework* (NPF). The NPF is implemented through the *Regional Spatial and Economic Strategies (RSESs)* and lower tier Development Plans and Local Area Plans.

The RSES for the Eastern and Midlands Region sets out objectives for land use planning, tourism, infrastructure, sustainable development, environmental protection and environmental management for the Eastern and Midlands Region, that have been subject to environmental assessment and must be implemented through the Plan.

Being a county-level plan, the Plan sets the framework for lower-level plans, such as local area plans and other county and lower level plans and programmes, refer to Chapter 4 of the SEA Environmental Report.

Both the NPF and RSES, as well as the majority of other and lower level plans have also been subject to the Strategic Environmental Assessment (SEA) process.

Some of the key policies, plans and programmes of key relevance to Fingal County Council and the development of the Plan include:

- Strategic Environmental Assessment (SEA) Directive
- EU Birds and Habitats Directive
- Water Framework Directive
- Floods Directive
- Drinking Water Directive
- Climate Action Plan 2023
- Ireland's Environment - An Assessment (2020) (EPA)
- Biodiversity Action Plan for Fingal 2022 - 2030
- Climate Change Action Plan (CCAP) 2019-2024 (Fingal).

5 Environmental Baseline

5.1 Introduction

This section provides a summary of the environmental baseline of Fingal. The environmental baseline is the current state of the environment.

Baseline data will be collected for the various environmental receptors described in the SEA Directive *i.e*. biodiversity, fauna, flora, population, human health, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, and landscape. Baseline data creates a platform whereby existing issues relevant to the Plan area can be measured, where possible, and therefore ensuring that the implementation of Plan does not aggravate these environmental issues.

The environmental baseline together with the Strategic Environmental Objectives (SEOs), refer to Section 6, is used in order to identify, describe and evaluate the *likely significant environmental* effects of implementing the Plan and in order to determine appropriate monitoring measures.

5.1.1 Likely Evolution of the Environment in the Absence of a New Plan

To date the current Plan (2017-2023) has contributed towards environmental protection and sustainable development within Fingal. However, in the absence of a new Plan, it is uncertain how permission for new development would be applied for and considered.

Although higher level environmental protection, including the various EU Directives and Irish Regulations, would still apply, the decline of this framework would mean that new development would be less coordinated and controlled. Such development could result in an increase in the occurrence of *negative / adverse* effects on the various environmental aspects (*i.e*. human health, biodiversity, air quality), especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact. As a result, there is the potential for the increased likelihood in the extent, magnitude / scale and frequency of *negative / adverse* effects on all environmental aspects occurring. These include:

- Loss of / damage / fragmentation to **biodiversity** in designated sites (*i.e.* European sites) and Annex habitats and species, listed specs, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna, due to the development of lands.

- Loss of / damage / fragmentation to **existing green infrastructure** and associated ecosystem services, ecological connectivity and non-designated habitats.
- Loss of / damage / fragmentation to **biodiversity** and **flora and fauna** that help contribute to protecting natural capital and the environmental vectors of air, water and soil.
- Habitat disturbance (due to noise, lighting *etc*.) and displacement of **protected species**.
- Negative / adverse impacts to **human health** as a result of damage or loss to natural capital and environmental vectors including air and water.
- Loss / damage / degradation or loss of the **hydrogeological** and ecological function of soil resources.
- Negative / adverse impacts upon the status of **waterbodies** (including **groundwater**, **surface water, lakes** and **coastal waters**) arising from changes in quality, flow and / or morphology.
- Not adequately treating surface water run-off that is discharged to **waterbodies** and not providing appropriate wastewater treatment.
- Increases in the risk and extent of **flooding**.
- Failure to comply with **drinking water** regulations and serve new development with adequate drinking water (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts).
- Potential negative / adverse interactions between **waste, soil, water, biodiversity** and **human health**.
- Failure to reduce **carbon emissions** in line with, national and European environmental objectives.
- Potential effects on protected and unknown **archaeology** and protected **architecture** arising from the construction and operation of development.
- Negative / adverse visual impacts and / or conflicts with the appropriate protection of designations relating to the **landscape**.
- **Waste** levels would increase.

5.1.2 Ireland's Environment - An Integrated Assessment 2020

The seventh *State of the Environment Report* published by the EPA indicates that the overall quality of Ireland's environment is not what it should be, and the outlook is not optimistic unless we significantly increase the implementation of solutions. The environmental challenges that Ireland

faces is cut across different environmental topics, such as climate, air, water and biodiversity and across organisations and all levels of society.

The COVID-19 pandemic has had a huge impact on Ireland's economy, however, the degree to which this impact will obstruct national environmental policy ambitions, including the transition to a climate-neutral economy, will be seen in the future.

5.1.3 UN Sustainable Development Goals

The Plan will contribute towards the *2030 Agenda for Sustainable Development* and the Sustainable Development Goals (SDGs), which includes goals on Good Health and Wellbeing, Clean Water and Sanitation, Affordable and Clean Energy, and Climate Action.

5.2 Biodiversity (Flora and Fauna)

Biodiversity plays a significant role in the delivery of clean air, water, healthy soils and food as well as visually contributing to a plan area with its natural beauty and heritage. Ireland has a rich diversity of ecosystems and wildlife in its terrestrial / land, freshwater and marine environments. However, over the last few decades, human impacts on biodiversity have significantly increased and resulted in increased damage and loss of habitats and species[5].

Biodiversity is vulnerable to climate change as it accelerates the destruction of the natural world through droughts, flooding and wildfires, while the loss and unsustainable use of nature are in turn key drivers of climate change. However biodiversity and nature are also vital in the fight against climate change.

Ecological networks act as corridors and stepping stones for wildlife, and are important for connecting areas of biodiversity, but also for migration and dispersal of species of flora and fauna. The County has a number of undeveloped or protected corridors of land, which act as links from the surrounding countryside, including Meath, to the coast, and into the urban core of Dublin City. These ecological networks and protected corridors include:

- Core Biodiversity Conservation Areas: Ramsar sites, Natura 2000 sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPAs)), Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA), Statutory Nature Reserves, Refuges for Fauna, Annex I habitats outside designated sites, habitats of protected or rare flora.

[5] Department of Culture, Heritage and the Gaeltacht (DCHG) (2017). *National Biodiversity Action Plan 2017-2021.*

- Ecological Buffer Zones around the Core.
- Nature Development Areas.
- Ecological Corridors and Stepping Stones.
- River Corridors along major rivers (River Liffey, River Tolka, River Ward, Broadmeadow River, Delvin River, Mayne River and Sluice River).
- Liffey Valley, connecting Wicklow, Kildare, South Dublin, Fingal and Dublin City.
- Royal Canal connects the River Shannon to Fingal / Dublin City and River Liffey / Dublin Bay.

Green and blue infrastructure plays an essential role in creating a more healthy and liveable county. Green infrastructure including parks and open space, promote health and well-being, provide recreational facilities. Blue infrastructure refers to waterways and waterbodies such as rivers, canals and the sea. The limitations and social distancing requirements brought about as a result of COVID-19 have further highlighted the continuing need for the provision and access to these assets in our urban areas.

There are 13 no. European sites within the administrative boundary of Fingal County. All European sites (i.e. SAC and SPA) located within Fingal County are listed in Table 5.2.1, as well as any European sites within 15km of the Plan area are considered, particularly where ecological links (source-pathway-receptors) exist between the area of the Plan and other European sites. European sites within Fingal are set out in Table 5.2.1 and on Figure 5.2.1.

Table 5.2.1: European Sites located in and within a 15km buffer of the Plan Area

European Sites in the Plan Area			
Site Code	**Special Areas of Conservation**	**Site Code**	**Special Protection Areas**
000208	Rogerstown Estuary SAC	004015	Rogerstown Estuary SPA
000205	Malahide Estuary SAC	004025	Malahide Estuary SPA
000199	Baldoyle Bay SAC	004016	Baldoyle Bay SPA
000202	Howth Head SAC	004113	Howth Head Coast SPA
European Sites within a 15km buffer of the Plan Area			
Site Code	**Special Areas of Conservation**	**Site Code**	**Special Protection Areas**
000204	Lambay Island SAC	004069	Lambay Island SPA
002193	Ireland's Eye SAC	004117	Ireland's Eye SPA

European Sites in the Plan Area			
Site Code	**Special Areas of Conservation**	**Site Code**	**Special Protection Areas**
003000	Rockabill to Dalkey Island SAC	004122	Skerries Islands SPA
000206	North Dublin Bay SAC	004158	River Nanny Estuary and Shore SPA
000210	South Dublin Bay SAC	004006	North Bull Island SPA
001209	Glenasmole Valley SAC	004024	South Dublin Bay & River Tolka Estuary SPA
002122	Wicklow Mountains SAC	004014	Rockabill SPA
002299	River Boyne & River Blackwater SAC	004040	Wicklow Mountains SPA
001957	Boyne Coast And Estuary SAC	004232	River Boyne & River Blackwater SPA
001398	Rye Water Valley/Carton SAC	004080	Boyne Estuary SPA

Under the Wildlife Amendment Act (2000) **Natural Heritage Areas** (NHA) are legally protected from damage from the date they are formally proposed for designation. The designation of these sites is the responsibility of the National Parks and Wildlife Service (NPWS). Further protection can be afforded to these areas by including appropriate protective measures in the Plan. Table 5.2.2 lists the NHAs and the pNHAs within Fingal and those adjacent to the Plan boundary.

Table 5.2.2: pNHAs in the vicinity of the Plan Area

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) in the vicinity of the Plan Area		
Site Code	**Natural Heritage Areas**	**Distance from the Plan**
001218	Skerries Islands NHA	Within the Plan boundary
Site Code	**Proposed Natural Heritage Areas**	**Distance from the Plan**
001203	Knock Lake	Within the Plan boundary
001204	Bog of the Ring	Within the Plan boundary
002000	Loughshinny Coast	Within the Plan boundary
000208	Rogerstown Estuary	Within the Plan boundary
000205	Portraine Shore	Within the Plan boundary

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) in the vicinity of the Plan Area		
Site Code	**Natural Heritage Areas**	**Distance from the Plan**
000205	Malahide Estuary	Within the Plan boundary
000204	Lambay Island	Within the Plan boundary
001208	Feltrim Hill	Within the Plan boundary
001763	Sluice River Marsh	Within the Plan boundary
000178	Santry Demesne	Within the Plan boundary
000199	Baldoyle Bay	Within the Plan boundary
000203	Ireland's Eye	Within the Plan boundary
000202	Howth Head	Within the Plan boundary
000128	Liffey Valley	Within the Plan boundary
000206	North Dublin Bay	Adjacent to the Plan boundary
002103	Royal Canal	Within 15km of the Plan boundary
001398	Rye Water Valley / Carton	Within 15km of the Plan boundary
000554	Laytown Dunes / Nanny Estuary	Within 15km of the Plan boundary
002104	Grand Canal	Within 15km of the Plan boundary
0002070	Rockabill Island	Within 15km of the Plan boundary

5.2.1 Existing Biodiversity Issues

Ireland is currently experiencing a decline in floral and faunal populations. Implementation of measures to achieve the requirements of the Habitats Directive and the objectives of the Water Framework Directive (WFD) are likely to benefit protected sites in the future.

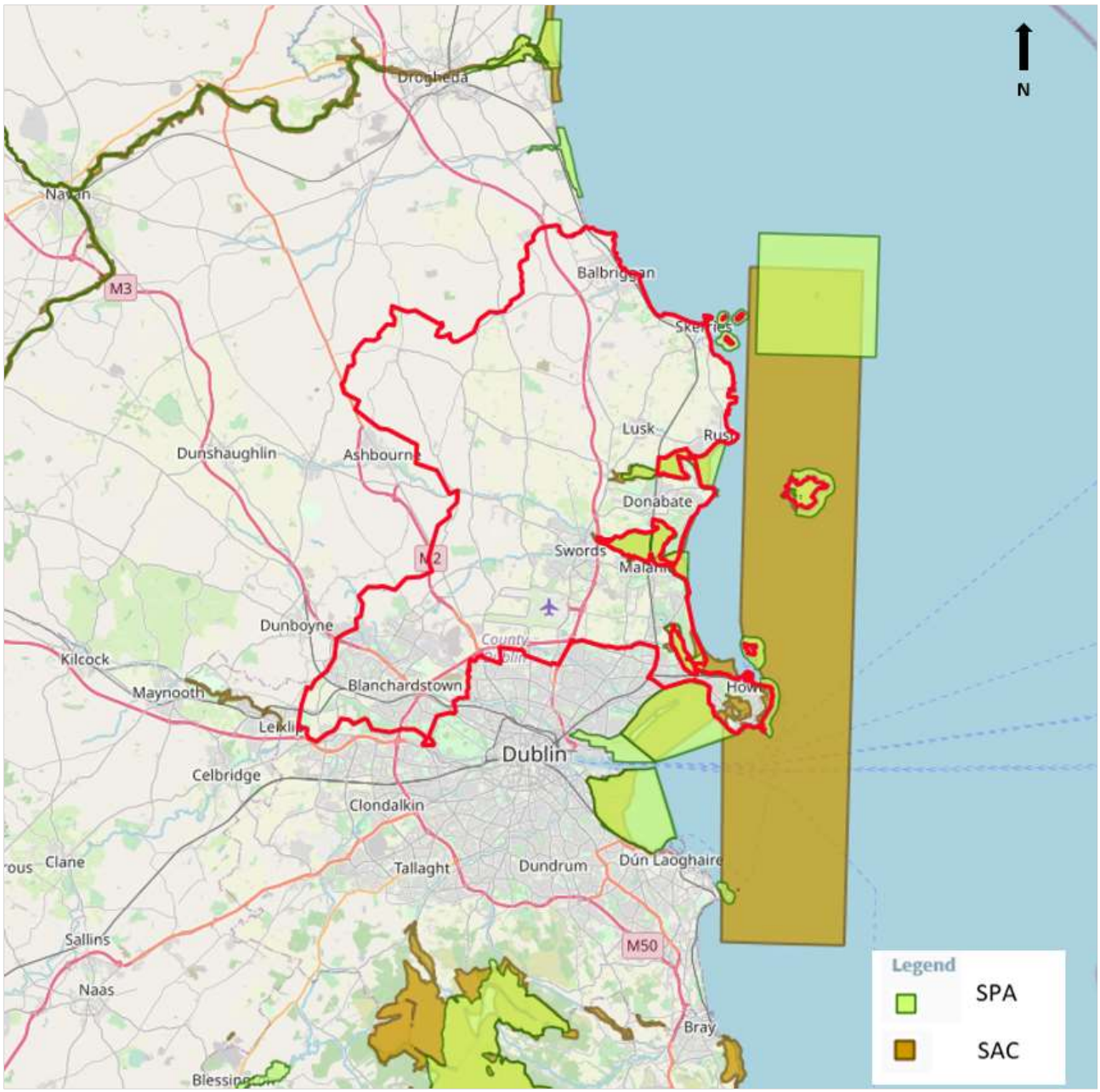
Developments and activities associated with urban developments, tourism and recreation, ports, coastal and fluvial flood defence schemes as well as a wide range of infrastructural works (including road works, water and wastewater disposal) that are located within, or close to, ecologically sensitive sites and species can give rise to significant environmental pressures.

Existing biodiversity issues / pressures and threats on Ireland's habitats and species, which are also relevant to the Fingal, include:

- **Development** - construction and use of residential, commercial, industrial and recreational infrastructure and areas (For example development on greenfield sites, the construction and development of the road network and changes in farming practices).
- **Transport systems** - development / operation of the transport systems (For example the construction and development of the road network and light and noise pollution).
- **Energy and infrastructure** development - (For example construction of roads, gas, power, water and wastewater, also windfarms, etc.).
- **Green Infrastructure** - protecting the existing green infrastructure network from fragmentation and loss due to pressures of urban development within and adjoining the network.
- **Ecosystem Services** - recognising and promoting the value of ecosystem services that blue and green infrastructure networks provides to the county.
- **Climate Change** - (For example the loss of wetlands, due to climate change events i.e. storms and flood events.).
- **Human-induced changes in water regimes** - contamination arising through poor working practices, leakages or accidental spillage of materials (For example wastewater treatment systems in the vicinity of significant waterbodies.).
- **Mixed source pollution** - (For example emissions from transport, heating homes, leachate from landfills, water pollution from wastewater treatment systems, eutrophication and acidification from forestry).
- **Geological events, natural catastrophes** - (For example flooding, storms / extreme weather events).
- **Agriculture** - (For example intensive agricultural practices, use of fertiliser and pesticides, hedgerow removal and lack of hedgerow management, overgrazing, under grazing).
- **Coastal development** - coastal erosion is an inevitable and necessary element of any healthy functioning beach and sand dune system. Coastal development and resultant shoreline defences can pose a significant risk to the entire beach due to wave reflection and scouring.

- Coastal - increased pressure on dune systems in coastal areas of the county - mainly from existing and potential increase in amenity and recreation activities, and associated access, including the development of greenways, but also overgrazing.
- Awareness - increasing awareness of biodiversity through enhanced interpretation on-site and through visitor facilities.
- Land Management - conversion of land / sites and sealing of soils can release CO2 into the atmosphere and further reduce areas of 'carbon sinks'.
- Wetlands - infilling of wetlands, drainage works.
- Invasive Species and problematic species - continued control and management of invasive species. (For example the loss of biodiversity as native species are shaded out, but also diseases and pathogens).

Figure 5.2.1: European Sites within and Adjacent to the Plan Area



5.3 Population and Human Health

The National Planning Framework (NPF) outlines that by 2040 there will be roughly an extra one million people living in Ireland. The NPF identifies a target population of 1.4 million people in Dublin City and Suburbs (this includes Fingal) for 2031, an increase of some 220,000 people, and a target of 1.65m in the Metropolitan Area Strategic Plan (MASP), an increase of some 250,000 (18%) people.

The provision of additional housing over the Plan period will be dictated by the Core Strategy that guides where new development should be allocated in accordance with national and regional

strategies and policies, including the NPF and the Regional Spatial and Economic Strategy (RSES) for Eastern and Midland Region.

Fingal was the third most populous local authority in Ireland (after Dublin City and Cork County) with a total of 296,020 people in 2016 which increased to 329,218 persons in 2022. Between 2006 and 2016 the population in Fingal increased by 23.3% or by just over 56,000 people. There was an increase of 7.4% (22,029 persons) between 2011 and 2016 and an increase of 11% (33,198 persons) between 2016 and 2022. This was considerably higher than the national average growth rate of 3.8% between 2011 and 2016 and growth rate of 7.6% between 2016 and 2022. The population of Fingal is projected to increase to between 327,000 and 333,000 up to 2026.

The distribution of future household (including population) growth in the Plan is based on the key principles of the *National Planning Framework* (NPF) and the *Regional Spatial and Economic Strategy* (RSES) of providing an adequate supply of quality housing to meet existing and future demand, including addressing the current housing crisis and homelessness.

Human health has the potential to be impacted upon by environmental factors such as air, water or soil through which contaminants could accumulate and have potential to cause harm through contact with human beings. The impact of development on human health is also influenced by the extent to which new development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil.

The greatest health risk from radiation in Ireland is caused by radon. Radon is a radioactive gas, which is naturally produced in the ground from the uranium present in small quantities in all rocks and soils.

The COVID-19 crisis that began in March 2020, has highlighted the importance of the natural environment in our local areas. The current limitations and social distancing requirements brought about as a result of COVID-19 have further highlighted the continuing need for the provision and access to these assets in our urban areas.

Existing population and human health issues / pressures on the population of Fingal include:

- Population / Households - there is an increasing demand for housing units in the county.
- Health and Well-being - continue the development of recreation and leisure facilities

- **Flooding** - Fingal is vulnerable to fluvial, pluvial, tidal / coastal and groundwater flooding events which occur as a result of storm events, prolonged rainfall, high tides and land use changes.
- **Radon** - Radon levels in the Fingal have been collated from the Radiological Protection Institute of Ireland.
- **Access** - the 'Access to and the use of Blue / Green Spaces in Ireland during a Pandemic' study highlighted significant differences between socio-economic groups in relation to the amount of time spent outdoors in blue / green spaces during the pandemic with the lowest income group reporting the lowest average number of days.
- **Climate Change** - potential impacts of climate change on human health from changes to local weather, including prolonged periods of hot or cold weather - which can lead to heat and cold stresses and their associated effects.
- **Airport / Noise** - potential adverse impacts from noise levels associated with exposure to undesirable noise levels from aircraft / flight paths.
- **Airport / Noise** - health impacts include cardiovascular disease, effects on sleep / sleep patterns, cognitive Impairment, becoming or increasingly disturbed or bothered by noise, impacts on quality of life and mental health, hearing impairment and tinnitus.
- **Water** - Information on the status of drinking water, wastewater climate change are provided in other sections of this report.

5.4 Land, Soils & Geology

Agricultural land cover makes up the majority of the county with urban areas along the coast to the east and along the northern fringe of Dublin City to the south.

Rural Fingal's rich agricultural land is home to well-developed agriculture industries and centres of local food production. Agricultural activity in Fingal includes tillage of cereals and other crops, pasture and dairy. The rural landscape is also home to quarrying and landfill activities.

Land use patterns from agriculture to uses for residential developments, business parks and light industry can result in the loss of hedgerow boundaries and alteration or culverting of stream channels. The loss of agricultural and soil resources close to the metropolitan area of Dublin also increases dependency on imported food produce with corresponding increased 'food miles' and higher carbon emissions.

FCC manages approximately 2,000ha of public open space and many public parks in the county have significant stands of woodland framing important and often iconic landscapes. Tree canopy cover across Fingal, which has predominantly rural land cover (74%) is estimated at 6.5%. There are 70,000 Council owned / managed trees in Fingal Approximately 20% of the publicly owned open space within the county i.e. 400ha of land is occupied by woodland.

The soil cover within Fingal is characterised by fine loamy drifts with limestones and siliceous stones. Clayey soils occur towards the north of Fingal. Urban / made ground is interspersed throughout the county, particularly along the coast and in the south of the county, reflecting settlement patterns. The coastal areas are by their nature characterised by the presence of rock outcroppings, beaches, sand dunes and tidal / marshy areas. Soils in the river valleys are comprised of riverine alluviums with marine alluviums deposited near the coast. Refer to Figure 5.4.1.

The Geological Heritage Audit of Fingal was completed in 2007, which identifies 21 no. geological sites of interest in the county. The list of County Geological Sites for Protection is set out in Table 5.4.1 below. The Geological Survey of Ireland also noted Huntstown Quarry as a County Site.

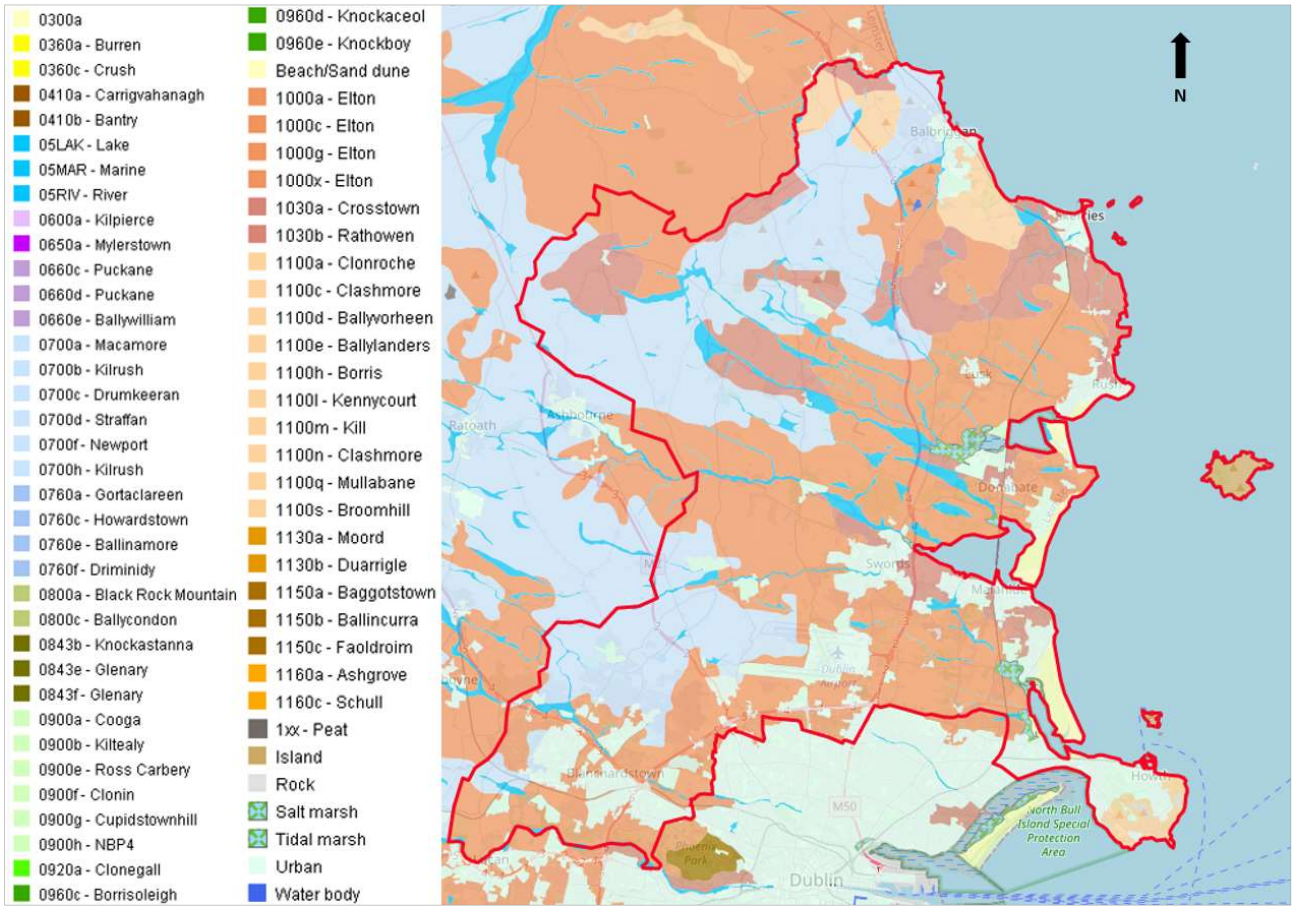
Table 5.4.1: Geological Heritage Sites in Fingal

No.	Irish Geological Heritage Theme	Site Name	Description
1	IGH 1, 2, 4, 7, 12 (Karst, Precambrian to Devonian Palaeontology, Cambrian-Silurian, Quaternary, Mesozoic and Cenozoic)	Portrane Shore	Coastal cliffs and foreshore. Ordovician volcanic lavas and associated debris flows, slumped limestones, palaeokarstic doline and Silurian sandstones. There is a very small exposure of earliest Carboniferous conglomerate.
2	IGH 2, 4 (Precambrian to Devonian Palaeontology, Cambrian - Silurian)	Fancourt Shore	Coastal cliffs and foreshore. Silurian slates and greywacke sandstones.
3	IGH 2, 4 (Precambrian to Devonian Palaeontology, Cambrian-Silurian)	Lambay Island	Entire island with extensive coastal cliffs and inland natural exposures of rock. Upper Ordovician andesite and associated volcanic rocks, with fossiliferous limestones at Kiln Point and shales at Heath Hill.
4	IGH 3, 8 (Carboniferous to Pliocene Palaeontology, Lower Carboniferous)	Curkeen Hill Quarry	Disused quarry used as a landfill site. Lower Carboniferous (Late Tournaisian to Lower Viséan) mudbank limestone.
5	IGH 8, 3 (Lower Carboniferous, Carboniferous to Pliocene Palaeontology)	Feltrim Quarry	A working quarry on Feltrim Hill. Lower Carboniferous (Waulsortian) limestone with shale from the Tober Colleen Formation.

No.	Irish Geological Heritage Theme	Site Name	Description
6	IGH 3, 8 (Carboniferous to Pliocene Palaeontology, Lower Carboniferous)	Malahide Coast	Coastal Section. Lower Carboniferous limestone and shale of the Malahide Formation and Tober Colleen Formation.
7	IGH 3, 8 (Carboniferous to Pliocene Palaeontology, Lower Carboniferous)	Skerries to Rush	Coastal cliff and foreshore section. Lower Carboniferous (Visean) limestone, shale and conglomerate.
8	IGH 4 (Cambrian – Silurian)	Ardgillan House Boulder	Single large boulder placed beside path from public car park to Ardgillan House. Ordovician pillow lavas, weathered to show concentric patterns within pillows.
9	IGH 4, 7 (Cambrian-Silurian, Quaternary)	Bottle Quay	Coastal cliffs and foreshore section. Cambrian quartzite and mudstone of the Drumleck Formation with overlying Quaternary sediments.
10	IGH 4, 12 (Cambrian-Silurian, Mesozoic and Cenozoic)	Hill of Howth	Valleys and rock outcrops on the Hill of Howth. Cambrian quartzite and mudstone mélange of the Drumleck Formation and polymict mélange of the Elsinore Formation.
11	IGH 4 (Cambrian-Silurian)	Ireland's Eye	Entire island with cliff sections and inland outcrop exposures. Cambrian greywacke, sandstone and quartzite of the Bray Group.
12	IGH 4 (Cambrian – Silurian)	Shenick's Island	Coastal exposures around an island. Ordovician andesite, tuffs, shales with an undated red breccia.
13	IGH 8 (Lower Carboniferous)	Balscadden Bay	Coastal cliffs within a small bay area. Lower Carboniferous limestone and Cambrian polymict mélange (an ill-assorted mixture of various fragmented rock types).
14	IGH 8 (Lower Carboniferous)	Claremont Strand	Coastal and foreshore section. Lower Carboniferous (Waulsortian) limestone.
15	IGH 8 (Lower Carboniferous)	Milverton Quarry	Working quarry. Lower Carboniferous (Viséan) limestone and shale of the Holmpatrick Formation.
16	IGH 8 (Lower Carboniferous)	Nags Head Quarry	Large working quarry. Lower Carboniferous (Viséan) limestone, shale and sandstone.
17	IGH 9 (Upper Carboniferous)	Balrickard Quarry	A disused quarry. Upper Carboniferous (Namurian) sandstone and shale of the Balrickard Formation.
18	IGH 9 (Upper Carboniferous and Permian)	Walshestown Stream Section	Rock exposures in the banks of a stream over a distance of 1.5km. Upper Carboniferous (Namurian) shale, sandstone and limestone of the Walshestown and Balrickard Formations.
19	IGH 11 (Igneous intrusions)	Rockabill	Two entire islands. Caledonian granite.
20	IGH 13 (Coastal Geomorphology)	Malahide Point	Dunes and a sand / shingle spit. Recent geomorphological landforms.

No.	Irish Geological Heritage Theme	Site Name	Description
21	IGH 16 (Hydrogeology)	Mulhuddart Well	Cold spring. The water is presumably derived from either shallow bedrock or Quaternary deposits.

Figure 5.4.1: Soil Information System (SIS) National Soils Map for Fingal



5.4.1 Existing Land, Soils and Geology Issues

Changes to land and soils from both natural processes and human activities contribute to their dynamic and evolving nature. The physical, biological and/or chemical degradation of soils, can cause direct loss of soil, and indirectly impact ecologically essential soil processes, reduce productive capacity and deplete soil quality and biodiversity.

Existing land, soil and geology issues / pressures with environmental considerations under the existing Plan include

- Soil - the loss / damage of soil from the construction of greenfield sites for development.

- Soil - contamination can occur from unauthorised waste-related activities, leakages and accidental spillages of chemicals. Technical and financial constraints on development and the threat contaminated soils pose to the health of the population.
- Soil - erosion of soils in the county from intensive agricultural / forestry practices, quarrying activities (including for sand from sensitive areas in the east of the county) and road and major infrastructural projects.
- Soil - the protection of soil and the need for a Soil Protection Strategy.
- Soil - local pollution of soil from the use of septic tanks systems to treat wastewater, from poorly maintained systems.
- Soil - disturbance of contaminated soils could result in potential for water pollution and potential further land contamination.
- Soil sealing - covering of the ground by an impermeable material. Soil sealing can potentially put biodiversity at risk, increase the risk of flooding and prevents natural drainage.
- Pressure on soil - from land-use change, intensification of agriculture, erosion, overgrazing, disposal of organic wastes to soils, afforestation, industry and urbanisation.
- Land Management - conversion of land / sites can release CO_2 into the atmosphere and further reduce areas of 'carbon sinks'.
- Geological Heritage - the protection of sites of geological importance within the county, see Table 5.4.1.
- Climate change - carbon stored in soils plays an important role in maintaining soil functionality, in water and air quality and in climate change. Proper land use management is essential to prevent carbon stored in soil from being released into the atmosphere.
- Groundwater - rock types in the county that provides for a productive groundwater aquifer.

5.5 Water Quality

Water is fundamental to all life - humans, plants and animals. It is also critical in economic terms in generating and sustaining wealth in a number of key areas such as agriculture, fishing, power

generation, industry, transport and tourism. Water resources are fragile and require continued protection.

Nearly half of the surface waters in Ireland are failing to meet the water quality objectives set by the Water Framework Directive because of pollution and other human disturbance. Water quality in Ireland has seen an overall decline in surface water quality, especially in rivers, between 2004 and 2012. Preserving a high standard of water is essential for human health and the natural environment.

Fingal is traversed by a number of rivers and their tributaries including the River Liffey, River Tolka, River Ward, Broadmeadow River, Delvin River, Mayne River and Sluice River which are important fisheries and wildlife resources as well as being important for the ongoing provision of water services and for the management of flood risk. Other important river corridors include the River Matt, River Corduff, River Ballyboghil and River Santry. Fingal has no natural lakes. Therefore it is important that the county's drinking water supply resources are protected so that reliable, safe and good quality water supplies are always available.

The Water Framework Directive defines '*overall surface water status*' as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. In order to achieve a 'good status' both the ecological status and the chemical status of a surface water body need to be at least '*good*'.

The status of the river waterbodies in the Plan area ranges from '*good* to '*poor*' during the 2016-2021 monitoring period. The latest EPA (2021) 'Water Quality in 2020 - An Indicators Report' indicates that in Fingal 6% of its rivers had a 'moderate' status, while 8% had 'poor' status.

Fingal is traversed by a number of rivers and their tributaries including the River Liffey, River Tolka, River Ward, Broadmeadow River, Delvin River, Mayne River and Sluice River.

The River Liffey source is located in Wicklow and the river drains lands in Wicklow, Kildare, South Dublin, Fingal and Dublin City. The river flows in an easterly direction through Fingal. Part of the River Liffey water quality status is 'poor' as it flows through Fingal, and is 'at risk of not achieving good status'.

The River Tolka rises near Dunshaughlin in Co. Meath and flows in a south-easterly direction for c.22km before entering the sea at Clontarf on the north side of Dublin City. The River Tolka water quality status is 'poor', as it flows through Fingal, and is 'at risk of not achieving good status'.

The River Ward flows in an easterly direction and it a tributary of the Broadmeadow River. The River Ward flows into the sea at Swords, Co. Dublin. The River Ward water quality status is 'moderate' as it flows through Fingal, and is generally at 'at risk of not achieving good status'.

The Broadmeadow River has its source north of Dunshaughlin in Co. Meath and flows for c.24km across agricultural land before it reaches the sea, north of Swords, at the Broadmeadow Estuary. The Broadmeadow River water quality status is 'moderate', as it flows through Fingal, and is 'at risk of not achieving good status'.

The Delvin River rises close to the Meath-Dublin border near the village Naul and flows in a north-easterly direction for c.16km before entering the sea close to Balbriggan Co. Dublin. The Delvin River water quality status ranges from 'moderate' to 'poor', as it flows through north Fingal, and is 'at risk of not achieving good status'.

The Mayne River flows in an easterly direction into the sea at Baldoyle Bay / Mayne Estuary. The Mayne River has a 'poor' water quality status and is 'at risk of not achieving good status'.

The Sluice River rises to the north of Dublin Airport and flows in an easterly direction into Baldoyle Bay / Mayne Estuary. The Sluice River water quality status is 'poor' and the waterbody risk status is 'under review'.

Other river corridors within the Plan area include the River Matt (Unassigned and 'at risk'); River Ballyboghil (Poor and 'at risk'); and River Santry (Poor and 'at risk').

The Water Framework Directive (WFD) status of the **transitional waterbodies** in Fingal ranges from 'bad' to 'poor' during the 2013-2018 monitoring period, with Baldoyle Bay / Malahide Estuary transitional waterbody and North Bull Island transitional waterbody both unassigned during the same period. The transitional waterbodies in Fingal are the:

- Rogerstown Estuary (IE_EA_050_0100) (Poor and 'at risk of not achieving good status').
- Broadmeadow Estuary (IE_EA_060_0100) (Moderate and 'at risk of not achieving good status').
- Baldoyle Bay / Malahide Estuary (IE_EA_080_0100) (Moderate and 'under review').
- North Bull Island (IE_EA_090_0100) (Moderate and 'under review').

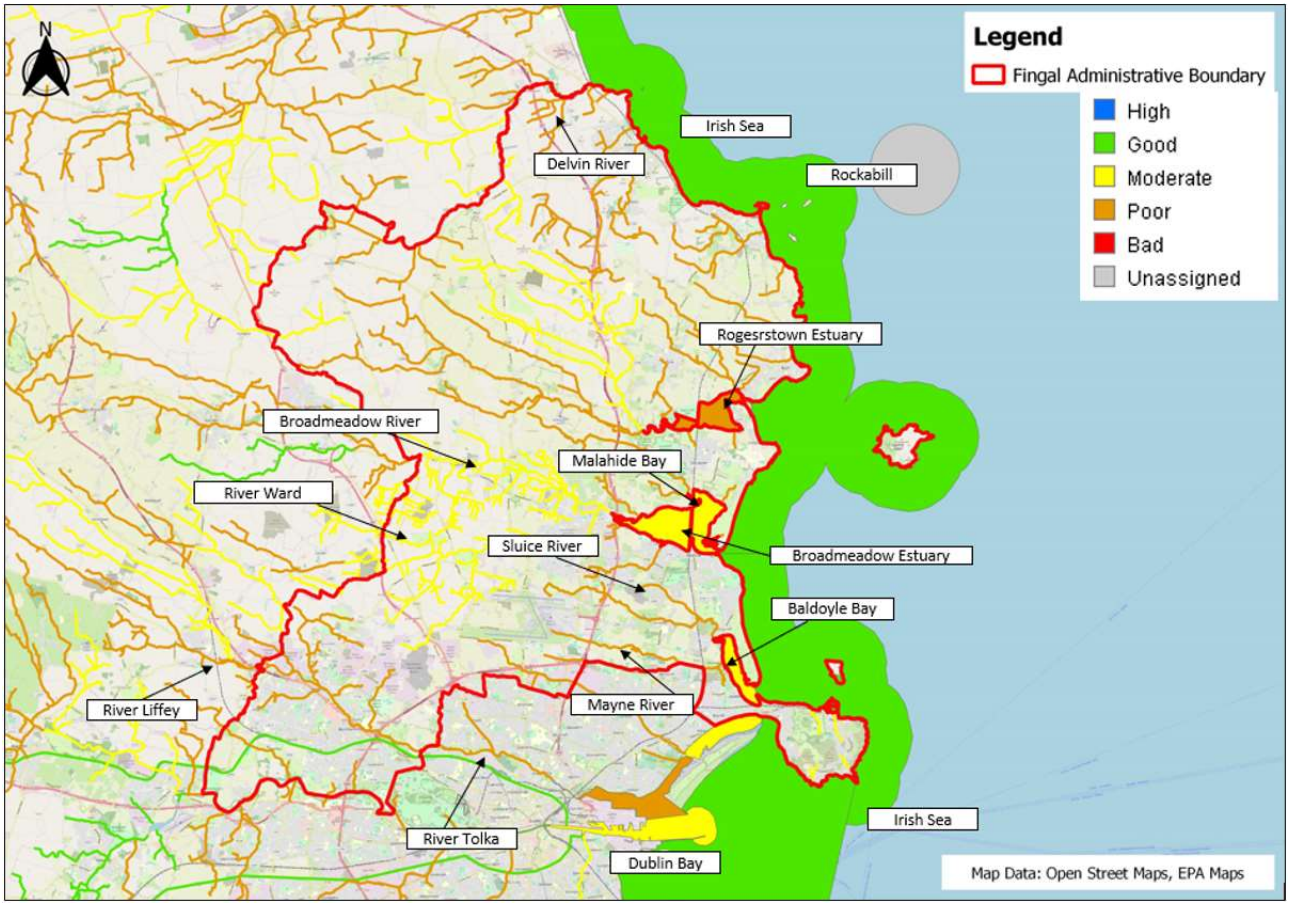
The WFD status of the **coastal waterbodies** in Fingal ranges from 'high' to 'moderate' during the 2013-2018 monitoring period, and therefore are listed as 'Not at Risk' by the EPA. The coastal waterbodies in Fingal are the:

- North-western Irish Sea (IE_EA_020_0000) (Good).
- Rockabill (IE_EA_040_0000) (Unassigned and under review).
- Malahide Bay (IE_EA_060_0000) (Moderate and 'at risk of not achieving good status').
- Irish Sea (IE_EA_070_0000) (Good).
- Dublin Bay (IE_EA_090_0000) (Good).

There are ten **designated bathing waters** along the Fingal coastline, listed below. The most recent report on bathing water quality 'Bathing Water Quality in Ireland - A Report for the Year 2020' sets out the status of Irish Seawater and Freshwater Bathing areas. The 2020 Annual Water Quality monitoring period results are:

- Balbriggan, Front Strand Beach (**Poor**);
- Skerries, South Beach (**Sufficient**);
- Loughshinny Beach (**Sufficient**);
- Rush, North Beach (**Excellent**);
- Rush, South Beach (**Excellent**);
- Portrane, the Brook Beach (**Excellent**);
- Donabate, Balcarrick Beach (**Excellent**);
- Portmarnock, Velvet Strand Beach (**Excellent**);
- Sutton, Burrow Beach (Good); and
- Claremont Beach, Howth (**Sufficient**).

Figure 5.5.1: WFD River Waterbody Status for Fingal 2013-2018



Fingal is susceptible to several types of **flood risk**, including:

- **Fluvial** - Flooding occurs when a river overtops its banks due to a blockage in the channel or the channel capacity is exceeded.
- **Pluvial** - Flooding occurs when overland flow cannot infiltrate into the ground, when drainage systems exceed their capacity or are blocked and when the water cannot discharge due to a high water level in the receiving watercourse.
- **Tidal / Coastal** - Flooding which is caused by high sea levels resulting in the sea overflowing onto the land. High sea levels can be caused by high tides, storm surges and wave action acting independently or in combination.
- **Groundwater** - Flooding occurs when the level of water stored in the ground rises as a result of prolonged rainfall to meet the ground surface and flows out over it.

Local conditions within the county also increase the risk of flooding; these include bridges and culverts, which restrict high flows, debris which can cause blockages and land use changes.

5.5.1 Existing Land, Soils and Geology Issues

Existing water quality issues / pressures with environmental considerations include:

- Water - the surface waterbodies in Fingal need to be improved to achieve 'good' ecological status in waterbodies by 2027.
- Water - pressure on water sources include excessive nutrient enrichment leads to eutrophication; agriculture and municipal sources are the most important suspected causes of pollution to rivers.
- Water - pressure on water sources also comes from land-use changes, intensification of agriculture, erosion, afforestation, industry and urbanisation.
- Water - water contamination arising through poor working practices, leakages or accidental spillage of materials if efficient pollution control measures are not fully implemented and maintained. Leachate from landfills, eutrophication and acidification from forestry.
- RBMP - implementation of the actions set out in the Plan.
- Groundwater - the development of a wastewater leak detection programme and the implementation and enforcement of regulations. Groundwater WFD Quality Status in Fingal (2013-2018) was generally 'good' and needs to be protected.
- Surface, ground & coastal waters - are at risk of pollution from septic tanks and wastewater treatment systems in the vicinity of waterbodies.
- Coastal - the coastal zone is subject to growing pressures from increasing population and increasing and sometimes conflicting social, economic and recreational uses.
- Bathing Water - bathing water quality at Loughshinny Beach and Claremont Beach, Howth is 'sufficient' and Balbriggan, Front Strand Beach is 'poor'. These bathing waters need to be improved.
- Flooding - flood risk to be considered in Development Plan SEA documents as a key environmental criteria.

- Flooding - there is historic and predictive evidence of elevated levels of flood risk from fluvial, pluvial, tidal / coastal and groundwater sources at various locations across the county.
- Quarries - pose a potential impact on the level of water tables and potential exposure of water table and contaminant to water tables.

5.6 Air Quality, Noise & Climate Change

Air quality legislation in Ireland highlights the need '*to avoid, prevent or reduce harmful effects on human health and the environment as a whole*'.

The EPA manages the national ambient air quality monitoring network and measures the levels of a number of atmospheric pollutants. The EPA's latest publication *Ireland's Greenhouse Gas Emission Projections 2019-2040* provides an assessment of Ireland's progress towards achieving its emission reduction targets set down under the EU Effort Sharing Decision, and a longer-term assessment based on current projections.

There are four national air quality designated zones in Ireland. Fingal is separated into three zones: Zone A for the Dublin conurbation, Zone C for the area surrounding Balbriggan, and Zone D for rural areas. The main sources of air pollution are domestic solid fuel burning, diesel fuelled vehicle emissions, agriculture, industry and even natural sources such as sea salt and wind-blown dust.

The current trends in air quality in Ireland are reported in the latest EPA publication (2020) '*Air Quality in Ireland 2019*'. The report indicates that air quality in Ireland is generally *'good'* however there are localised issues in some of our cities, towns and villages. Ireland was above World Health Organization (WHO) air quality guidelines at 33 no. monitoring sites across Ireland - mostly due to the burning of solid fuel in our cities, towns and villages. The main sources of air pollution are domestic solid fuel burning, diesel fuelled vehicle emissions, agriculture and industry.

The objectives of EU and Irish noise legislation is '*to avoid, prevent or reduce harmful effects on human health and the environment as a whole*'. The *Dublin Agglomeration Noise Action Plan 2018-2023* has been prepared jointly by the four Local Authorities in the Dublin Area. The objective of the Noise Action Plan is to avoid, prevent and reduce where necessary, the long-term exposure to environmental noise. The Noise Action Plan aims to manage existing road noise and to prevent the future environmental noise environment.

The Noise Action Plan for Fingal County is aimed at managing Environmental Noise from Road, Rail and Industrial sources within the Fingal County Council administrative area but excludes noise from aircraft which is dealt with in a separate Noise Action Plan.

The Noise Action Plan for Dublin Airport 2019-2023 is the first noise action plan for Dublin Airport and replaces the airport section of the Dublin Agglomeration Noise Action Plan 2013-2018. The Noise Action Plan is primarily a tool for reporting the findings of the strategic noise maps, as produced by the Dublin Airport Authority (daa), the competent Noise Mapping Body (NMB).

The Dublin Airport noise management process is based on three key themes

- Manage: continue to operate noise management schemes to achieve the quietest practicable aircraft operations on Noise Preferential Routes, and minimise noise from other activities such as construction;
- Monitor: continue to monitor noise using best practicable methods; and
- Engage: continue to meet with our neighbours and partners to involve, engage and inform, and continue to communicate with stakeholders.

Climate change refers to a long-term, large scale change in global or regional climate patterns. In recent years, global temperatures have been rising. Urgent action is needed to address climate change and to move Ireland towards a low carbon, climate resilient economy and society.

The National Mitigation Plan represents an initial step to set Ireland on a pathway to achieve the level of decarbonisation required.

The National Adaptation Framework sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts.

The *National Climate Action Plan 2019* is the Government's plan to tackle climate change. The Climate Action Plan sets out an ambitious course of action over the coming years to address the diverse and wide-ranging climatic impacts which Ireland is experiencing. The Climate Action Plan sets out clear 2030 targets for each sector with the ultimate objective of achieving a transition to a competitive, low-carbon and environmentally sustainable society and economy by 2050. Fingal County Council has prepared a *Climate Change Action Plan 2019-2024*.

The *Climate Action Plan 2023* provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting the country on a path to reach

net-zero emissions by no later than 2050, as committed to in the Programme for Government and set out in the Climate Act 2023.

5.6.1 Air Quality, Noise and Climate Issues

Existing **air quality** issues / pressures with environmental considerations include:

- **Air emissions** - associated with the high use of the private car.
- **Air emissions** - associated with the burning of fossil fuels to heat homes / buildings, emissions from the construction industry and industrial activities.

Noise pollution is considered to be one of the most damaging and prevalent forms of nuisance and pollution within urban areas. High levels of traffic noise especially can have a detrimental effect on the quality of life, and on human health.

Existing noise issues / pressures with environmental considerations include:

- **High noise levels** - areas of high noise.
- **Noise levels** - noise associated with increased traffic on major roads.
- **Noise levels** - increasing traffic volumes affect the acoustic environment.
- **Noise levels** - noise associated with aircraft / flight path.
- **Development** - new development such as roads, housing developments and industry, must adhere to international best practice standards for noise attenuation.

The potential effects of **Climate Change** resulting in an increase in the frequency and severity of flooding and storms events must also be considered in the Plan. Severe rainfall and storms events as a result of Climate Change could adversely impact Fingal, leading to water shortages, residential flooding and disruption and damage to infrastructure.

The Plan will need to factor in the Climate Change strategy and mitigation measures to ensure future operations can progress unimpeded. Existing climate change issues / pressures issues for environmental aspects include:

- **Policy** - need to incorporated and implement strategic goals from higher level plans and programmes.
- **Biodiversity** - direct and indirect impacts from flooding, temperature changes, sea level rise, etc.
- **Population** - population growth and the need for transportation and transport networks, energy, housing and waste disposal.

- **Population** - the threat of extreme weather events (storms / cold spells / heat waves), sea level rise and pluvial and fluvial flooding.
- **Flooding** - direct and indirect impacts from flooding with impacts for populations, development, etc.
- **Air emissions** - associated with the burning of fossil fuels to heat homes / buildings, emissions from the construction industry and industrial activities.
- **Air emissions** - associated with the high use of the private car.
- **Land use changes** - the loss / damage of soil / land from the construction of sites for development.

5.7 Cultural Heritage

Fingal has a rich archaeological and architectural heritage ranging from historic farmhouses and buildings, cottages and Martello towers to demesne houses and their designated landscapes. Archaeological conservation in Ireland is dealt with by the National Monuments Service of the Department of Arts, Heritage and Gaeltacht (DAHG) operating under the National Monuments Acts, 1930 - 2004, with two sections, the Archaeological Survey of Ireland and the Archaeological Archive being the primary producers and managers of data.

Archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts.

The National Monuments Acts 1930-2004 provide for the protection of archaeological heritage. At present, a monument is protected in one of four ways:

- It is recorded in the Record of Monuments and Places (RMP).
- It is registered in the Register of Historic Monuments (RHM).
- It is a national monument subject to a preservation order (or temporary preservation order).
- It is a national monument in the ownership or guardianship of the Minister for Culture, Heritage and the Gaeltacht or a Local Authority.

Different levels of protection apply to a monument depending on which of the four categories it falls under.

Overall, there are currently 1,070 known archaeological sites and monuments in Fingal. The wealth of archaeological sites ranges from cairns and passage graves to medieval churches and castles. The

towns of Swords, Balrothery and Lusk are of particular archaeological significance with very important medieval structures surviving intact above ground and the potential of archaeological finds below ground. These towns have zones of archaeological potential delineated by the National Monuments Section of the DEHLG around their cores to protect their significant archaeological heritage.

Nationally, there are over 1,000 monuments in State care. Of these six monuments are located in Fingal. These are:

- Baldongan Church and Tower.
- Balrothery Church Tower.
- Dunsoghly Castle.
- St Mary's Church / Abbey in Howth.
- Lusk Round Tower.
- Swords Castle.

Other areas of archaeological potential include prehistoric monuments and sites, church sites, burial ground, holy wells and medieval structures.

Architectural Heritage - Records of Protected Structures are legislated for in the Planning and Development Act 2000 as amended. Protected structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

Fingal has a diverse building stock ranging from farmsteads, small cottages and large country houses to the architecture of a capital city, including an international airport, large shopping centres and modern office blocks. Most people identify the large estates of Luttrellstown, Newbridge, Ardgillan and Malahide as being of significant architectural merit, but more modest and functional structures also form part of the architectural heritage of the county. This includes lighthouses; the 19th century railway stations; the Martello towers; holy wells; milestones; water-pumps and individual thatched buildings. It is acknowledged that Fingal has a resource of rural and urban vernacular buildings which have become increasingly under threat from vacancy and development pressures.

The National Inventory of Architectural Heritage (NIAH) maintains a detailed record for of the post-1700 architectural heritage of Ireland. NIAH surveys provide the basis for the recommendations of

the Minister for Housing, Local Government and Heritage to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

There are 470 no. structures listed on the RPS. This includes a total of 20 no. additions to the Record of Protected Structures and a total of 94 no. deletions. Of the proposed deletions, 88 no. deletions relate to structures that are now within Architectural Conservation Areas (ACAs).

Fingal has designated 33 no. Architectural Conservation Areas (ACA), indicating the locations where many clusters of protected structures were to be found. An ACA is a place, area or group of structures or townscape that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures, whose character it is an objective to preserve in a development plan. The ACA's are listed in Table 5.6.1.

Table 5.6.1 Architectural Conservation Areas in Fingal

Architectural Conservation Areas	
Abbeville Demesne	Ardgillan Demesne
Balbriggan No's 14 to 28 Hampton Street (even numbers only)	Balbriggan Historic Town Core
Baldoyle	Balrothery
Balscadden	Castleknock
Donabate - Newbridge House, Demesne & the Square	Garristown
Howth Castle Demesne	Howth Historic Core
Howth - Nashville Road and Park	Howth - St Nessan's, St Peter's Seaview Terrace and The Haggard
Lusk	Luttrellstown Demesne
Malahide Castle Demesne	Malahide Historic Core
Malahide - The Bawn, Parnell Cottages and St. Sylvester's Villas	Malahide the Rise
Milverton Demesne	Naul
Old Portmarnock (Drimnigh Road)	Oldtown
Portrane - Grey Square	Portrane - Red Square
Portrane - St Ita's Hospital Complex	Rowlestown
Skerries	Sutton - Martello Terrace, Strand Road
Sutton - No's 20a to 26 Strand Road	Sutton Cross and Environs
Swords- Church Road Historic Ecclesiastical Core	

5.7.1 Cultural Heritage Issues

Existing cultural heritage issues / pressures with environmental considerations include:

- Development - development of infrastructure can potentially impact on the integrity of sites or features and their views to / from architectural, archaeological or cultural heritage interest.
- Development - in close proximity to sites and areas of cultural heritage may adversely impact upon the cultural landscape setting.
- Development - can adversely impact on community's sense of place.
- Archaeology - impact on archaeological monuments and their settings including undiscovered sites / features.
- Landscapes - there is a need to identify and protect culturally important landscapes.
- Tourism - demand for development in areas of tourism can potentially impact cultural heritage sites and features.

5.8 Landscape & Visual

The landscape of Fingal is rich and varied, ranging from tranquil villages in rolling country landscape, picturesque seaside villages and rugged coastline to vibrant urban developments and historic towns. Fingal has been changing quite rapidly as a result of high levels of development to meet a growing population. The challenge that is faced is to manage the landscapes so that change is positive in its effects, so that the landscapes that are valued are protected and those that have been degraded are enhanced.

A Landscape Character Assessment (LCA) is a process that describes maps and classifies landscapes. Landscape character is defined as *'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse'*. The landscape character assessment for Fingal currently divides the county into 6 Landscape Character Types (LCT): (refer to Figure 5.8.1):

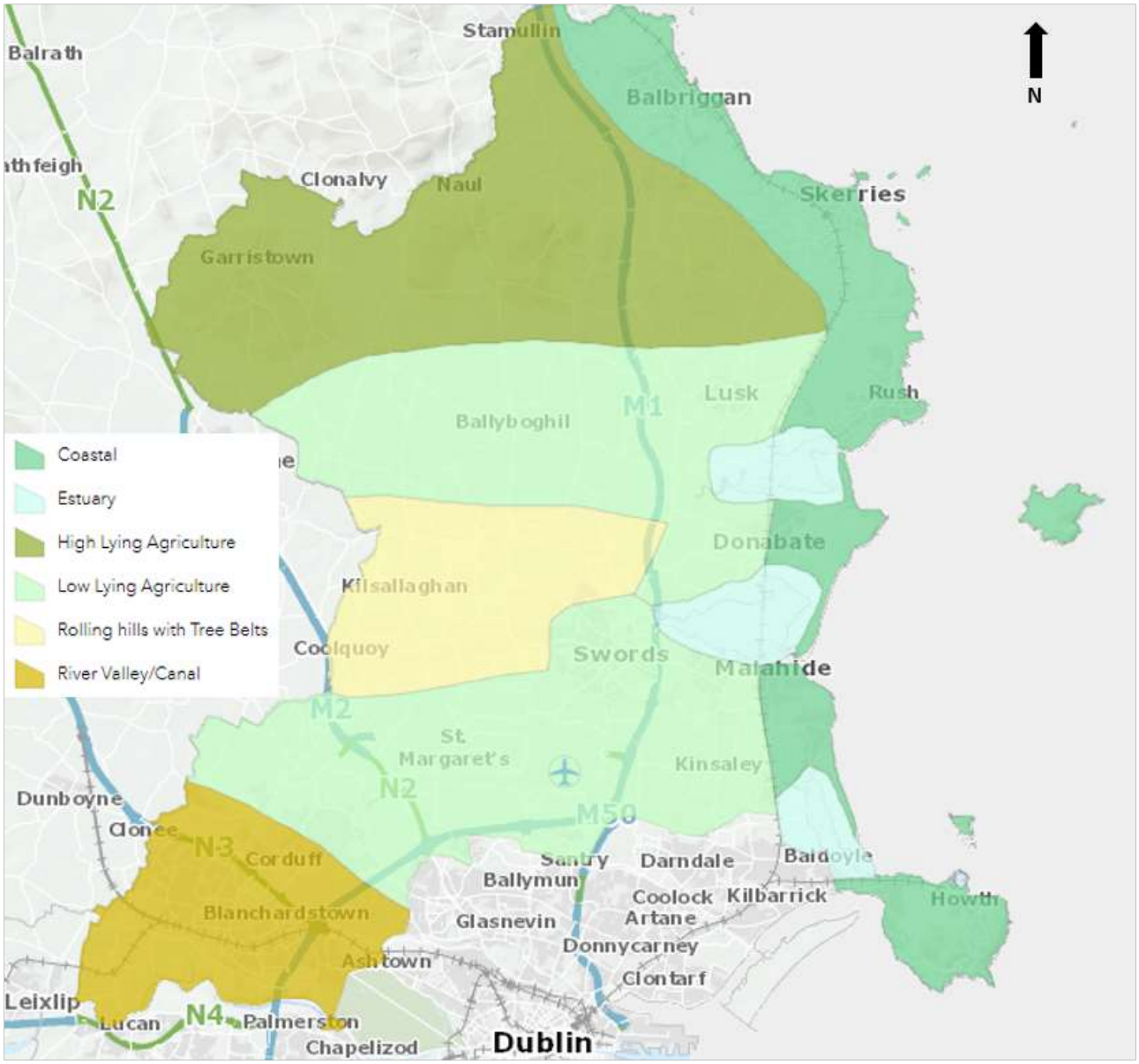
- Coastal Character Type - the landscape feature that dominates the entire eastern edge of the county, with beaches, headland hills and cliffs.
- Estuary Character Type - the intertidal sand and mudflats, and saltmarshes at Rogerstown, Swords / Malahide and Baldoyle.
- River Valleys / Canal Character Type - the Tolka and the Liffey Valleys together with the Royal Canal Corridor constitute this Character Area.

- **High Lying Agricultural Character Type** - an area of upland rising to 176m at Hillfort Mound, to the southeast of Naul village. These hills provide views of the Mourne Mountains to the north, the coastline to the east and the Wicklow Mountains in the south.
- **Low Lying Agricultural Character Type** - large open areas of pasture, arable and grassland that are uninterrupted by large settlements.
- **Rolling Hills with Tree Belts Character Type** - the valleys of the River Ward and River Broadmeadow and their surrounding farm and woodland.

Within the Fingal a number of **views and prospects** are protected, there are:

- Howth Hill from Golf Road, Portmarnock, Strand Road, Baldoyle, and Greenfield Road and Carrickbrack Road, Sutton.
- Howth Peninsula from Clontarf Road, James Larkin Road and Dublin Road.
- Ireland's Eye from Howth Harbour area.
- Cush Point from Strand Road, Baldoyle.
- Portmarnock Peninsula from Baldoyle and Strand Roads.
- Island Golf Course from Malahide.
- High amenity zoned land north of the Broadmeadow Estuary from the Malahide-Swords coast road.
- Rogerstown Estuary to the north from Beaverstown.
- Drumanagh from Harbour Road, Rush and from Loughshinney village.
- Skerries Islands from the South Strand and Red Island, Skerries.
- Skerries Harbour at Red Island from the North Beach and Balbriggan Road, Skerries.
- Hampton Demesne and Ardgillan Demesne from Hampton View Estate.
- High amenity zoned coastal land at Bremore from the Martello Tower in Balbriggan.

Figure 5.8.1: Landscape Character Areas / Types of Fingal



5.8.1 Landscape Issues

Existing landscape and visual issues / pressures with environmental considerations include:

- **Development -** development and housing are having adverse and visual impacts on the landscape.
- **Housing** - visual impact with greatest pressure for expansion of settlements.
- **Green Infrastructure** - protecting the existing green infrastructure network from fragmentation and loss due to pressures of urban development within and adjoining the network.

- **Ecosystem Services -** recognising and promoting the value of ecosystem services that the green infrastructure network provides to the county.
- **Agriculture / forestry** - agricultural practices and expansion in lowlands and large scale forestry development in uplands.
- **Quarrying** - impact of operations on the landscape.
- **Coastal** - wind developments are having visual impacts on the coastline.
- **Coastal** - coastal areas experiencing greater pressure for tourism and residential development - second homes and holiday homes.

5.9 Material Assets

Material assets are resources that are valued and essential to a development and the surrounding area. Material assets may be of either natural or human origin and the value may arise for economic or cultural reasons. Material assets include water supply, wastewater treatment infrastructure, waste disposal including recycling, transport infrastructure (road, rail, airports and ports), energy and supply networks and telecom services.

5.9.1 Water Services

As of January 2014, Irish Water replaced local authorities as a single provider of water supply and wastewater services. Irish Water is responsible for providing and developing public water services; and ensuring drinking water quality meets the standards in the *Drinking Water Regulations*.

Water is currently supplied to the Fingal area from the Leixlip Water Treatment Plant (WTP) (abstracted from the River Liffey), supplying drinking water to the Dublin Region including north Dublin City and county, parts of South Dublin and Kildare.

A groundwater treatment plant at Bog of The Ring supplies drinking water for the Balbriggan / Skerries area. This plant extracts groundwater from wells and supplements the water supply of the northern part of the county.

As part of the *Water Supply Project (WSP) - Eastern and Midlands Region*, Irish Water has plans – currently as a preferred option - to abstract water from the Parteen Basin on the Lower River Shannon and to pipe the water to a new reservoir at Peamount in South Dublin County, from where it would connect to the Greater Dublin network.

There is an ongoing issue with security of water supply in the Dublin and Mid-East Regions. Consultation with Irish Water has revealed that a supply demand deficit linked to population growth, leakage and climate change remains the primary challenge to the delivery of a safe, secure, sustainable and reliable water supply.

5.9.2 Wastewater Services

Fingal County Council (FCC) currently operates wastewater treatment plants at Swords, Malahide and Balbriggan. A plant at Portrane also serves this community as well as Donabate, Rush and Lusk. A number of smaller plants treat wastewater in the rural towns and villages. Wastewater from the south of the county including Howth, Baldoyle, Sutton, Portmarnock, Santry, Meakstown and Blanchardstown discharges to the Ringsend Waste Water Treatment Plant (WwTP) operated by Dublin City Council (DCC). Planning permissions for a major upgrade at Ringsend WwTP were granted in 2012 and 2019, respectively. The upgrade is currently underway and will facilitate the existing plant meeting future wastewater treatment requirements, which will allow for growth in both population and industry. The project is being delivered on a phased basis, and when works are complete in 2025, Ringsend will have the capacity to treat the wastewater for a population equivalent of 2.4 million while achieving the standards of the Urban Waste Water Treatment Directive.

5.9.3 Energy

The Department of Communication, Climate Action and Environment (DCCAE) is responsible for the development of Ireland's energy and climate policies. Ireland's long-term energy policy framework is set out in the 2015 Energy White Paper, Ireland's Transition to a Low Carbon Energy Future 2015-2030. The Paper sets out a framework to guide Irish energy policy in the period up to 2030 and sets out a vision for a transformation of Ireland's energy systems. This includes:

- moving to lower emissions fuels and ultimately towards a lower reliance on fossil fuels;
- significantly increasing renewable generation;
- achieving a step change in energy efficiency performance;
- implementing smart and interconnected energy systems;
- strong regulatory structures and markets to underpin these changes; and
- repositioning energy consumers to have a more active role within the energy sector.

The **National Energy and Climate Plan (NECP) 2021-2030** takes into account energy and climate policies developed to date, demographic and economic growth (outlined in Project 2040) and

includes all of the climate and energy measures set out in the National Development Plan (NDP) 2018-2027.

In December 2018, the recast Renewable Energy Directive 2018/2001/EU entered into force, as part of the Clean Energy for all Europeans package. Renewable energy sources are defined as renewable non-fossil energy sources such as, but not limited to wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas, bio-gases and bio-char (i.e. the thermal treatment of natural organic materials in an oxygen-limited environment).

Central to the reduction in greenhouse gas emissions will be the continued transition from the use of fossil fuels as an energy source to a more renewable energy focused system which harnesses the potential from energy sources appropriate in Fingal.

Fingal has renewable resource potential specific to this landscape, influenced again by many local factors such as the geology, anemology, hydrology, geography and urban and spatial planning regulations of the area.

5.9.4 Transport

Transport is fundamental to how we live and work. A well performing transport system is essential to the functioning of society and the economy as a whole. The maintenance and delivery of an efficient, integrated and coherent transport network in line with national and regional policy is essential to the future economic, social and physical development of the county. Land use planning and transport planning are inextricably linked and their proper integration is a key determinant to sustainable development.

Dispersed settlement pattern and low population density in areas contributes to a high proportion of journeys being made by private car as there is no public transport or travel alternatives. In 2017, 96.7% of Ireland's transport energy demand was supplied by fossil fuels. Using more sustainable modes of transport is necessary to reduce Ireland's carbon emissions and reach the Government's goal of an 80% reduction in carbon emissions by 2050.

In 2016 in Fingal 34% (45,179) of the working population commuted to Dublin City for work. This results in a large proportion of the population commuting to work outside of the county. While the numbers living and working in the county increased over the census periods, those commuting elsewhere to work also increased. There remains a large dependence on the car as a means of getting to work, school or college within the county.

Public transport is crucial for the county and the region as it has the greatest potential to move the highest volume of people, and the delivery of public transport infrastructure in co-operation with the relevant transport agencies continues to be of utmost importance.

There are a number of strategic projects in the Greater Dublin Area (GDA) Strategy 2016-2035 proposed for Fingal that have the potential over the coming years to have a transformative impact on travel by shifting the dominance of car-based transport towards public transport.

In terms of cycling and walking infrastructure, the NTA will help progress 23 no. projects over the county such as the Royal Canal Cycle Route, the Harry Reynolds Road Cycle Track, the Donabate Estuary walking and cycling route and the Broadmeadow Way. These projects are part of a wider sustainable transport infrastructure programme to tackle climate change.

5.9.5 Dublin Airport

Dublin Airport is of strategic importance to national social and economic policy. Dublin Airport welcomed a total of 32.9 million passengers during 2019, setting a new record for traffic at the airport.

In 2020, 8.3 million passengers passed through the main Irish airports, a drop of almost 80% (-78.2%) on the previous year. This decrease is associated with the restrictions imposed due to COVID-19.

Fingal County Council is the competent authority for aircraft noise regulation at Dublin Airport under the Aircraft Noise (Dublin Airport) Regulation Act 2019. The Aircraft Noise Competent Authority (ANCA) was established by Fingal County Council in 2019.

5.9.6 Harbours and Marinas

Fingal has five harbours and two marinas. Howth is the main fishing harbour which caters to larger trawlers and has a marina. The other harbours at Balbriggan, Skerries, Rush and Loughshinny cater to smaller inshore fisheries used by a relatively low number of fishermen and are managed by the council.

5.9.7 Waste Management

One of the key drivers for a sustainable economy is the concept of a ‘circular’ economy. A circular economy aims to reduce waste and ensure that materials are used as efficiently as possible. A circular economy involves:

- getting the most from products by using them as fully as possible;

- sharing items with others to re-use where possible; and
- increasing the levels of recycling to at least recover the value of the materials used to make these products .

The *Eastern-Midlands Region (EMR) Waste Management Plan 2015-2021* provides a framework for the prevention and management of waste in a sustainable manner in 12 local authority areas. The Eastern-Midlands Region comprises Dublin City Council, Dún Laoghaire-Rathdown, Fingal, South Dublin, Kildare, Louth, Laois, Longford, Meath, Offaly, Westmeath and Wicklow County Councils.

The three key objectives of the *Eastern-Midlands Region Waste Management Plan* are:

1. Prevent waste: a reduction of one per cent per annum in the amount of household waste generated over the period of the plan.
2. More recycling: increase the recycle rate of domestic and commercial waste from 40 to 50 per cent by 2020.
3. Further reduce landfill: eliminate all unprocessed waste going to landfill from 2016.

Fingal operates two recycling centres, one at Estuary Road in Swords and one at Coolmine in Blanchardstown. These centres accept household waste only and among the items accepted free of charge include paper, glass bottles / jars, car and household batteries and Waste Electrical & Electronic Equipment (WEEE). There are a number of bring banks throughout the county, catering for bottles, cans and textiles.

5.9.8 Minerals and Aggregates

Geological Survey, Ireland (GSI) have a suite of data sources available that would be useful in planning and assessing individual projects with regard to the environmental topic(s) of soil and / or material assets. These include:

- aggregate potential mapping;
- quaternary and physiographic mapping;
- bedrock mapping; and
- national aquifer and recharge mapping.

Notwithstanding the developed urban nature of the Plan area, it is worth noting that there are a number of ‘mineral localities’ within the FCC administrative area. These townlands include:

Non-Metallic	Metallic	Both
Tankardstown	Balbriggan	Balseskin
Naul	Naul	Cloghran
Red Islands	Baltrasna	
Red Island	Loughshinny	
Colt Island	Popeshall	
St. Patricks Island	Newtown	
Milverton	Wyanstown	
Holmpatrick	Balcarrick	
Loughbarn	Corballis	
Baldongan	Robswalls	
Bettyville	Sutton South	
Ellistown	Porterstown	
Mainscourt	Laraghcon	
Quay		
Robswalls		
Feltrim		
Beechwood		
Portmarnock		
Howth Demesne		
Howth		
Sutton South		
Huntstown		
Clonsilla		

5.9.9 Green Infrastructure

Green and blue infrastructure plays an essential role in creating a more healthy and liveable county. These natural assets provide a platform for community activities, social interaction, recreation and physical activity, providing sustainable drainage solutions, facilitating biodiversity and wildlife habitats, carbon capture and creating connectivity.

5.9.10 Material Assets Issues

The development of the Plan will result in increasing demand for water, wastewater treatment, waste management, transport infrastructure / links and energy and telecommunications services. Existing material assets issues / pressures within and adjacent to the Fingal administrative area, include:

- **Water Supply -** ongoing issues with security of water supply in the Dublin and Mid-East Regions for existing users.
- **Water Supply** - on-going investment in water conservation / leak detection and fixing.
- **Water Supply** and **Wastewater Services -** new developments, (including housing, offices and retail development), will generate pressure on existing water and wastewater sources to meet demands.
- **Wastewater Services -** new developments, should only be permitted where there is adequate capacity in the wastewater infrastructure in accordance with urban wastewater treatment disposal requirements and standards. Currently, municipal wastewater discharges are creating significant pressure on the receiving waterbodies.
- **Energy** - reduction of reliance on fossil fuels, increased use of renewable energy resources
- **Telecommunications -** the rollout of connectivity in the urban environment can be complex. Lack of coordination between infrastructure and utility providers can lead to the spatially inefficient and uncoordinated provision of utilities and connectivity infrastructure.
- **Transport -** the movement of people is key to the success of new development and areas, where adequate transport infrastructure (i.e. road, rail, cycle and pedestrian routes) to these developments and accessibility throughout the development / area (safe footpath and cycle paths) is fundamental to the development of Fingal.
- **Waste -** population growth and development, and challenges in providing sustainable recycling infrastructure continues to put pressures on the local authorities to provide better waste management and access to waste services. According to CSO figures, some 500,000 homes in Ireland do not implement waste prevention practices.
- **Light Pollution** - can arise when external lighting is not properly designed or managed which can in turn lead to inappropriate or excessive light spillage.
- **Utilities -** provision, protect and maintenance of adequate utilities to support existing and envisaged development.

6 SEA Objectives, Targets and Indicators

Strategic Environmental Objectives (SEOs) assist in the prediction, description and monitoring of impacts on the environment as a result of the Plan. If complied with in full, SEOs would result in an environmentally *neutral* impact from the implementation of the Plan.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which *significant negative* impacts are likely to occur, if unmitigated.

The SEOs are distinct from the objectives of the Plan, although they will often overlap, and are developed from international, EU or national legislation which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law, all of which are intended to be implemented at county level and integrated into any Plan for the county.

The aim of the SEA is to facilitate environmental protection and to allow the integration of environmental considerations into the development of the Plan. This SEA process assesses the Plan as it evolves in terms of its environmental impacts, *positive, negative, neutral* and cumulative. The SEA process highlights how improvements can be integrated into the Plan to increase its environmental performance and maintain environmental resources. The SEOs are therefore used to assess all the policies, objectives and land-use zonings within the Plan and were also used as the basis for the monitoring programme (refer to Section 10 of this NTS).

The Strategic Environmental Objectives are set out in Table 6.1.

Table 6.1: SEOs for the Plan

Theme	Strategic Environmental Objective (SEO)
Biodiversity (Flora & Fauna) (B)	**(B_1)** Ensure no adverse effects on the integrity of any European site, regarding its qualifying interests, associated conservation status, structure and function.
	(B_2) Maintain and where appropriate, enhance the biodiversity value of national and local designated and non-designated ecological and heritage areas, which function as stepping stones for migration, dispersal and genetic exchange of wild species. Enhance biodiversity in line with the National Biodiversity Strategy and its targets.
Population & Human Health (PHH)	**(PHH_1)** Provide high quality residential, community, working and recreational environments with access to sustainable transport options.
	(PHH_2) Ensure that existing population and planned growth is linked with the required infrastructure and the services.
	(PHH_3) Protect human health and well-being from environment-related pressures.
Land, Soils & Geology (LSG)	**(LSG_1)** Safeguard designated and sensitive soil, resources and geological heritage sites against pollution and degradation.
	(LSG_2) Promote the sustainable use of infill and brownfield sites over the use of greenfield within the county.
Water Quality (W)	**(W_1)** Protect and where necessary improve and maintain water quality and the management of watercourses and groundwater and coastal waters in compliance with the requirements of the Water Framework Directive (WFD) and Marine Strategy Framework Directive objectives and measures.
	(W_2) Avoid inappropriate development in areas at risk of flooding and areas that are vulnerable to current and future erosion.
	(W_3) Integrate sustainable water management solutions (such as SuDS, porous surfacing and green roofs) into development proposals.
Air Quality & Noise (AN)	**(AN_1)** Avoid, prevent or reduce harmful effects on human health and the environment resulting from emissions to air, with particular reference to emissions from transport, residential heating, industry and agriculture.
	(AN_2) Encourage a modal change from car to more sustainable forms of transport to minimise travel-related emissions.
	(AN_3) Decrease noise emissions associated with traffic and transport and other noise related industry *etc.*
Climate Change (CC)	**(CC_1)** Adopt Climate Change mitigation and adaptation measures.

Theme	Strategic Environmental Objective (SEO)
	(CC_2) Integrate sustainable design solutions into the county's infrastructure (*e.g.* energy efficient buildings; green infrastructure).
	(CC_3) Contribute towards the reduction of greenhouse gas emissions in line with national targets.
	(CC_4) Encourage and promote development which is resilient to the effects of climate change.
	(CC_5) Promote the use of renewable energy, energy efficient development and increased use of public transport.
Cultural Heritage (CH)	**(CH_1)** Protect places and features of cultural archaeological heritage from impact as a result of development.
	(CH_2) Protect places, features, buildings and landscapes of cultural, architectural heritage from impact as a result of development.
Landscape & Visual (LV)	**(LV_1)** Protect and maintain the special qualities of the landscape character of Fingal, especially with regard to areas of high amenity - coastal zone and islands, river valley areas (Liffey, Delvin, Ward and Tolka) and the Naul Hills area.
	(LV_2) Protect and maintain the special qualities of identified scenic views.
Material Assets (MA)	**(MA_1)** Make best use of existing infrastructure, promote the sustainable development of new infrastructure to meet population distribution and protect existing assets, to meet the needs of Fingal's population.
	(MA_2) Promote the circular economy, reduce waste, and increase energy efficiencies.
	(MA_3) Ensure there is adequate sewerage and drainage infrastructure in place to support new development.
	(MA_4) Encourage a reduction in energy demand from the transport sector and support moves to more sustainable modes of transport, including electrification of road and rail transport.

7 Consideration of Alternatives

The SEA Directive and Regulations requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their *likely significant effects* on the environment.

Article 5(1) of the SEA Directive and 13E(1) of the Planning Development (Strategic Environmental Assessment) Regulations 2004 (as amended 2011) requires that the Planning Authority considers within the Environmental Report:

- reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme;
- the alternatives are identified, described and evaluated;
- an outline of the reasons for selecting the alternatives dealt with; and
- a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how encountered in compiling the required information.

7.1 Limitations in Available Alternatives

The Plan is required to be prepared in accordance with the Planning and Development Act 2000 (as amended), which specifies various types of objectives that must be provided for by the Plan. The alternatives available for the Plan are significantly limited by the provisions of higher-level planning objectives, including those of the *National Planning Framework (NPF)* and the *Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region*, refer to Section 4 of the NTS. These documents set out various requirements for the content of the Plan including on topics such as land-use zoning, residential unit requirements and the sustainable development of rural areas.

7.2 Alternative Scenarios

As noted above, the selection of alternatives to the approach for the new Plan is restricted by the requirement to comply with the policies and objectives of the *National Planning Framework*, the *Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region* and other national guidelines, all of which have been subject to SEA. Given that preparation of a County Development Plan is a requirement of the Planning and Development Act 2000, as amended, consideration of a '*do-nothing*' alternative is not a reasonable alternative.

Alternative 1: Promote new development evenly for all appropriately zoned and serviced lands.

Alternative 2: Utilise a phased approach to a promotion of new development towards targeted areas of appropriately zoned and serviced lands.

As previously noted, the selection of Alternatives for the new Plan is significantly constrained by the requirement to comply with the policies and objectives of the National Planning Framework, RSES and other national guidelines, all of which have been subject to SEA. However, both alternatives outlined above focus on different means of achieving the aims of the Plan and therefore can be considered to be in accordance with the objectives of the higher level plans.

The following considerations are relevant to the assessment of the alternatives:

- Population and Housing growth forms a central part of the Core Strategy complying with National and Regional Planning Policy. Monitoring is set at a strategic level which examines the function of each settlement.
- Residential development is directed to lands already zoned for residential use in the current plan – no appreciable new residential zoning is proposed.
- Having zoned and serviced land available for the sustainable growth of the county is key requirement and asset but also requires significant capital expenditure in terms of provision of infrastructure and servicing. Therefore, it is important that such lands are developed in a timely manner as envisaged in the Plan to deliver on national growth demands and to provide a return on national investments.
- For monitoring at a settlement and neighbourhood scale, the policy is to examine each settlement with options to transfer a portion of the allocated units from one neighbourhood area to another, subject to demonstration that the necessary social and physical infrastructure is in place or can be provided. This enables for flexibility in terms of locating new housing while complying with the overall core strategy.

The Council will continue to monitor the housing and employment output in areas, especially as part of the 2022 Census and the 2026 Census as part of the review of the 2029 Plan.

7.3 Assessment of Alternatives

In the consideration of the Strategic Environmental Objectives (SEOs), the assessment of alternatives assesses and responds to the following questions:

- sufficient homes, of appropriate types, in appropriate locations, at the appropriate times;
- reduce the need to travel through more sustainable patterns of land-use and development;
- encourages modal shift to more sustainable forms of travel;
- enables key transport infrastructure improvements;
- protects and enhances natural habitats, wildlife, biodiversity and geodiversity where possible;
- protects the integrity of European sites and other designated nature conservation sites;
- encourages the creation of new habitats and features for wildlife;
- conserves soil resources where possible and avoid waste of same;
- promotes brownfield development over greenfield;
- protects and enhances archaeology and heritage assets, and areas of sensitive landscape character;
- minimises and reduces the potential for exposure of people to noise, air and light pollution;
- responds to the likelihood of predicted climate change events;
- provides adequate infrastructure to ensure the sustainable supply of water and disposal of sewerage; and
- maximises opportunities for recycling and minimising waste.

Table 7.1: Assessment of Plan Alternatives

Alternative Considered	Positive	Negative	Uncertain	Neutral
Alternative 1: Promote new development evenly for all appropriately zoned and serviced lands. An even promotion of sustainable development on appropriately zoned lands provides for a greater likelihood of achieving the required growth and thereby return on capital investment for infrastructure and servicing of zoned lands within the Plan period. The alternative retains many of the uncertain environmental impacts associated with all development and which will require appropriate consideration and mitigation in the formulation of the policies and objectives in the Plan.	PHH_1; PHH_2; MA_1;		B_1; B_2; W_1; W_3; AN_1; AN_3; CC_2; CC_3; CC_4; CC_5; CH_1; CH_2; LV_1; LV_2; MA_2; MA_3; MA_4	PHH_3; LSG_1; LSG_2; W_2; AN_2; CC_1;

Alternative Considered	Positive	Negative	Uncertain	Neutral
Alternative 2: Utilise a phased approach to a promotion of new development towards targeted areas of appropriately zoned and serviced lands. A targeted promotion of sustainable development on appropriately zoned lands results in greater likelihood of failing to achieve the required growth and thereby losing out on potential return on capital investment for infrastructure and servicing of zoned lands within the Plan period. The alternative retains many of the uncertain environmental impacts associated with all development and which will require appropriate consideration and mitigation in the formulation of the policies and objectives in the Plan.		PHH_1; PHH_2; CC_4; CC_5; MA_1;	B_1; B_2; W_1; W_3; AN_1; AN_3; CC_2; CC_3; CH_1; CH_2; LV_1; LV_2; MA_2; MA_3; MA_4	PHH_3; LSG_1; LSG_2; W_2; AN_2; CC_1;

7.4 Preferred Option

The preferred strategic alternative for the approach to the Plan is **Alternative 1: Promote new development evenly in all appropriately zoned and serviced lands**. This is based on:

- consistency with the requirements of the NPF and RSES;
- maintaining and enhancing existing settlements, within a connected neighbourhood context;
- maximising potential for delivery of required growth within the Plan period;
- maximising opportunity for return on capital expenditure towards infrastructure and services for zoned lands, and
- continuing promotion of smarter travel policies, reduction in commuting, with increased walking and cycling.

8 Strategic Environmental Assessment of the Plan

8.1 Introduction

The purpose of this section of the SEA Environmental Report is to predict and evaluate as far as possible the environmental effects of the Plan.

This Non-Technical Summary (NTS) is a summary of the detailed assessment of the policies and objectives and land-use zonings contained within the Plan (2023-2029), which will identify where, if any, effects on the environment may occur. The policies and objectives are assessed against the SEOs for *likely significant environmental effect.* These may be either potentially *positive, uncertain* or potentially *negative*, direct or indirect, cumulative and / or in-combination effects. While the majority will have *positive* effects, some principles, policies and objectives of the Plan have been identified as having potential for *uncertain* or *negative* environmental effects. These are highlighted as requiring further consideration and for development of appropriate mitigation measures.

In accordance with SEA Guidelines the assessment identifies *'impact'* under four headings. Firstly the quality of impact is addressed using the following terms:

Potential Positive Impact - a change which improves the quality of the environment.
Potential Negative Impact - a change which reduces or lessens the quality of the environment.
Uncertain Impact - the nature of any impact cannot be ascertained at this stage.
Neutral or No Relationship - a change which does not affect the quality of the environment.

8.2 Environmental Assessment of the Plan

By assessing the policies and objectives in the Written Statement of the Fingal Development Plan 2023-2029 against the environmental objectives it identified where there were any incompatibilities and / or conflicts between them and where environmental considerations needed to be strengthened. Where considered necessary the assessment resulted in recommended mitigation for some objectives. The assessment is provided in Table A8.1 in Appendix A1 of the SEA Environmental Report and Mitigation is addressed in Section 9 of this NTS.

The preparation of the Plan was preceded by the preparation of the Chief Executive's Draft Plan (CE's Draft Plan) which was issued to the Elected Members on the 3 December 2021. Following consideration by the Elected Members, 917 no. motions where received. These motions, which were

screened for environmental impact and appropriate assessment, were debated by the Elected Members in a series of meetings convened between the 18 January and 10 February 2022. Changes to the CE's Draft Plan were approved and these were incorporated into the Draft Plan and into the SEA Environmental Report, the Appropriate Assessment (Natura Impact Report) and Strategic Flood Risk Assessment (SFRA).

The assessment considered the full extent of the Plan, including the written Plan, and associated land-use maps and appendices. The Plan includes the following Appendices:

- Appendix 1: Fingal Housing Strategy
- Appendix 2: Implementation of Ministerial Guidelines
- Appendix 3: Policy Context
- Appendix 4: Infrastructure Capacity Assessment
- Appendix 5: Record of Protected Structures and ACAs
- Appendix 6: Recorded Monuments / Sites and Monuments Record
- Appendix 7: Technical Guidance Notes
- Appendix 8: Map Based Local Objectives
- Appendix 9: Dublin Bay Biosphere Reserve Map 2016
- Appendix 10: List of Townlands to which Assessment Zone D Applies
- Appendix 11: FCC SuDS Guidance Document 'Green / Blue Infrastructure for Development'
- Appendix 12: Acronyms

The Plan included a wide range of policies and objectives for sustainable development and environmental protection of the county. As set out in Table A8.1 (of Appendix A1 of the SEA Environmental Report), the majority of these policies and objectives have *Positive or a Neutral* impact on the environment.

8.2.1 Potential Positive / Protective Policies and Objectives of the Plan

The Plan includes a wide range of policies and objectives for sustainable development and environmental protection of the county. In addition, the Plan contains a significant number of policies and objectives which by their drafting and substance are protective of environmental factors or of the environment as a whole. The protective policies and objectives assist in the mitigation of

potentially uncertain or potentially negative effects of other policies and objectives (refer to Chapter 9 Mitigation).

8.2.2 Potential Uncertain Policies and Objectives

Many policies and objectives promote or support development may include for potentially positive environmental effects (e.g. new greenways, renewable energy, supportive infrastructure etc.). However, depending on the location of such initiatives, these policies and objectives also have potential for uncertain environmental impacts cannot be ruled out. Potential for uncertain impacts may arise across all environmental factors, however, are most likely for factors such as biodiversity, soils, water, cultural heritage and landscape. Policies and Objectives in the Plan which provide for the mitigation of potential uncertain effects of these policies and objectives are set out in Table 9.1 (refer to Chapter 9 Mitigation).

8.2.3 Potential Negative Policies and Objectives of the Plan

A number of the policies and objectives that promote or support development, are likely to give rise to some element of adverse environmental effects and these have been assessed as having a potentially negative Impact. The impacts may relate to all environmental factors or to a limited range of such factors. These policies and objectives usually relate to potentially larger-scale development such as linear infrastructure or to developments with specific environmental considerations, *e.g.* major road, rail and airport development, major renewable energy development, coastal development, quarrying activity and flood protection measures. Policies and Objectives in the Plan which provide for the mitigation of potential negative effects of these policies and objectives are set out in Table 9.1 (refer to Chapter 9 Mitigation).

8.3 Climate Mitigation and Adaption in the Plan

Climate Change, and considerations around Climate Mitigation and Adaption are to the forefront of the Plan and specifically addressed in Chapter 5 of the Plan. The Plan sets Strategic Aims and Climate Polices CAP1 to CAP35 and Objectives (CAO1, CAO2 & CAO3) all of which promote and support implementation of International and National objectives on climate change and adaptation, climate action and mitigation, transition to a climate resilient low carbon county, and alignment with the Climate Action Plan 2023 and the Fingal Climate Action Plan.

8.4 Interrelationship between Environmental Factors

The SEA Environmental Report includes information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. Likely significant effects on environmental factors are set out in Table A8.1 in Appendix A1 and Section 8.2 above.

Table 8.1 of the Environmental Report identifies where there are significant interrelationships between the environmental factors. The implementation of the Plan will not affect the interrelationships between these components.

Table 8.1: Interrelationship between Environmental Factors

Component	Biodiversity	Population & Human Health	Soils & Geology	Water Quality	Air, Noise & Climate	Cultural Heritage	Landscape & Visual	Material Assets
Biodiversity		Yes	Yes	Yes	Yes	No	Yes	Yes
Population & Human Health			Yes	Yes	Yes	No	Yes	Yes
Soils & Geology				Yes	No	No	Yes	Yes
Water Quality					Yes	Yes	Yes	Yes
Air, Noise & Climate						Yes	Yes	Yes
Cultural Heritage							Yes	Yes
Landscape & Visual								Yes
Material Assets								

8.5 Appropriate Assessment and Strategic Flood Risk Assessment

Stage 2 Appropriate Assessment (AA) and a Strategic Flood Risk Assessment (SFRA) have been undertaken alongside the preparation of the Plan and the SEA.

Under the EU Habitats Directive, the requirement for AA is provided. A Natura Impact Report (NIR) has been prepared in accordance with the Planning and Development Act, 2000 (as amended) and in accordance with the requirements of Council Directive 1992/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

It has been objectively concluded, following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts associated with the Plan, and that the implementation of mitigatory measures identified (at this stage of the iterative process) that the Plan will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects.

A SFRA is required by the '*Planning System and Flood Risk Management Guidelines for Planning Authorities*' (2009). The recommendations from this SFRA have been integrated into the Plan.

Policies and objectives have been integrated into the Plan through the SEA, SFRA and AA processes. The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA.

8.6 Cumulative Impacts

This section provides an outline of the potential cumulative effects on the environment as a result of implementation of the Plan. Cumulative effects are referred to SEA Guidance documents and are defined in the *EPA Sea Process Checklist* (2008) as:

> "*effects on the environment that result from incremental changes caused by the strategic action together with other past, present and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space*".

These effects can be insignificant individually but cumulatively over time and from a number of sources can result in the degradation of sensitive environmental resources.

The EPA publication, '*Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment*' (2020), notes that in Ireland, key cumulative effects – "*where environmental receptors are at, or near, their thresholds or their capacity to assimilate more change – include climate change; water management, including flood risk management; air quality; and biodiversity, including peatlands and wetlands. Land-use change over time is irrevocably changing Ireland's landscape. There may also be more locally significant cumulative effects; for example, loss of tranquillity and amenity affecting people's health and wellbeing. The cumulative effects assessment in SEA should focus on the key cumulative issues of climate change, water quality, flood risk, air quality, biodiversity and landscape, plus any other locally significant cumulative effects.*"

There are two types of potential cumulative effects that have been considered:

- Potential intra-Plan cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a plan, programme, etc. The interrelationships between environmental components that help determine potential effects, e.g. interrelationships between: human health and water quality. Refer to Section 8.5.
- Potential inter-Plan cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc.

Section 8.5 of the SEA Environmental Report outlines the environmental topics that interact with each other (*e.g*. human beings and water and soils) as well as the international, national, regional and local plans, policies and programmes that have the potential for cumulative or in-combination effects with the Fingal Development Plan.

8.7 Overall Evaluation

Fingal County Council has prepared the Fingal Development Plan 2023-2029 and has integrated recommendations arising from the SEA, AA and SFRA processes into the Plan. Section 8.2 (with Appendix A1) provides a detailed overall evaluation of the environmental effects arising from the Plan. The effects take account of potential in-combination / cumulative effects arising from implementation of the Plan. Potentially significant adverse environmental effects (if unmitigated) arising from implementation of the Plan are detailed, as are appropriate and detailed mitigation measures (refer to Chapter 9). Taking into account, inter alia, the detailed mitigation which has been integrated into the Plan (including that which is identified at Chapter 9), it has been concluded that

significant residual adverse environmental effects will not occur. Requirements for monitoring of potential environmental impacts during the implementation of the Plan are set out in Chapter 10.

9 Mitigation Measures

Mitigation measures are the measures used to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan with the proposed amendments, including material amendments.

While every effort will be taken to ensure that the impact of the Plan on the environment is *neutral to positive*, certain *unavoidable negative* impacts may occur as a result of its adoption. Where *uncertain* or *potential negative* impacts have been identified, appropriate protective objectives are included in Plan to ensure adequate protection of the environment. These include protective policies for all aspects of the environment including, population and human health, biodiversity (flora and fauna), land, soil, water, air and climate, material assets, cultural heritage and the landscape. Mitigation was achieved through the:

- Strategic work undertaken by FCC to ensure contribution towards environmental protection and sustainable development;
- Considering alternatives for the Plan;
- Integration of environmental considerations into zoning provisions of the Plan; and
- Integration of individual SEA, AA and SFRA provisions into the text of the Plan.

The mitigation measures, which are incorporated into the Plan and which are set out in Table 9.1, will ensure that implementation of the Plan, with the proposed amendments, including material amendments, will have a *neutral* to *positive impact* on the environment as a whole.

Table 9.1: Mitigation Measures for Potentially Uncertain and / or Negative Policies and Objectives in the Plan

Strategic Environmental Objective (SEO)	Protective / Mitigation Policy / Objective
Biodiversity (Flora & Fauna) (B-1 and B-2)	**Chapter 1**: Strategic Objective 1. **Chapter 9**: Policy GINHP4; Policy GINHP5; Policy GINHP7; Policy GINHP11; Policy GINHP12; Policy GINHP13; Policy GINHP14; Policy GINHP17; Policy GINHP21; Policy GINHP22; Policy GINHP32; Objective GINHO32; Objective GINHO37; **Chapter 14**: Objective DMSO140; Objective DMSO145; Objective DMSO152; Objective DMSO158; Objective DMSO160. **Green Infrastructure Measures:** GIM14; GIM16; GIM28; GIM30.
Population & Human Health (PHH-1, PHH-2 & PHH-3)	**Chapter 1**: Strategic Objective 3. **Chapter 3**: Policy SPQHP1; Policy SPQHP25; Objective SPQHO2; Objective SPQHO23; Objective SPQHO61. Objective SPQHO63. **Chapter 4**: Policy CIOSP3; Policy CIOSP7; Policy CIOSP9; Objective CIOSO15; Objective CIOSO25. **Chapter 6**: Policy CMP9. **Chapter 11**: Objective IUO42. **Chapter 14**: Objective DMSO4; Objective DMSO254. **Green Infrastructure Measures:** GIM8. In addition the protective / mitigation policies noted under all other environmental factors in this table are of relevance for Population and Human Health.
Land, Soils & Geology (LSG-1 and LSG-2)	**Chapter 9**: Policy GINHP23; Policy GINHP27; Objective GINHO52; Objective GINHO53; Objective GINHO54; Objective GINHO57; Objective GINHO67. **Chapter 14**: Objective DMSO161. **Green Infrastructure Measures:** GIM8.
Water Quality (W-1, W-2 and W-3)	**Chapter 1**: Strategic Objective 10; Strategic Objective 11. **Chapter 5**: Policy CAP11; Policy CAP29; Policy CAP30. **Chapter 7**: Objective EEO77. **Chapter 8**: Policy DAP7; Policy DAP10. **Chapter 9**: Objective GINHO77. **Chapter 11**: Policy IUP2; Policy IUP3; Policy IUP10; Policy IUP12; Policy IUP13; Policy IUP14; Policy IUP15; Policy IUP17; Policy IUP18; Objective IUO14; Objective IUO15; Objective IUO17; Objective IUO18; Objective IUO19; Objective IUO21; Objective IUO25.

Strategic Environmental Objective (SEO)	Protective / Mitigation Policy / Objective
	Chapter 14: Objective DMSO160; Objective DMSO164; Objective DMSO205; Objective DMSO212; Objective DMSO215.
Air Quality & Noise (AN-1, AN-2 and AN-3)	**Chapter 3**: Objective SPQHO82; Objective SPQHO83. **Chapter 4**: Objective CIOSO7; Objective CIOSO33. **Chapter 7**: Objective EEO34. **Chapter 8**: Policy DAP5; Objective DAO11; Objective DAO12; Objective DAO13; Objective DAO14; Objective DAO15; Objective DAO24; Objective DAO25. **Chapter 11**: Objective IUO7. **Chapter 14**: Objective DMSO33; Objective DMSO43; Objective DMSO45; Objective DMSO46; Objective DMSO098; Objective DMSO102; Objective DMSO105; Objective DMSO106; Objective DMSO108; Objective DMSO199; Objective DMSO242; Objective DMSO243; Objective DMSO244; Objective DMSO245; Objective DMSO246.
Climate Change (CC-1, CC-2, CC-3, CC-4 and CC-5)	**Chapter 1**: Strategic Objective 11. **Chapter 5**: Policy CAP1; Policy CAP2; Policy CAP3; Policy CAP4; Policy CAP5; Policy CAP6; Policy CAP7; Policy CAP8; Policy CAP9; Policy CAP10; Policy CAP11; Policy CAP12; Policy CAP13; Policy CAP15; Policy CAP16; Policy CAP17; Policy CAP18; Policy CAP19; Policy CAP20; Policy CAP21; Policy CAP22; Policy CAP23; Policy CAP24; Policy CAP25; Policy CAP26; Policy CAP27; Policy CAP28; Policy CAP29; Policy CAP30; Policy CAP31; Policy CAP32; Policy CAP33; Policy CAP35; Objective CAO1; Objective CAO2. **Chapter 6**: Policy CMP1. **Chapter 7**: Objective EEO77. **Chapter 8**: Policy DAP2; Policy DAP4; Objective DAO4; **Chapter 9**: Policy GINHP23; Objective GINHO19; Objective GINHO72. **Chapter 10**: Policy HCAP29; Objective HCAO5; Objective HCAO6; Objective HCAO12; Objective HCAO21; Objective HCAO50. **Chapter 11**: Policy IUP1; Policy IUP10; Policy IUP12; Objective IUO19. **Chapter 14**: Objective DMSO163; Objective DMSO166; Objective DMSO169; Objective DMSO214; Objective DMSO258; Objective DMSO261. **Green Infrastructure Measures:** GIM28; GIM30.
Cultural Heritage (CH-1 and CH-2)	**Chapter 1**: Strategic Objective 12. **Chapter 3**: Objective SPQHO43; Objective SPQHO59; Objective SPQHO88.

Strategic Environmental Objective (SEO)	Protective / Mitigation Policy / Objective
	Chapter 5: Policy CAP6; Policy CAP7; Policy CAP27. **Chapter 7**: Objective EEO48. **Chapter 9**: Policy GINHP4; Policy GINHP5; Policy GINHP8; Policy GINHP12; Policy GINHP22; Policy GINHP23; Policy GINHP27; Policy GINHP30; Policy GINHP32; Objective GINHO2; Objective GINHO8; Objective GINHO17; Objective GINHO18; Objective GINHO28; Objective GINHO33; Objective GINHO52; Objective GINHO57; Objective GINHO67; Objective GINHO78; Objective GINHO80. **Chapter 10**: Policy HCAP1; Policy HAO5; Policy HCAP6; Policy HCAP7; Policy HCAP8; Policy HCAP9; Policy HCAP21; Policy HCAP22; Policy HCAP23; Policy HCAP27; Policy HCAP28; Policy HCAP29; Policy HCAP30; Policy HCAP31; Policy HCAP32; Policy HCAP35; Objective HCAO3; Objective HCAO4; Objective HCAO7; Objective HCAO11; Objective HCAO15; Objective HCAO18; Objective HCAO23; Objective HCAO25; Objective HCAO28; Objective HCAO32; Objective HCAO33; Objective HCAO35; Objective HCAO42; Objective HCAO44; Objective HCAO45; Objective HCAO46; Objective HCAO49; Objective HCAO50; Objective HCAO51; Objective HCAO52; Objective HCAO53; Objective HCAO54; Objective HCAO55; Objective HCAO57; Objective HCAO66; Objective HCAO70. **Chapter 11**: Objective IUO23. **Chapter 14**: Objective DMSO6; Objective DMSO8; Objective DMSO29; Objective DMSO87; Objective DMSO103; Objective DMSO148; Objective DMSO169; Objective DMSO173; Objective DMSO174; Objective DMSO184; Objective DMSO190; Objective DMSO191; Objective DMSO192; Objective DMSO193; Objective DMSO229. **Green Infrastructure Measures:** GIM2; GIM4; GIM9; GIM10.
Landscape & Visual (LV-1 and LV-2)	**Chapter 1**: Strategic Objective 11. **Chapter 2**: Objective CSO54; Objective CSO57; Objective CSO74. **Chapter 3**: Policy SPQHP41; Policy SPQHP54; Objective SPQHO5; Objective SPQHO51; Objective SPQHO84; Objective SPQHO85; Objective SPQHO88. **Chapter 7**: Policy EEP24; Objective EEO16; Objective EEO51; Objective EEO52; Objective EEO63; Objective EEO66; Objective EEO70; Objective EEO72; Objective EEO74; Objective EEO75. **Chapter 9**: Policy GINHP4; Policy GINHP5; Policy GINHP8; Policy GINHP9; Policy GINHP21; Policy GINHP24; Policy GINHP25; Policy GINHP27; Policy GINHP30; Policy GINHP32; Objective GINHO17; Objective GINHO56; Objective GINHO57; Objective GINHO59; Objective GINHO60; Objective GINHO61; Objective GINHO74; Objective GINHO80. **Chapter 10**: Policy HCAP8; Policy HCAP17; Policy HCAP18; Policy HCAP19; Policy HCAP20; Objective HCAO3; Objective HCAO9; Objective HCAO25; Objective HCAO29; Objective HCAO32; Objective HCAO33.

Strategic Environmental Objective (SEO)	Protective / Mitigation Policy / Objective
	Chapter 14: Objective DMSO12; Objective DMSO41; Objective DMSO42; Objective DMSO43; Objective DMSO47; Objective DMSO58; Objective DMSO72; Objective DMSO92; Objective DMSO103; Objective DMSO140; Objective DMSO162; Objective DMSO171; Objective DMSO189; Objective DMSO223; Objective DMSO224; Objective DMSO229; Objective DMSO232. **Green Infrastructure Measures:** GIM8; GIM12; GIM13; GIM14; GIM15; GIM16; GIM28.
Material Assets (MA-1, MA-2, MA-3 and MA-4)	**Chapter 1**: Strategic Objective 2; Strategic Objective 10. **Chapter 2**: Policy CSP4; Policy CSP11; Policy CSP31; Objective CSO51. **Chapter 3**: Objective SPQHO5; Objective SPQHO58; Objective SPQHO97. **Chapter 6**: Policy CMP2; CMP8; CMP19; CMP24. **Chapter 7**: Policy EEP13; Objective EEO58; Objective EEO73. **Chapter 11**: Policy IUP1; Policy IUP3; Policy IUP4; Policy IUP8; Policy IUP9; Objective IUO3; Objective IUO4; Objective IUO5. **Chapter 14**: Objective DMSO18; Objective DMSO123; Objective DMSO196; Objective DMSO197; Objective DMSO198; Objective DMSO199; Objective DMSO200; Objective DMSO201; Objective DMSO224; Objective DMSO225; Objective DMSO231; Objective DMSO233. **Green Infrastructure Measures:** GIM8.

10 Monitoring

Article 10 of the Strategic Environmental Assessment Directive (2001/42/EEC) requires that the significant environmental effects of the implementation of the Plan are monitored in order to identify, at an early stage, unforeseen adverse effects and in order to undertake appropriate remedial action. This is to provide for any unforeseen *adverse* effects to be identified at an early stage in its implementation, allowing for appropriate remedial action to be undertaken.

The primary purpose of monitoring is to allow the actual impacts of the *Fingal Development Plan 2023-2029* on adoption to be assessed against the Strategic Environmental Objectives and their associated targets (overall aim) and indicators (measurement of monitoring change). The indicators used will show changes that would be attributable to the implementation of the Plan.

Monitoring can use existing sources of information and does not necessarily require new research to be undertaken. However, monitoring can be effective in identifying where additional research should be targeted to supplement where information is deficient.

The environmental monitoring programme is outlined in Table 10.1 and has been developed based on the SEA Objectives. The SEA Objectives formed the basis of the assessment of the Plan and it includes targets (overall aim), indicators (measurement of monitoring change) and data sources.

Fingal County Council will work with other agencies, including EPA, the NPWS, IFI, and those with environmental mandates to gather data for the purposes of monitoring the Plan. It is proposed that the SEA monitoring reporting should go parallel with the reviewing of the Plan.

Table 10.1: Environmental Monitoring Programme

Theme	Targets	Indicators	Data Sources and Responsibility
Biodiversity (Flora & Fauna) (B)	Maintain or enhance status of European Sites	Condition of European Sites	Consultation with the NPWS / DoHLGH
	Improve / update knowledge on features / sites of biodiversity value within the county	Number and nature of baseline studies / surveys commissioned / completed for biodiversity	FCC Departments
	All local level land use plans to include an ecosystem services approach and green / blue infrastructure provisions and as a minimum, to have regard to the required targets in relation to the conservation of European sites, other nature conservation sites, ecological networks, and protected species	Number of spatial plans that have incorporated ecosystem services content, mapping and policy to protect / promote ecosystem services when their relevant plans are either drafted or revised	Internal monitoring of preparation of local land use plans – multiple FCC Departments
	Screen for and undertake SEA and AA as relevant for plans and projects arising from Development	Number of new plans subject to SEA and / or AA	Internal monitoring of preparation of local land use plans – multiple FCC Departments
	Complete and implement Fingal Biodiversity Action Plan 2018-2023	Performance on achieving actions in adopted Biodiversity Action Plan	FCC Departments
	Develop and Implement Green Infrastructure Strategy / Roll out of Ecosystem Services approach for the County	Progress on: - No. of projects commenced - SuDS projects/ retrofitting - River restoration - other flagship projects	Internal monitoring – multiple FCC Departments
	Managing Invasive Species in the County	Implementing/ Achieving actions/ targets of the Invasive Species Plan	FCC Departments
Population & Human Health (PHH)	Improving the Attractiveness / Viability of and pedestrian activity in major town centres	Pedestrian Footfall Counts in major town centres	FCC Departments

Theme	Targets	Indicators	Data Sources and Responsibility
	Deliver / Sustain Economic Growth and Development	Population, labour force participation and unemployment data	FCC Departments
	Healthy Placemaking	Increase in the proportion of people reporting regular cycling / walking to school and work above 2016 CSO figures	FCC Departments
		Land use plans to include specific reference / measures in relation to human health (e.g. measures for reduction in fossil fuel use in homes and transport, improve access to and provision of sports and recreation and amenity facilities, etc.)s	Internal monitoring – multiple FCC Departments
		HIQA Health Data	HIQA
	Growth of Population in Areas Targeted for Growth & Development (Core Strategy)	Population growth data for county EDs	Central Statistics Office
Soils & Geology (SG)	To achieve 50% growth in built-up area	Increase proportion of development of brownfield county/ suburban lands	FCC Departments
	Dispose of contaminated material in compliance with EPA guidance and waste management requirements	No. of incidences of non-compliant contamination breaches	FCC Department – Waste Management Division
	Proactively manage and prevent soil sealing / permeability	No. of SuDS retrofitting projects / initiatives Introduction of SuDS in new development areas.	Internal monitoring – multiple FCC Departments
Water Quality and Flooding (WQ&F)	Maintain / improve the status of surface water bodies in accordance with WFD requirements	Change of status of water bodies. Findings of reporting on the monitoring programme for the WFD	FCC Departments – Water Services Division

Theme	Targets	Indicators	Data Sources and Responsibility
		Implementation of the objectives of the second cycle of the River Basin Management Plan by 2021 (and objectives as relevant) Water quality monitoring to enable WFD water body status classification Completion of river catchment projects Reduction in wastewater emissions per person per annum Changes in water quality before and after implementation of river catchment projects	
	To Manage Fingal's Flood Risk through Provision and Upgrading of Flood Alleviation Assets	Progress on implementation of listed flood projects	FCC Departments - Flood Projects and WFD Division
	Minimise/ manage developments in areas at risk of flooding	Planning application compliance with the requirements of the Development Plan SFRA Preparation of SWMPs Number of incidences of flooding of existing and new development	FCC Departments - Flood Projects and WFD Division
Air Quality (AQ) and Climate (CC)	Improvement in Air Quality	Preparation of the Air Quality Management Plan for Dublin Agglomeration (2021+) No. apps referred to Air Quality Monitoring and Noise Control Unit re: compliance with noise/ air quality policy Proportion of journeys made by private fossil fuel-based car compared to 2016 National Travel Survey levels. Changes in NOx, SOx, PM10 and PM2.5 as part of Ambient Air Quality Monitoring	FCC Departments - Air Quality Monitoring and Noise Control - Environment EPA

Theme	Targets	Indicators	Data Sources and Responsibility
	Maintain/ Improve Acoustic Quality in the County	Preparation of Noise Maps in compliance with the EU Environmental Noise Directive (2021+) No. apps referred to Air Quality Monitoring and Noise Control Unit re: compliance with noise/ air quality policy	FCC Departments - Air Quality Monitoring and Noise Control - Environment
	Compliance with CO2 emission reduction targets	Number of applications submitted with Climate Action Energy Statements	FCC Departments - Environment
		Number of applications for District Heating Enabled Development	
		Number of Decarbonisation Zones established	
		Number of EV charging points installed	
	Implement FCC Climate Action Plan	Positive process on specified actions	
Cultural Heritage (CH)	Protecting Built Heritage	No's additions/ deletions/ amendments to RPS No. ACA's adopted No's of Buildings at Risk files opened / closed	FCC Departments - Heritage
	Protection/ Promotion of Culture	Implementation of Fingal's Culture and Creativity Strategy / public engagement	FCC Departments - Culture
Landscape & Visual (LV)	Improvement in the public realm and visual quality of the county.	Number of public realm improvement projects New Tree Planting, including Street tree planting	FCC Departments - Parks

Theme	Targets	Indicators	Data Sources and Responsibility
	Protection of County's Landscapes	Park / Open Space Enhancement Projects Historic Landscape Enhancement Restoration Projects (e.g. historic squares)	FCC Departments – Parks / Heritage
Material Assets (MA)	Protect and Provide for our Critical Infrastructure	No. of critical infrastructure projects No. of incidences of loss / poor service / impact on assets (potable water, wastewater management, flooding monitoring)	Multiple FCC Departments / External Service Managers / Providers / Irish Water
	Increase in provision of public reuse and recycling facilities	Pilot Projects – composting / waste management Percentage increase in number of registered FCC facilities	FCC Departments - Waste Management Division
	Reduce pressure on waste water system in the county	FCC SuDS projects Enhancement projects (e.g. addressing combined sewers) Drainage Action Plans	FCC Departments – Drainage Services / Irish Water
	Sustainable Transport	Modal shifts to more sustainable modes New public transport infrastructure Cycle infrastructure	FCC Departments - Transportation NTA
	Increase provision of parks and green links	New parks / upgraded parks New green route cycle paths	FCC Departments – Parks / Infrastructure NTA
	Integration of new designated development areas with critical infrastructure	Infrastructure upgrades as part of LAPs/ Masterplans / Framework Plans / Urban Plans	Multiple / FCC Department Planning / Infrastructure

11 Conclusion

The assessment of the Plan has concluded that its objectives are acceptable and represent a balanced and fair approach to the sustainable development of the county. Monitoring of the Plan throughout its lifetime will ensure that any *potential adverse* environmental impacts, unforeseen at this stage will be identified early, so as to prevent any deterioration of the environment. This Plan, as currently presented, balances growth with environmental protection and can deliver a sustainable future for the inhabitants of the area.

Taking into account the mitigation measures which has been integrated into the Plan, it has been determined that significant residual adverse environmental effects will not occur as a result of the implementation of the Fingal Development Plan 2023-2029.

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