Strategic Environmental Assessment

PORTMARNOCK SOUTH Local Area Plan

Final Environmental Report

JULY 2013

Comhairle Contae Fhine Gall
Fingal County Council

LAP

ENVIRONMENTAL REPORT
OF THE
Portmarnock South LOCAL AREA PLAN
2013-2019

STRATEGIC ENVIRONMENTAL ASSESSMENT

Fingal County Council
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Section 1 SEA Introduction and Background

1.1 Introduction

Fingal County Council is currently preparing a Local Area Plan for Portmarnock South 2013-2019. This Local Area Plan (LAP) is a land use plan and overall strategy for the development of Portmarnock South over the period 2013-2019. The successful implementation of the Plan will have a positive impact on Portmarnock South ensuring that it develops in a sustainable manner and will also complement the implementation of the Fingal County Development Plan 2011-2017.

This document is the Strategic Environmental Assessment (SEA) Environmental Report of the Draft Portmarnock South Local Area Plan (LAP) 2013-2019. The purpose of this Environmental Report is to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of development and growth within the Plan area.

SEA is a key process that promotes sustainable development and highlights significant environmental issues within the planning regime. The purpose of SEA is to formally and systematically evaluate the likely significant effects of implementing a plan or programme, in this instance the Draft LAP for Portmarnock South. SEA is an iterative process and has informed and guided the preparation of the objectives and development alternatives for the Portmarnock South LAP with the aim of achieving sustainable development in the area without causing adverse harm to the environment.

This Environmental Report is not the SEA, rather it documents the SEA process and is the key consultation document in the SEA process facilitating interested parties to comment on the environmental issues associated with the Draft LAP. The purpose of this Environmental Report is to identify:

1. The existing environmental issues in the Portmarnock South Draft LAP area;
2. The likely significant effects on the environment when the Draft Plan is implemented;
3. How the impact on the environment can be reduced or prevented; and
4. How to monitor environmental impacts over the lifetime of the Plan.

The SEA has been carried out in order to comply with the provisions of the European SEA Directive and national SEA Regulations and also to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in the Portmarnock South LAP area. This report should be read in conjunction with the Draft Portmarnock South LAP. It should be noted that the Appropriate Assessment of the Portmarnock South LAP, although also carried out in parallel with the preparation of the Draft Local Area Plan and the SEA, is prepared as a separate document.

1.2 SEA Definition

SEA is a formal process that is carried out in parallel with the preparation of the LAP. SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest possible stage of decision-making on a par with economic and social considerations. It is a valuable tool that influences decision-making at each stage in the plan process, to improve the environmental sustainability of the plan and to raise awareness of the potential environmental consequences of its implementation so that these consequences may be mitigated or avoided altogether before the decisions are made.

It also gives the public and other interested parties an opportunity to comment and to be kept informed on decisions that may impact on the environment.

1.3 Legislative Context

The European Community Strategic Environmental Assessment (SEA) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment was issued in July 2001. This introduced the requirement that SEA be carried out on plans and programmes, including those of land use planning.

Article 1 of the SEA Directive states:
'*The objective of this directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment*'.

The SEA Directive was transposed into Irish Law in 2004 coming into effect on the 21st July 2004, through the following Regulations:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004, and the
- Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 of 2004.

DoCELG SEA Circular PSSP/6 2011 gave notice that these were amended by:

- European Communities (Environmental Assessment of Certain Plans and Programmes)(Amendment) Regulations, 2011, S.I. No. 200 of 2011; and
- European Communities (Strategic Environmental Assessment) (Amendment) Regulations, 2011, S.I. No. 201 of 2011.

The SEA of the Draft Portmarnock South Local Area Plan 2013-2019 will also have regard to other relevant SEA documentation such as;

- *Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities,* published by the Department of the Environment, Heritage and Local Government (2004) and,
- *Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report,* published by the EPA (2003).

It should also be noted that the EPA *SEA Process Draft Checklist* (2008) and EPA *SEA Pack* (2012) have been considered in the preparation of this Report.

These documents together with the above legislation have been used to guide this environmental assessment process.

1.4 Implications for the Council and the Elected Members

The above legislation requires certain plans and programmes, which are prepared by Fingal County Council, to undergo SEA. The findings of the SEA are expressed in an Environmental Report which is submitted to the Elected Members at the same time as the Draft Plan. The Environmental Report is an assessment of the existing environment within the LAP area and the impacts of the proposed development policies of the Draft Plan on the existing environment. The Environmental Report is a parallel but separate process to that of producing the Draft Development Plan.

Article 8 of the SEA Directive requires that the Environmental Report, the opinions expressed by the environmental authorities and the public, and the outcome of any transboundary consultation, must be taken into account during the preparation of the plan and before its adoption. Therefore, the Environmental report may be required to be altered in order to take account of recommendations contained in submissions and/or in order to take account of changes which are made to the Draft LAP on foot of submissions.

When the Plan is adopted a statement must be made public, summarising, inter alia: how environmental considerations have been integrated into the Plan; and, the reasons for choosing the Plan as adopted over other alternatives detailed in the Environmental Report.

Section 2 SEA Methodology

2.1 Introduction

This section details how the SEA for the Draft Portmarnock South Local Area Plan has been undertaken. The SEA process has been carried out alongside the preparation of the Draft Plan. The findings of the SEA were communicated to the Plan making team in on an ongoing basis from the outset in order to allow for their integration into the Plan thus minimising the potential for significant negative environmental effects arising from implementation of the Plan. The methodology for the SEA is outlined in the table below:

Table 2.1 SEA Methodology

Action	Comments
1. Screening	Screening is the process for deciding whether a particular plan or programme, other than those for which SEA is mandatory, would be likely to have significant environmental effects, and thus would warrant SEA. Article 14B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (as amended), requires SEA to be carried out in respect of local area plans with a population or target population over 5,000 persons, or where the area covered by the plan is greater than 50 square kilometres, or where the local area plan is being prepared for a town and its wider environs. Where the population is less than 5,000 SEA must be carried out where it is considered that the plan would be likely to have significant effects on the environment. In the case of the Portmarnock South LAP Fingal County Council determined that, when completed, development in the Portmarnock South area was likely to potentially have a significant environmental impact and consequently included an Environmental Report as part of the production of the LAP.
2. Scoping Issues Paper	A Scoping Issues Paper was prepared containing baseline environmental data which was sent to the Environment Authorities.
3. Consultation with the Environmental Authorities	Submissions received from the Environmental Authorities.
4. Scoping Report	Submissions received from Environmental Authorities were incorporated into the Environmental Report.
5. Preparation of Environmental Report and Draft Local Area Plan - **Environmental Objectives Established** - **Assessment of Alternative Scenarios** - **Mitigation Measures Detailed** - **Monitoring Measures Detailed**	SEA team established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. - Objectives created in Draft Portmarnock South Local Area Plan assessed in Environmental Report and alternative Development Scenarios for the Local Area Plan examined. - Favoured scenario chosen. - Mitigation measures discussed and chosen. - Monitoring incorporated into existing methods.

6. SEA Statement	At the end of the process, a statement will be issued by the Council summarising: - how environmental considerations have been integrated into the plan, - how the Environmental Report and the submissions and observations made to the planning authority on the Draft Plan and Environmental Report have been taken into account during the preparation of the plan. - the reasons for choosing the plan, as adopted, in the light of the other reasonable alternatives dealt with, and - the measures decided upon to monitor the significant environmental effects of implementation of the plan.
7. Monitoring the Portmarnock South Local Area Plan	Monitoring significant environmental effects over the lifetime of the Portmarnock South Local Area Plan.

2.2 Scoping

Scoping is the procedure whereby the range of environmental issues and the level of detail to be included in the Environmental Report are decided upon in conjunction with the prescribed environmental authorities after preliminary data collection. The scoping exercise was undertaken February/March 2012 and the Scoping Report was circulated to statutory consultees and interested parties for their input on 6th February 2012 for a four week consultation period (until 9th March 2011). Scoping helps to focus the SEA on important issues such as those relating to existing and potential environmental issues and problems[1], therefore minimising the waste of resources on unnecessary data collection. This scoping facilitated the selection of issues relevant to the environmental components which are specified under the SEA Directive and Regulations, namely; biodiversity, flora and fauna, population and human health, soil, water, air and climatic factors, material assets, cultural heritage including architectural and archaeological heritage, and landscape.

An SEA Scoping Issues Paper was issued to the designated Environmental Authorities and sought to:

- identify the significant environmental issues to be taken into consideration in the making of the new Plan
- form a basis for consultation with the statutory bodies as designated under the terms of Article 13A (4) of the Planning and Development Regulations 2001 (as inserted by article 7 of S.I. No. 436 of 2004 and as amended by S.I. 201 of 2011) namely:
    - Environmental Protection Agency (EPA);
    - Department of Environment, Community and Local Government (DECLG);
    - Department of Communications, Energy and Natural Resources (DCENR);
    - Dept of Agriculture, Food and the Marine (DAFM);
    - Department of Arts, Heritage and the Gaeltacht (DAHG);
    - Adjoining Planning Authorities.
- identify and consult on the environmental objectives, which will be used to ensure the integration of the environment into the preparation of the Portmarnock South LAP and which will also be used to identify the likely significant effects on the environment;

[1] Annex I of the SEA Directive requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse. Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the offset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

- identify the baseline information and data gaps and
- identify reasonable alternative strategies of achieving the strategic goals of the Plan.

The SEA Scoping Issues Paper sets out a description of the Portmarnock South LAP area and a baseline of environmental data (grouped under the environmental themes/receptors – biodiversity, flora and fauna, population and human health, soil and landscape, water, air, climate, material assets and cultural heritage including architectural and archaeological).

The Planning Authority formally consulted the designated Environmental Authorities during the 'Scoping' exercise and during the preparation of the Environmental Report. Submissions were received from the Environmental Protection Agency (EPA), the Dublin Airport Authority (DAA) and Inland Fisheries Ireland. The most important strategic environmental issues in the Portmarnock South LAP area arising from the scoping exercise and from the consultations were identified as follows:

- Protect designated conservation sites (Natura 2000, NHA etc)
- Protect / maintain existing ecological corridors / linkages
- Protect / Maintain / Improve Water Quality where appropriate.
- Integrate Green Infrastructure in line with County Development Plan Policies.
- Protect Landscape Character areas within / adjacent to the Plan area including areas of particular coastscape and seascape value.
- Integrate Flood Risk Assessment and Coastal Zone management
- Minimise Transport related Noise (both from road and airport related activities).
- Assess potential impacts of climate change on the Plan area.

The Dublin Airport Authority, in their submission, highlight that the lands lie within the Out Public Safety Zone and therefore specific development densities apply to lands. Furthermore, the highlight that the lands lie within the Outer Airport Noise Zone and that all relevant objectives set out in the Fingal Development Plan for development within these areas should be adhered to.

The findings of the SEA were communicated to the plan making team on an ongoing basis from the outset in order to allow for their integration into the Portmarnock South LAP thus minimising the potential for significant negative environmental effects arising from implementation of the Plan.

2.3 Environmental Baseline Data

The baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the Plan. Thus, this information creates a platform whereby existing problems relevant to the Plan area can be quantified (where possible) or qualified thereby ensuring that the implementation of the Plan does not exacerbate these problems.

Baseline data has been collected based on the various broad environmental topics described in the SEA Directive and Regulations, i.e. population, biodiversity, fauna, flora, soil and geology, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape.

The Directive and Regulations requires that information be focused upon relevant aspects of the environmental characteristics of the area likely to be significantly affected by the Plan and the likely change, both in positive and negative terms, where applicable. The baseline data was collated from currently available, relevant data sources.

2.4 Strategic Environmental Objectives

The principal component of the SEA involves a broad environmental assessment of the objectives and policies of the Draft Local Area Plan. A methodology that utilises the concept of expert judgment, public participation and matrices, both to assess the environmental impact and to present the conclusions has been employed in this SEA. Key to assessing the

objectives of the Plan is setting a specific set of Strategic Environmental Objectives for each of the environmental parameters listed in the SEA Directive and Regulations.

The making of the new Draft Portmarnock South LAP is considered within the context of a hierarchy of policies, plans and strategies which include international, EU, national, regional and local levels. These policies, plans, strategies and guidelines are critical in the derivation of Strategic Environmental Objectives for the Portmarnock South area. These Strategic Environmental Objectives (SEOs) are outlined in Chapter 5.

2.5 Alternatives

Article 5 of the SEA Directive specifies that the Environmental Report should consider 'reasonable alternatives taking into account the objectives and geographical scope of the plan or programme'.

The Strategic Environmental Assessment Regulations 2004 (S.I. No. 436 of 2004) (as amended) also require the environmental report to include '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 (Schedule 2B)'.

The issue of alternatives is a critical function of the SEA process and is necessary to evaluate the likely environmental consequences of a range of alternative development strategies for the LAP area within the constraints imposed by environmental conditions.

Taking into account the objectives and the geographical scope of the Development Plan, alternatives were formulated through consultation with the Portmarnock South LAP Team and a number of Departments in Fingal County Council. Alternative strategies are considered within Sections 6 and 7 of this document.

The Local Area Plan deals only with the lands illustrated on the various zoning maps in the Plan. The entire Plan area is however covered by the objectives and policies of the Fingal Development Plan 2011-2017 and the mitigation and monitoring measures proposed in the accompanying SEA. The Fingal Development Plan 2011-2017 is the 'parent' document to which the Draft Portmarnock South LAP 2013-2019 is made in accordance with and all of its policies, including its environmental protection policies, apply to the LAP area also. The same applies to the associated SEA and AA reports.

2.6 The SEA Environmental Report

In the Environmental Report, which will be placed on public display alongside the Draft Portmarnock South LAP, the likely environmental effects of the Draft Plan and the alternatives are predicted and their significance evaluated with regard to the environmental baseline. The Environmental Report provides the decision-makers, the Elected Members, who decide whether or not to adopt the Draft Plan, as well as the public, with a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth within Portmarnock South. Mitigation measures to prevent or reduce significant adverse effects posed by the Plan, or to maximise any benefits arising, are proposed. The alternatives are also presented in this report, as are measures concerning monitoring.

The Environmental Report may be required to be added to by means of an addendum should a Draft Portmarnock South LAP, which includes elements that have not been evaluated by the SEA and which may be likely to have significant environmental effects, be placed on display or adopted.

It should be noted that the SEA Directive aims to avoid duplication of the assessment whereby a strategic action forms part of a hierarchy - if certain matters are more appropriately assessed at different levels of the hierarchy in which the Portmarnock South LAP is positioned, or, if certain matters have already been assessed by a different level of the hierarchy then additional assessment is not needed.

The structure of this Environmental Report (from hence referred to as “the Report”), which is the result of the Strategic Environmental Assessment, is in accordance with the SEA Directive and Regulations S.I. No. 436 of 2004 (as amended) which provides a broad basis for the content of an Environmental Report. In accordance with the Directive and Regulations this Environmental Report provides details on the following information:

- An outline of the content and main objectives of the Draft Portmarnock South Local Area Plan 2013-2019 and the relationship between this and other relevant plans or programmes;
- The environmental characteristics of the area affected by the plan;
- Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Directive for the Conservation of Wild Birds) and 92/43/EEC (Conservation of Natural Habitats and of Wild Fauna and Flora);
- The environmental protection objectives, established at International, Community or Member State level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;
- The likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape;
- The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;
- An outline of the alternatives considered, 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;
- A description of the measures envisaged concerning monitoring in accordance with Article 10;
- A Non-Technical summary of the information provided under the above headings.

2.7 The SEA Statement

Following adoption of the Plan an SEA Statement must be prepared. The SEA Statement will give a summary of how environmental considerations and the Environmental Report were factored into the plan, how submissions and consultations were taken into account and the reasons for choosing the Plan as adopted in light of other reasonable alternatives considered. It will also outline a list of monitoring measures to be carried out during the Plan period. The purpose of the SEA Statement is to provide accountability, by informing the public of how environmental effects were considered in the decision making process.

2.8 Difficulties Encountered

This Section outlines the technical and/or other difficulties encountered during the SEA review process; areas where data was not readily available and/or in an appropriate format are also highlighted and where possible recommendations are made in the relevant Chapter or Section.

The availability of information in relation to various environmental parameters also posed some issues including;

- A comprehensive and analytical GIS database is currently being addressed and it is envisaged that this will be refined throughout the Plan making process and future monitoring stages.

- Furthermore, it should be noted that the strict timelines applied due to legislative requirements are constraining in terms of quality assessment including, for example, on-site investigations and assessments, data collation and GIS analysis.

2.9 Planning Authority Team

A Multi-disciplinary SEA team comprising members from various sections of Fingal County Council has been established in order to examine the significant environmental impacts which may result from the implementation of the Portmarnock South Local Area Plan. The SEA Report and the Draft Portmarnock South LAP 2013-2019 were prepared by the Planning and Strategic Infrastructure Department of the Council. This will enhance the identification of environmental issues.

Section 3 Context for the Draft Portmarnock South Local Area Plan

3.1 Introduction

Section 18 to 20 of the Planning and Development Act 2000 (as amended) allow for the preparation of a Local Area Plan in respect of any area which the Planning Authority considers suitable and in particular for areas which require economic, physical and social renewal, and; are likely to be the subject of large-scale development within the lifetime of a Development Plan.

The lands within the LAP were identified on the basis of their zoning objective in the Fingal Development Plan 2011-2017. The primary zonings for the area include the following:

- c. 40 hectares of land zoned Objective RA – 'Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure'.
- c. 32 hectares of land zoned Objective OS – 'Preserve and provide for open space and recreational amenities.
- C. 12 hectares of land zoned Objective HA – 'Protect and enhance high amenity areas'

The Portmarnock South Local Area Plan lands are located south of the existing Portmarnock town centre and is bound by the DART/Dublin-Belfast railway line to the west, Station Road to the north, Mayne Road to the south and Baldoyle Bay to the east. The DART station is located in the northwest corner of the LAP lands, and all of the LAP lands are within 1km of this high quality public transport service.

To the north of Station Road and the west of the railway line (outside of the LAP lands) are a number of new residential developments comprising a mix of apartments and housing. The Sluice River Marsh NHA area is located to the north/northeast and separates these areas from the main town of Portmarnock. The open space to the south and east of the residentially zoned part of the LAP lands lends to the predominantly coastal and rural feel to this landscape.

The western and middle portion of the site forms an elevated plateau which slopes away towards Strand Road to the east and Mayne Road on the southern boundary. The site generally falls from a high point of 15m AOD along the mid-western boundary adjoining the rail line and 12m in the centre of the site. The lands are approx 10m in the northwest by the railway station, 4.5m in the north east adjoining Station Road, falling to 2 metre toward the estuary and 2 metres in the south east along Mayne Road. The contours are more compressed on the southern side with a distinctive ridgeline running east - west and a more steeply sided slope running towards Mayne Road.

The Open Space (OS) and High Amenity (HA) lands are designated as an Ecological Buffer Zone in the Fingal Development Plan. These lands will form the large regional park to serve the development when completed.

The Draft LAP has been prepared by the Council to provide a statutory framework for the future growth, development and improvement of Portmarnock South that is consistent with the policies and objectives contained in *the Fingal Development Plan 2011-2017* including its *Core Strategy/Settlement Strategy* and which addresses the needs and requirements of the local community, service providers and other stakeholders. Taken in conjunction with the Regional Planning Guidelines and other relevant Regional and National Plans the LAP will provide a comprehensive planning framework for the area. The purpose of the Local Area Plan is to guide future development within the Portmarnock South lands, in a sustainable and equitable manner and to inform members of the public, the local community, stakeholders, developers and the Planning Authority regarding the overall vision and all relevant policies and objectives for the development of the area, including provisions in relation to land use

management, community facilities and amenities, transport and infrastructure, urban design, heritage and the environment.

The Plan period is 6 years, from date of adoption by the Council, unless the timeframe is extended for up to five additional years by resolution in accordance with Section 12 (d) to (f) of the Planning and Development (Amendment) Act 2010.

3.2 Portmarnock South LAP - Structure and Content

The Local Area Plan will be underpinned by the principles of sustainable development, climate change adaptation, social inclusion and high quality design. These four strands will permeate the Local Area Plan at every level and will be considered when framing each policy.

Sustainable Development – the concept of sustainable development can be defined as 'development that meets the needs of today without compromising the ability of future generations to meet their own needs'. An important element of the sustainable development thread in the Portmarnock Local Area Plan 2013 – 2019 is the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA).

These assessments are required under legislation and seek to provide for a high level of protection of the environment. The Local Area Plan will adopt the principle of sustainable development by promoting and encouraging the integration of economic, environmental, social and cultural issues into local policies and programmes.

Climate Change – CO2 emissions from the combustion of fossil fuels is recognised as the greatest contributor to climate change. The effects of climate change include rising sea levels, flooding and drought. The National Climate Change Strategy 2007-2012 has set a target to cut emissions by at least 20% by 2020. The main areas where this can be achieved are energy, planning, transport, waste management and biodiversity.

Social Inclusion – Social inclusion affects the well being of individuals, families, social groups and communities. Creating a more socially inclusive society by alleviating social exclusion, poverty and deprivation is a major challenge. Steps towards achieving a more socially inclusive society include the provision of community infrastructure and improving access to information and resources. The Local Area Plan will seek to increase social inclusion at both preparation and operational stages of the development plan.

High Quality Design – Good design adds quality to the places we live, work and enjoy. Ensuring high quality design adds value to our towns, villages and countryside and improves our quality of life. The Local Area Plan will promote high quality design by encouraging its integration into every aspect of the plan.

The Draft Portmarnock South LAP consists of a written statement and maps in a single document and includes strategy and goals for the proper planning and sustainable development of the area, land use proposals, specific objectives and development management guidelines. It is also accompanied by extensive appendices containing a Strategic Environmental Assessment, Appropriate Assessment, Studies and Reports.

The Draft LAP is divided into ten (10) sections and Appendices as follows:

Section 1: Introduction
This section introduces the LAP and sets out details of public consultation which informed the making of the LAP. It also outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan.

Section 2: Policy and Statutory Context
This section sets out the statutory context within which the LAP is being prepared and outlines the various policy documents and guidelines which underpin the Objectives set out in the LAP.

Section 3: Local Area Plan Context
This section considers the area, its historical context up to the present day, issues facing the area and the need for change.

Section 4: Strategic Vision and Aims of the LAP
This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.

Section 5: Green Infrastructure
This section sets out a range of objectives for the development of Green Infrastructure within the Plan lands. Green Infrastructure within the Plan lands will be addressed under five themes namely; Landscape, Biodiversity, Open Space and Recreation, Archaeological and Built Heritage and Sustainable Water Management.

Section 6: Movement Strategy and Transport Infrastructure
A key objective for this LAP is a sustainable movement and transport strategy with priority on maximising connections to amenities and services within the plan lands and the wider area and to formulate a design strategy that enables residents to move in a more sustainable manner without the use of the private car as the predominant choice of travel. This sections sets out a range of objectives which, if implemented together, should help to realise this strategic aim.

Section 7: Urban Design
This section sets out framework plans for key development sites within the LAP area. A detailed design framework is provided for the neighbourhoods detailing land uses, access and movement, built form and landscape and community facilities.

Section 8: Community, Social, Employment and Tourism Infrastructure
This sections sets out wide ranging objectives for the provision of Community, Social, Employment and Tourism Infrastructure within the LAP lands which together will help to ensure that the area develops as a sustainable and inclusive community with a unique sense of place.

Section 9: Infrastructure and Services
Adequate services are essential to development. This section outlines the existing public water supply, wastewater and other key infrastructure in the plan area and will set out the requirements needed in infrastructure to serve development in the area. The LAP will seek to provide adequate and improved infrastructural services to the plan area in a phased approach.

Section 10 Sustainability
Fingal County Council is committed as a priority to encouraging more sustainable development through the delivery of high quality sustainable forms of design incorporating green design techniques, energy efficient buildings and life long adaptable homes, optimum use of public transport and walking and cycling, green connected routes, linear corridors and protection of the natural environment. The main priority focus for this LAP is that development contributes to the achievement of energy efficient and high quality sustainable neighbourhoods in the plan area.

Section 11: Sequencing and Phasing
This section of the plan is concerned with the implementation of the Local Area Plan and the timescale over which development will occur.

3.3 Vision and Strategic Aims of LAP

The vision for Portmarnock South LAP is to develop a high quality urban extension with a unique sense of place, maximising the area's natural assets and coastal location adjoining Baldoyle Bay and its high level of accessibility adjoining Portmarnock DART station. The LAP will facilitate residential development in this area in a coordinated and sustainable manner,

focusing on the development of sustainable communities, and a quality environment, connected to the existing urban context of Portmarnock village to the north and Baldoyle-Stapolin urban area to the south with connectivity to green infrastructure networks along the coast and to the west.

A series of Strategic Aims are set out in Section 4 of the LAP to complement this vision and to help ensure that it is realised. These aims are grouped under the following headings:

- Environment
- Heritage
- Transport and Movement
- Urban Design
- Housing
- Community and Social Infrastructure
- Commercial, Retail and other services
- Recreational Facilities, Amenity and Public Open Space
- Sustainability
- Employment /Tourism Opportunities

3.4 Alternatives

Section 7 of this report identify, describe and evaluate different alternative scenarios for the future development of the Plan area, taking into account the Strategic Environmental Objectives which are identified in Section 5.

The evaluation of the alternatives results in the identification of potential impacts and leads to the emergence of a preferred alternative for the Draft Plan.

3.5 Interactions with Relevant Plans and Programmes

3.5.1 Introduction

The Draft Portmarnock Local Area Plan sits within a hierarchy of land use forward planning strategic actions that extends from the EU to national, regional, county and local level. The Draft Plan is informed by a number of higher order plans and strategies which are summarised in Table 3.1 below:

Table 3.1 Relevant Plans and Programmes

Plan / Programme	Summary of Key Objectives
EU Level	
SEA Directive (2001/42/EC)	Under the SEA Directive the plan requires an SEA. The plan must take into account protection of the environment and the integration of the plan into the sustainable planning of the country as a whole.
Kyoto Protocol	Objectives seek to alleviate the impacts of climate change and reduce global emissions of Green House Gases (GHGs). The development plan has regard to the objectives and targets of Kyoto and aim to reduce GHG emissions from the management of residential and commercial development. Harnessing energy from natural resources could be considered to reduce overall GHG emissions.

Plan / Programme	Summary of Key Objectives
Energy End-Use Efficiency and Energy Services Directive (2006/32/EC)	Aims to make the end use of energy more economic and efficient.
The European Landscape Convention (Florence 2000)	Aims to promote landscape protection, management and planning and to organise European co-operation on landscape issues.
EU Directive 96/62/EC (Air Quality Directive)	Objective to improve air quality by controlling the level of certain pollutants and monitoring their concentrations.
EU Water Framework Directive (2000/60/EC)	Aimed at improving the water environment, requiring member governments to take a holistic approach to managing their waters. Member states must aim to achieve good status in all waters by 2015 and must ensure that status does not deteriorate in any waters.
European Environment and Health Action Plan 2004 – 2010	Designed to give the EU the scientifically grounded information needed to help member states reduce the adverse health impacts of certain environmental factors and to endorse better cooperation between actors in the environment, health and research fields.
EU Groundwater Directive 2006/118/EC	Developed in response to Article 17 of the Water Framework Directive.
EU Floods Directive 2007/60/	Aim is to reduce and manage the risk that floods pose to human health, the environment, cultural heritage and economic activity
EU Directive 2002/49/EC	To define a common approach intended to avoid, prevent or reduce, on a prioritised basis, the harmful effects, including annoyance, due to exposure to environmental noise.
EU Habitats Directive 92/43/EEC	Protects over 1000 animals and plant species and over 200 'habitat types' which are of European importance
EU Birds Directive 79/409/EEC	Long term protection and conservation of all bird species living in the wild within the European territory of the member states
Environmental Liability Directive2004/35/CE	Establishes a framework for environmental liability based on the "polluter pays" principle with a view to preventing and remedying environmental damage.
Directive 2009/147/EC of the European Parliament and of The Council on the Conservation of Wild Birds	Amended EU Birds Directive 79/409/EEC; related to the conservation of all species of naturally occurring birds in the wild state in the European territory of the Member States. It covers the protection, management and

Plan / Programme	Summary of Key Objectives
	control of these species and lays down rules for their exploitation; it applies to birds, their eggs, nests and habitats. Sites designated as Special Protection Areas (SPAs).
Convention of Biological Diversity	3 main objectives: (i) The conservation of biological diversity, (ii) the sustainable use of the components of biological diversity, and (iii) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.
EU Drinking Water Directive 98/83/EC	Objective to protect the health of consumers in the EU and to make sure the water is wholesome and clean.
EU Urban Waste Water Treatment Directive (91/271/EEC)	Aimed at protecting the environment from the adverse effects of urban wastewater discharges and discharges from certain industrial sectors.
Soil Framework Directive (proposed)	Member states to adopt a systematic approach to identifying and combating soil degradation.
EU Drinking Water Directive 98/83/EC	To protect the health of the consumers in the European Union and to make sure the water is wholesome and clean
Bathing Water Directive 2006/7/EC	Repeals Bathing Water Directive 76/160/EEC on 31st December 2014.
91/271/EEC as amended by Directive 98/15/EEC Urban Wastewater Treatment	To protect the environment from the adverse effects of discharges of urban wastewater by the provision of wastewater collecting systems and treatment plants for urban centre.
European Commission White Paper on Adapting to climate change: Towards a European Framework for Action (COM (2009) 147)	Sets out a framework to reduce the EU's vulnerability to the impact of climate change.
E**uropean Environmental Agency "10 Message" Publications**	A Series of publications released by the European Environment Agency (EEA) which provide a short assessment of European Biodiversity and associated climate change impacts on a range of ecosystems.
EU Air Quality Directive 2008	Sets binding standards for Air Particles.
Directive on Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC	Provides standards for fine particle PM2.5 pollution in the European Union.
Pesticides Framework Directive (proposed)	To control the storage, use and disposal of pesticides to minimise risk to health and

Plan / Programme	Summary of Key Objectives
	environment from their usage and to include measures which relate to soil management strategies in land use planning.
European Convention on the Protection of the Archaeological Heritage	The European Convention on the Protection of the Archaeological Heritage was drawn up in Valletta in 1992 and entered into force in 1995. Ireland signed the Convention in 1997. Replacing an earlier Convention that was agreed in 1969, its scope was extended to address damage to archaeological assets resultant from construction projects.
Granada Convention for the Protection of the Architectural Heritage of Europe	Ratified by Ireland in 1997, the 1985 Convention for the Protection of the Architectural Heritage of Europe is intended to reinforce and promote policies for the conservation and enhancement of Europe's heritage. Covering monuments, groups of buildings and sites of importance, the Convention requires a national inventory of architectural heritage be developed. Legal protection measures must be established, with a system of formal authorisation being required for works affecting protected sites and structures.
National Level	
Water Services Act 2007 (As amended)	Focuses on management of water in the pipe as opposed to river water quality etc.
National Climate Change Strategy 2007 – 2012	Sets out measures for Ireland's reduction in emissions
National Development Plan 2007 – 2013	€184 million infrastructural investment plan to build a prosperous country for Ireland's Population.
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan	Objective to promote the conservation and sustainable use of biodiversity.
National Energy Efficiency Action Plan 2009 - 2020	Sets out the government's actions to achieve 20% energy efficiency saving.
Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities 2009	Objective to produce high quality sustainable development which includes the integration of schools, community facilities, employment, transport and amenities in a timely and cost effective manner.
Urban Design Manual – A Best Practice Approach	Companion document on best practice implementation of Sustainable Residential Development in Urban Areas.

Plan / Programme	Summary of Key Objectives
The Planning System and Flood Risk Management – Guidelines for Planning Authorities 2009	Aims to integrate flood risk management into the planning process.
Preventing and Recycling Waste: Delivering Change (2002)	Aims to achieve an integrated approach to waste management based on the internationally accepted hierarchy of options with waste prevention favoured.
Framework and Principles for the Protection of the Archaeological Heritage (1999)	Outlines the State's general principles in relation to the management and protection of archaeological heritage.
European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 S.I. 435 of 2004 (as amended by S.I. No. 200 of 2011) **and** **Planning and Development (Strategic Environmental Assessment) Regulations 2004 S.I. 436 of 2004 (as amended by S.I. No. 201 of 2011)**	Transposes EU Directive 2001/42/EC into Irish Law.
European Communities (Birds and Natural Habitats) Regulations 2011 (S.I No. 477 of 2011)	These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.
Architectural Heritage Protection Guidelines for Planning Authorities (2004)	Practical Guide for planning authorities to deal with the provisions of Part IV of the Planning and Development Act.
Wildlife Act 1976	Main Objectives of 1976 Act: To provide for the protection of flora and fauna, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims. Main Objective of the 2000 (Amendment) Act: To give statutory protection to NHAs, geological and geomorphological sites, enhance the conservation of species and habitats, enhance hunting controls, inclusion of most species for protection, regulation of commercial shoot operators, ensure compliance with international agreements, increase fine levels for contravention of Wildlife Acts, strengthen the provisions relating to the cutting of hedgerows, strengthen the protective regime for SACs

Plan / Programme	Summary of Key Objectives
and **Wildlife (Amendment) Act 2000**	and to give statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity. Transposes EU Habitats Directive 92/43/EEC into Irish law.
Flora Protection Order , 1999 S.I, No. 94 of 1999 and The European Communities (Birds and Natural Habitats) Regulations 2011 (SI477 of 2011).	Primary legislation aimed at protecting rare and endangered plant species in Ireland
European Communities (Drinking Water) (No.2) Regulations 2007 S.I. 278 of 2007	Transposes EU Water Framework Directive (2000/60/EC) and EU Drinking Water Directive 98/83/EC into Irish Law.
European Communities (Water Policy) Regulations 2009 S.I. 272 of 2009	Gives effect to the measures needed to achieve the environmental objectives established for the bodies of surface water by Directive 2006/60/EC.
Environmental Objectives (Surface Waters) Regulations 2009 S.I No. 272 of 2009	Institutes a wide-ranging set of standards for Irish surface waters.
Bathing Water Quality Regulations, 2008 S.I. 79 of 2008	Transposes EU Bathing Water Directive 2006/7/EC into Irish Law.
Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007	Regulations governing the licensing and certification/authorisation process of sewage systems owned, managed and operated by Water Service Authorities.
European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. 9 of 2010)	These regulations establish environmental objectives to be achieved in groundwater bodies, groundwater quality standards and threshold values for the classification of groundwater and the protection of groundwater against pollution and deterioration in groundwater quality.
Urban Wastewater Treatment (Amendment) Regulations 2010 S.I. 48 of 2010)	Gives effect to Directive 2000/60/EC and to Directive 91/271/EEC.
European Communities (Water Policy) Regulations 2003 S.I. 722 of 2003	Transposes the Water Framework Directive into Irish Law.
European Communities Quality of Shellfish Waters (Amendment) Regulation 2009 S.I. 55 of 2009 & Malahide Shellfish Waters Pollution Reduction Programme for Programmes as per SI No. 268 of 2006	To give effect to in the State to Directive 79/923/EEC of 30th October 1979 on the quality required of shellfish waters.

Plan / Programme	Summary of Key Objectives
European Communities (Assessment and Management of Flood Risk) Regulations 2010 S.I. 122 of 2010	Transposes EU Floods Directive 2007/60/EC into Irish Law.
Environmental Noise Regulations 2006 S.I. 140 of 2006	Transposes EU Directive 2002/49/EC into Irish Law.
Ambient Air Quality and Assessment and Management Regulations, 1999 S.I. 33 of 1999	Transposes EU Directive 96/62/EC (Air Quality Directive) into Irish Law.
National Renewable Energy Action Plan (NREAP)	The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC.
Regional Level	
Retail Strategy for the Greater Dublin Area (GDA) 2008 - 2016	Aims to set out a co-ordinated, sustainable approach to the assessment and provision of retail within the Greater Dublin Area.
Greater Dublin Strategic Drainage Study	Identifies the policies, strategies and projects for developing a sustainable drainage system for the Greater Dublin Region; Identifies the need for the North Dublin Wastewater Treatment Plan and the Orbital Sewer, improvements in the drainage capacity and the need to upgrade existing treatment plants to their ultimate capacity.
Dublin Coastal Flooding Protection Project	Aims to address and assess the risk from tidal flooding around the coastline.
Eastern River Basin District Management Plan 2009 – 2015 and Associated Programmes of Measures	Describes the actions that are proposed to ensure the necessary protection of waters in the Eastern River Basin District.
Catchment-Wide Flood Risk Assessments	Requirement of the EU Floods Directive.
Greater Dublin Strategic Drainage Study (GDSDS) 2005	Objective to identify the policies, strategies and projects for developing a sustainable drainage system for the Greater Dublin Area.
Water Supply Project Dublin Region	Study determining a new major water source to meet projected demand in the long term.
Regional Planning Guidelines for the Greater Dublin Area 2010 - 2022	Aims to direct the future growth of the Greater Dublin Area over the medium to long term involving sustainable planning and through the protection of environmentally sensitive or important locations.

Plan / Programme	Summary of Key Objectives
Waste Management Plan for the Dublin Region 2005 – 2010	Provides a framework for minimising waste, encouraging recycling and ensuring the avoidance of environmental pollution. Policy also includes diversion from landfill in accordance with targets set out in the European Union Landfill Directive.
DTO Strategy 2000 – 2016 A Platform for Change	Integrated, multi-modal transportation strategy for the Greater Dublin Area.
2030 Vision- Greater Dublin Area Draft Transport Strategy 2011-2030	To identify areas of accessibility within the Dublin Region and the most appropriate locations for intensification of development.
County Wide Level	
Fingal Development Plan 2011-2017	The Development Plan sets out the spatial framework for the county within the context of National and regional plans.
Fingal Heritage Plan 2011-2017	Highlights diversity and variety of Fingal's heritage and its value to the whole community. The Plan sets out a series of actions to be undertaken over a five year period to the end of 2010. These actions aimed to raise heritage awareness, to provide baseline information and to manage our heritage more effectively.
Fingal Biodiversity Action Plan 2010-2015	The Fingal Biodiversity Action Plan puts forward an ambitious programme of a 100 actions to protect the sites, habitats, plants and animals that can be found in the County.
Fingal Litter Plan 2012-2015-	The primary purpose of this Plan is to describe the activities and resources which will be put in place by Fingal County Council for the management of litter over the period 2012 to 2015.
Fingal Sludge Management Plan 2002 (currently being reviewed)	Makes proposals for dealing with sludge arising in Fingal from a number of sources including Agriculture, Industry, Water Treatment and Wastewater Treatment.
Dublin Agglomeration Noise Action Plan relating to the Assessment and Management of Environmental Noise 2008 – 2013	For the Dublin Agglomeration distinct noise maps have been produced for all roads, and all railway lines including the Luas (light rail) for all four local authorities in the Agglomeration. These maps cover the long term average periods for night time (Lnight) and 24 hours (Lden).

3.5.8 Fingal Development Plan 2011-2017

The Planning and Development Act 2000 (as amended) requires the Draft LAP to be consistent with the Fingal Development Plan 2011-2017 which outlines the planning and development framework for Fingal Development Plan 2011-2017. In the case of any conflict between the two Plans, the County Plan takes precedence. Among the key aims of the Development Plan are the following:

- Plan for and support the sustainable development of Fingal as an integrated network of vibrant socially and economically successful settlements, strategic green belts and open countryside, supporting and contributing to the economic development of the County and of the Dublin City Region.
- Provide for the future well being of the residents of the County by:
  - promoting the growth of economic activity and increasing employment opportunities
  - protecting and improving the quality of the built and natural environments
  - ensuring the provision of necessary infrastructure and community facilities.
- Incorporate sustainable development, climate change, social inclusion and high quality design as fundamental values underpinning every aspect of the Development Plan.
- Foster the development of socially and economically balanced sustainable communities.

Fingal Development Plan 2011-2017 sets out its strategic policy for the next 6 years. One of the policies, which specifically relates to Portmarnock is as follows:

> Consolidate the development and protect the unique identities of the settlements of Howth, Sutton, Baldoyle, Portmarnock, Malahide, Donabate, Lusk, Rush and Skerries.

In terms of Fingal's settlement hierarchy (in compliance with Regional Planning Guidelines), Portmarnock is identified as an area within the Metropolitan Area requiring consolidation.

The Development Strategy identified for the town is as follows:
Consolidate, define and enhance the existing urban form and retain amenities in line with the Urban Centre Strategy for Portmarnock (2009). The long-term development area for Portmarnock is based on the existing development area. It is intended to encourage more intensive commercial development, to provide good linkages to lands at south Portmarnock adjacent to the rail line, and to rejuvenate the existing village core.

The following Objectives are identified for Portmarnock:

Objective PORTMARNOCK 1
Develop Portmarnock as a centre providing services for both the residential population and for tourists.

Objective PORTMARNOCK 2
Implement the Portmarnock Urban Centre Strategy including the design guidelines for Portmarnock's urban centre.

Objective PORTMARNOCK 3
Preserve the identity of the town by securing its physical separation from Malahide by Greenbelts.

Objective PORTMARNOCK 4
Improve the physical character and environment of the area so that it can act as a service, social, recreational and tourist centre.

Objective PORTMARNOCK 5
Carry out an environmental improvement scheme in the village.

Objective PORTMARNOCK 6
Protect and manage the flood plain of the Sluice River to the south of Portmarnock and ensure that its integrity as a natural habitat is maintained.

3.5.8.1 *Zoning Map and Local Objectives*
The LAP is 86 ha in area and is being prepared in accordance with the relevant zoning objectives (see figure 2 'Development Plan Extract Portmarnock South') including zoning objective RA (40 ha):

- Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.

The remaining LAP lands, adjoining the RA zoned area, are governed by the following zoning objectives:

- OS (32ha): Preserve and provide for open space and recreational amenities.
- HA (12 ha): Protect and enhance high amenity areas.
- RC (1 ha): Provide for small scale infill development serving local needs while maintaining the rural nature of the cluster.
- RS (0.4ha): Provide for residential development and protect and improve residential amenity.

The zoning map for this area identifies the lands as being within a Highly Sensitive Landscape setting.

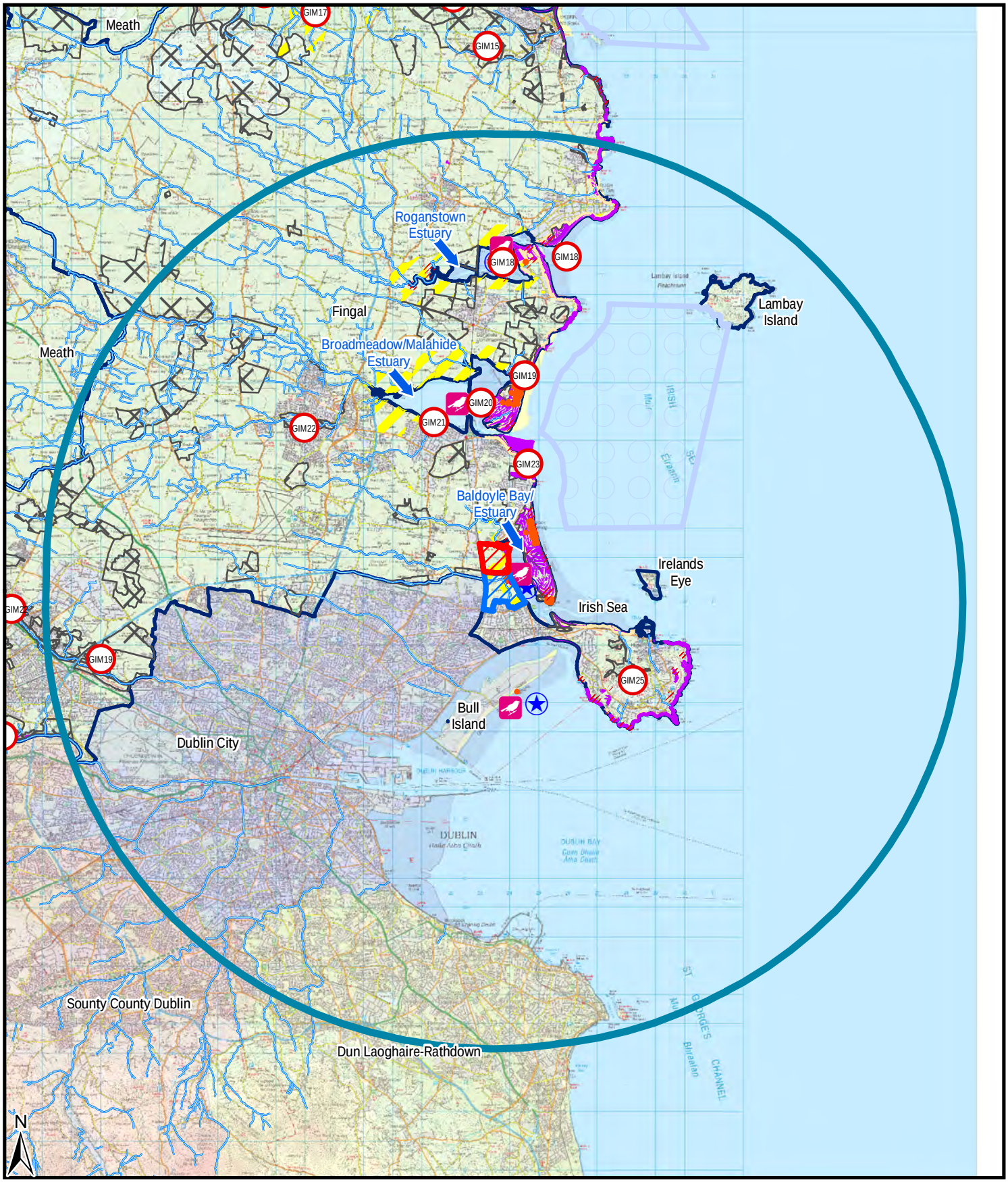
Baldoyle Bay, which bounds the LAP lands to the east, is a Natura 2000 site and is designated as a cSAC (candidate Special Area of Conservation) and SPA (Special Protection Area) under the EU Habitats Directive and Birds Directive respectively. The Estuary is also designated as a Ramsar Conservation Wetland and Statutory Nature Reserve. A portion of the HA zoned lands east of Strand Road is within Baldoyle cSAC and SPA and is part of an Annex I habitat. The area of OS and HA zoning, to the west of Strand Road (adjoining the residentially zoned lands) and north of Mayne Road, is identified on the Green Infrastructure Map Figure 3.1 as being part of the ecological buffer zone of Baldoyle Bay. The following objective relates to the buffer zones:

> **Objective BD19**
> Protect the functions of the ecological buffer zones and ensure proposals for development have no significant adverse impact on the habitats and species of interest located therein.

The LAP is largely located within the Dublin Airport Outer Public Safety Zone, whereby densities are limited by the requirement that 'no single half hectare plot should accommodate more than 60 persons'. The lands are also within the Outer Airport Noise Zone.

The following *Local Objectives* apply to the zoning map relating to the plan lands:

- 402: Promote an enhanced rail station and improved rail service, together with the provision of a local feeder bus service.
- 406: The visual impact on the Green Belt of this new housing in Baldoyle will be minimised by its siting, design and by planting.
- 408: Density shall be in accordance with (draft) public safety zones recommended by the Government.
- 410: Develop an estuary walkway and cycleways from Mayne Bridge, Baldoyle Road to Strand Road, Portmarnock together with an adequate system of public lighting for the entire route from Baldoyle to Portmarnock.
- 422: Create a full pathway from Howth to Malahide through the construction of a pathway from the River Mayne Bridge to the Portmarnock Roundabout.
- 427: Place signage and information boards along this coastal pathway at pivotal locations.
- 429: Only development relating to recreational activities to be permitted in the OS zoning between Portmarnock and Baldoyle.



Green Infrastructure

Figure 3.1

Legend

- Portmarnock South Local Area Plan Lands
- Baldoyle Stapolin Local Area Plan Lands
- County Boundary
- Area within 100m of Coastline Vunerable to Erosion
- Annex I Habitat
- Ecological Buffer Zone
- Nature Development Area
- 15km Buffer Line
- River
- Ecological Corridors along Rivers
- Ramsar Conservation Wetland
- Statutory Nature Reserve
- Flora Protection Order (1999) Site
- Fingal Rare Flora Site
- Green Infrastructure Objectives

- 435: Facilitate extra housing on Station Road, Drimnigh Road and Old Portmarnock to link into the main drainage scheme.

There is a local objective within the LAP lands for a realignment/upgrade of the existing Mayne Road – listed in the Fingal Development Plan 2011-2017 as 'R123 Moyne Road Upgrade'. There is also an objective for a cycle/pedestrian route in the vicinity of the lands, along Strand Road, Station Road (as far as the DART station) and linking through the Main Street of Portmarnock town centre, continuing north along the coast. There is an additional objective to preserve views along Strand Road.

The following Objective 1 relating to Baldoyle highlights the importance of the open landscape between Portmarnock South and Baldoyle/South Fringe developments:

> **Objective Baldoyle 1**
> Ensure the viability of the visual break on lands between Baldoyle and Portmarnock urban areas by locating appropriate outdoor sport and recreation opportunities which respect the character, sensitivity and natural heritage designations of the existing landscape subject to Appropriate Assessment Screening and full Appropriate Assessment if required.

There are two existing special amenity areas within Fingal, at Howth and Liffey Valley. The development plan includes the potential for a third at Baldoyle and Portmarnock:

> **Objective SA07**
> Consider Baldoyle jointly with Portmarnock for a Special Amenity Order.

3.5.9 Immediately Adjoining Developments

In addition to the aforementioned Plans and Strategies it is important to note that new LAP's are being prepared for residentially zoned (RA) lands at Baldoyle, which lies c. 800 metres to the south of the subject site (see figure 1 'LAP Context Map') and also for a large mixed use area to the west of the subject site within Dublin City Council's administrative area, which will be named Clongriffin LAP.

The Baldoyle-Stapolin Local Area Plan lands comprise of lands with the following zoning objectives in the Fingal Development Plan:

- c. 35 hectares of land zoned Objective RA – '*Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure*'. This area includes the existing residential communities of Myrtle and Red Arches.
- c. 81 hectares of land zoned Objective HA – '*Protect and enhance high amenity areas*'.

The plan lands will cater primarily for residential development, a local centre (including retail and commercial facilities) and access to coastal recreational amenities. The 2001 Baldoyle Action Area Plan provided for approximately 2,600 homes on the Plan lands which it was envisaged would equate to a population of 7,600. As of June 2011 c. 540 units are completed and occupied with 94 units completed and vacant and a further 205 units under construction. Planning permission exists for 1,289 residential units which have not yet started. The majority of the permissions which have not started are apartment developments. At this time, only one sector of the original plan lands does not have planning permission. The area zoned for residential development is the same as that considered in the 2001 Action Area Plan however; the type and quantum of housing will be reviewed as part of the new LAP.

The Baldoyle-Stapolin LAP lands adjoin and are functionally related to, the developing mixed use area of Clongriffin within Dublin City Council's wider North Fringe Area, encompassing Northern Cross/Clare Hall to Clongriffin to the west. This area, along with Stapolin, is one of Dublin's larger new development areas and, when completed, will have approximately 10,000 new homes as well as new retail and commercial areas. Dublin City Council has recently adopted a Local Area Plan, 'Clongriffin-Belmayne Local Area Plan', for the North Fringe Area which replaces the North Fringe Action Area Plan 2000. As with Baldoyle-Stapolin it is

considered essential that the cumulative effect of the development of these lands be assessed in the course of the preparation of an SEA for the area.

3.6 Strategic Environmental Objectives

The Draft LAP is subject to a number of high level national and international environmental protection policies and objectives as set out above. The Draft LAP must be consistent with these objectives and implement them at the local level in Portmarnock South. Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status by 2015.

Section 4 Portmarnock South Baseline Environment

4.1 Introduction

The environmental baseline within the Portmarnock South LAP lands is described in this section. This baseline together with the Strategic Environmental Objectives, which are outlined in Section 5, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Draft Local Area Plan and in order to determine appropriate monitoring measures. The location of the Portmarnock South Local Area Plan lands are shown in Figure 4.1 LAP Context Map.

The environmental baseline is described in line with the legislative requirements, encompassing the following components as required by the Planning and Development Regulations (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) (as amended):

- **Biodiversity, Flora and Fauna**
- **Population and Human Health**
- **Landscape**
- **Soil**
- **Water Quality**
- **Air**
- **Climatic Factors**
- **Material and Cultural Assets**

The interaction between environmental topics will be considered in the Environmental Report as the Plan progresses. GIS mapping is used to assist this process. Sources of baseline data includes information from statutory agencies, internal departments within the Council, the internet, local publications, planning applications and Environmental Impact Statements major developments in the area. Further legislative and contextual information on the environmental topics can be found in the Environmental Report of the Fingal Development Plan 2011 – 2017.

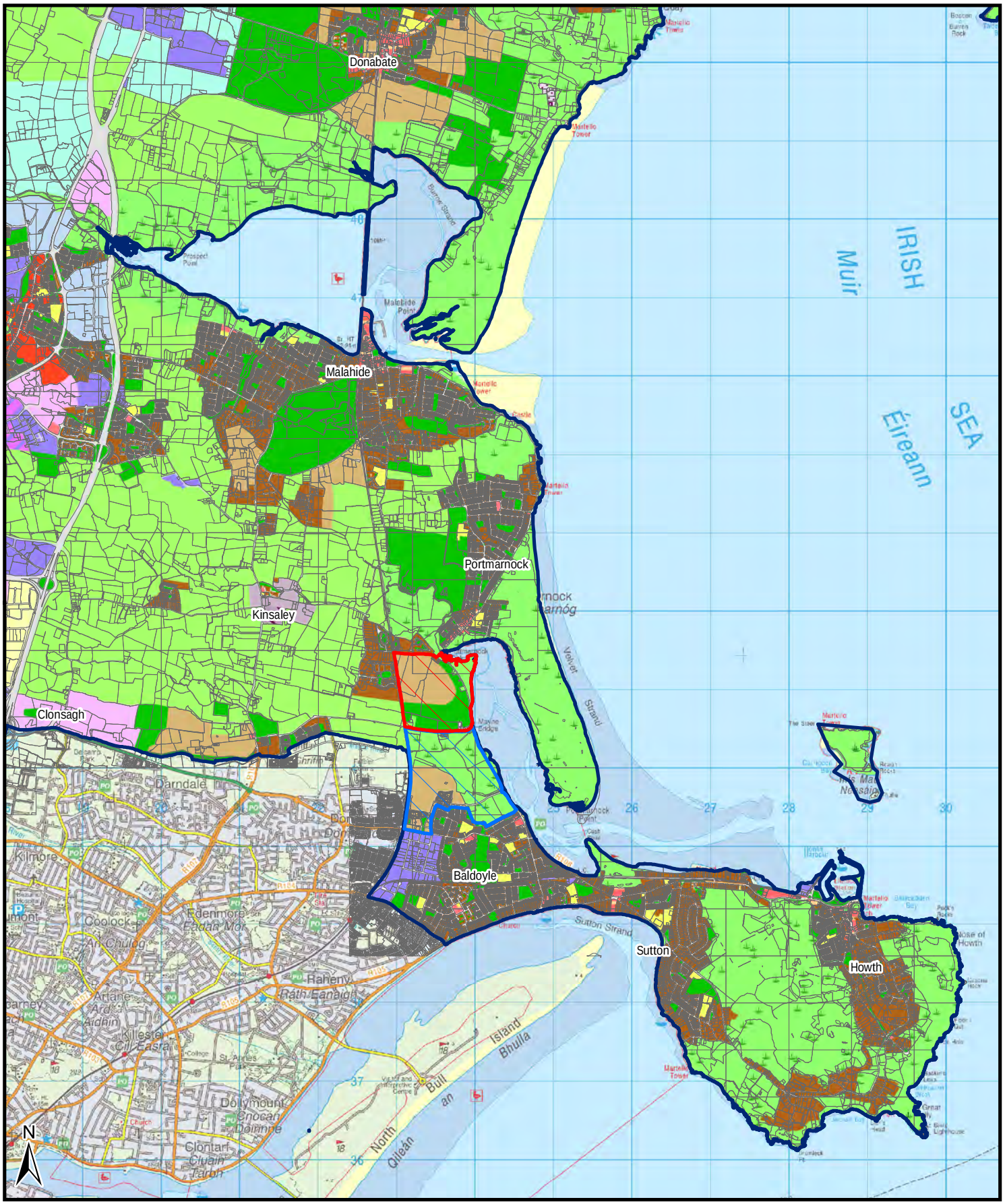
4.2 Biodiversity, Flora and Fauna

4.2.1 Introduction

'Biological diversity', or biodiversity, means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems' (The United Nations Convention on Biodiversity, 1992).

In general terms, biodiversity refers to different habitats such as woodlands, wetlands, grasslands and estuarine habitats, and the range of flora and fauna species they support, such as plants, mammals, birds, insects, fish, microbes, mosses and fungi, and their interrelationships such as food chains and cohabitation. It also refers to the genetic diversity within species which is vital for healthy populations of individual species to survive. Of equal importance, biodiversity refers to those features of the landscape, which by virtue of their linear and continuous structure (such as hedgerows or streams) or their function as stepping stones (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species. A wide range of economic and social benefits and services result from the protection of biodiversity, for example, biodiversity forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation, and much more.

There are a variety of valuable habitats and species adjacent to and within the LAP lands which support a wide range of flora and fauna species. Some of these habitats and species are of



LAP Context Map

Figure 4.1

Legend

- Portmarnock South Local Area Plan Lands
- Baldoyle Stapolin Local Area Plan Lands
- County Boundary

International or National importance and others are locally important. Habitats of particular conservation importance include those that are listed in Annex I of the Habitats Directive and habitats that support populations of rare or notable species such as those listed in Annex I of the Birds Directive, Annex II and IV of the Habitats Directive, and in the Irish Red Data Books for vascular plants (Curtis and McGough, 1988), stoneworts (Stewart and Church, 1992) and vertebrates (Whilde, 1993). Annexed habitats and species also occur outside of these designated sites, as well as many more common, but extremely important habitats and species. Rare and protected habitats and species cannot survive independently of their surroundings. The ordinary features of our landscape can be of high natural value in their own right, as well as providing the vital links and corridors to allow the movement of plants and animals between protected sites. They are a critical component of a functioning ecological network. Protecting and conserving these habitats is critically important, not just to the residents of the County but also in a National and International context. Considering the expanse of this section the following relevant data sources were consulted including the NPWS, National Biodiversity Data Centre, various in-house expertise including parks, roads and water sections of Fingal County Council, Conservation and Biodiversity Officers in the County and all associated studies.

The enhancement of biodiversity, preservation of natural amenities, integrity of wildlife corridors and protection of the natural environment are all important issues to be addressed in the preparation of the Portmarnock South Local Area Plan and in the accompanying Environmental Report.

4.2.2 Designations

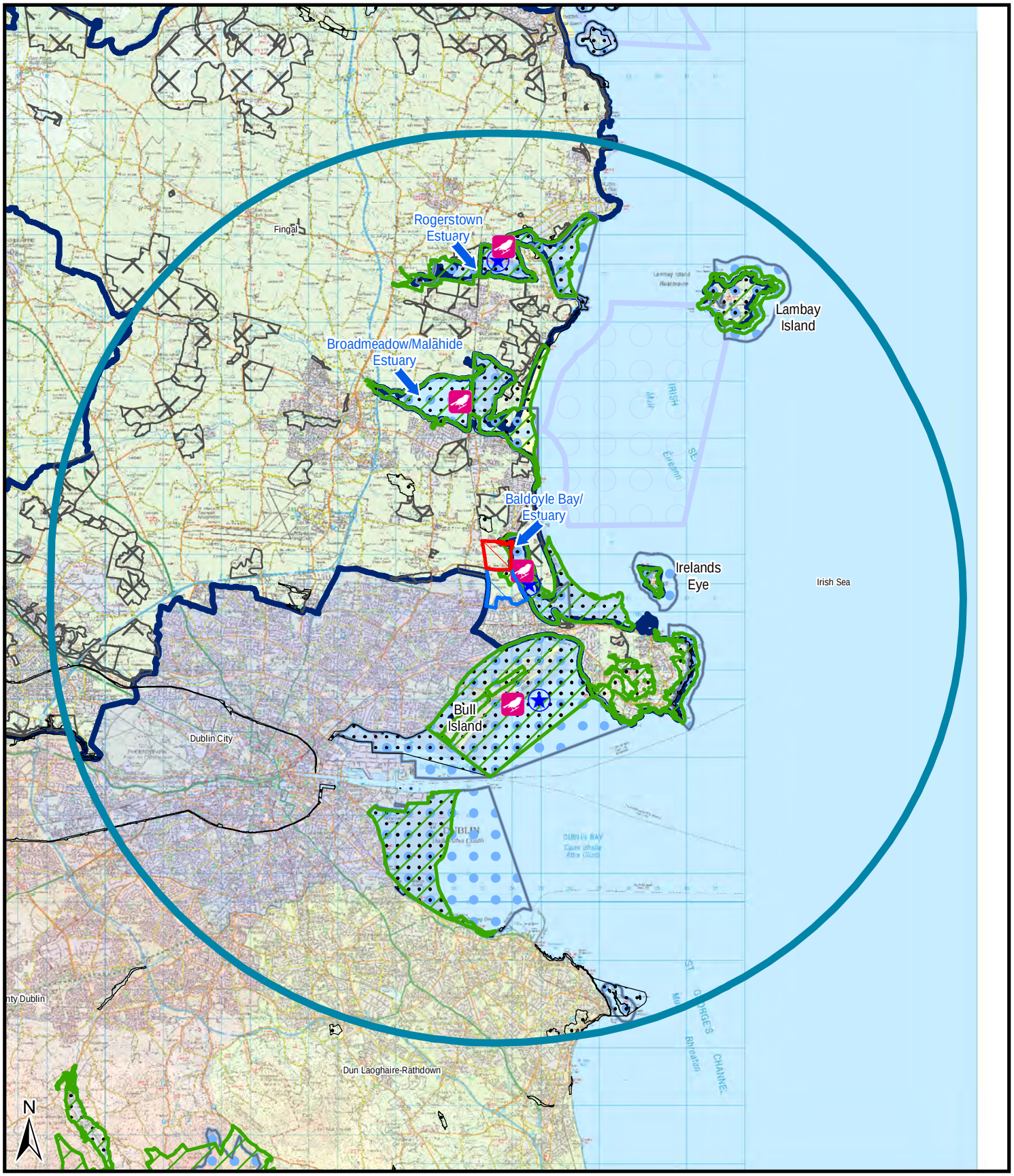
An established legal basis exists to protect, conserve and enhance biodiversity. Areas of International importance for habitats and species are mainly protected as Special Areas of Conservation (SACs) while Special Protection Areas (SPAs) are internationally important for the species and populations of birds they support. These are collectively known as Natura 2000 sites. Areas of National importance are designated as Natural Heritage Areas (NHAs) or proposed Natural Heritage Areas (pNHAs). The predominant legal instruments relating to the protection of rare or threatened habitats is the EU Birds and Habitats Directives and the Wildlife Acts 1976-2000 which provides for the designation and protection of sites that support annexed habitats and species by requiring, among other things, their favourable conservation status to be maintained or restored.

The Draft Portmarnock South Local Area Plan area is located adjacent to, and includes a portion, of a number of significant natural heritage area including Natura 2000 sites, proposed Natural Heritage Areas, extensive green infrastructure, and wildlife corridors, however, sites and species benefiting from statutory protection do not alone represent the full extent of the natural heritage of the Plan area. Additional biodiversity occurs in the ordinary landscapes, including woodlands, hedgerows, earth banks, grassy verges, ditches, rivers, streams, drains, lakes, bogs, fens, heaths, unimproved grasslands and wetlands, as well as the plant and animal species that occur in these wild spaces.

4.2.3 Natura 2000

The EU Habitats Directive, (92/43/EEC - on the Conservation of Natural Habitats and of Wild Fauna and Flora) and the Birds Directive (79/409/EEC - on the Conservation of Wild Birds) provides the legislative framework for the protection of habitats and species throughout Europe through the establishment of a network of designated conservation areas known as the Natura 2000 network.

The Natura 2000 network includes sites designated as Special Areas of Conservation (SACs), under the EU Habitats Directive, Special Protection Areas (SPAs) designated under the EU Birds Directive. In general terms, these sites are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community. Natura 2000 sites also include candidate and proposed sites. These are sites of international importance for nature conservation and form part of Ireland's contribution to the Natura 2000 network within the EU. Information about these sites, including their locations, site synopses, and qualifying or conservation interests, is available from www.npws.ie.



Designated Sites

Figure 4.2

Legend

- **Portmarnock South Local Area Plan Lands**
- **Baldoyle Stapolin Local Area Plan Lands**
- Special Areas of Conservation SAC
- Special Protection Area SPA
- Natural Heritage Area pNHA/NHA*
  *Note: Skerries Islands are the only NHA Designation in Fingal
- Designated Shellfish Waters
- Nature Development Area
- **County Boundary**
- 15km Buffer Line
- Ramsar Conservation Wetland
- Statutory Nature Reserve

The following table identifies Natura 2000 sites within a 15km zone of influence of the Draft LAP functional area. This is also shown in Figure 4.3 Designated Sites on the previous page.

Table 4.1: Natura 2000 sites within 15km of the subject site

Candidate Special Areas of Conservation (cSAC's)	Special Protection Areas (cSPA's)
Baldoyle Bay	North Bull Island
Howth Head	Rogerstown Estuary
Lambay Island	Baldoyle Bay
Malahide Estuary	Malahide Estuary
North Dublin Bay	Lambay Island
Rogerstown Estuary	Howth Head Coast
Ireland's Eye	Ireland's Eye
Rockabill to Dalkey Islands	Dalkey Island
Howth Head	South Dublin Bay and River Tolka Estuary

Baldoyle Bay is the closest Natura 2000 site to the proposed Portmarnock LAP area, located adjoining and partially within the plan lands. Due to the important habitats, species of birds, animals and plants that occur within the site Baldoyle Bay is designated as a Special Area of Conservation (SAC) for habitats and a Special Protection Area (SPA) for birds. A portion of the LAP lands, the 'Murrough Spit', zoned High Amenity (HA) and located east of Coast Road, is within Baldoyle SAC and SPA.

4.2.3.1 Baldoyle Bay SPA

In terms of the Baldoyle Bay SPA, the main reason for the designation is the presence of internationally important numbers of Pale-bellied Brent Geese (*Branta bernicla hrota*). The geese are present from October to April, with overall counts indicating that numbers are increasing. Feeding takes place in the inner estuary and outer bay: green algae (mostly *Enteromorpha* spp. and *Ulva lactuca*) growing on the intertidal flats dominates the diet until mid-winter, after which the geese switch to grazing grass in adjacent fields and golf courses.

In addition to hosting several Annex I bird species, Baldoyle Bay is also an important coastal site for wintering waterfowl. The estuary complex provides good habitat for a range of species. A number of migratory bird species attain nationally important status including Bar-tailed Godwit (*Limosa lapponica*) and Golden Plover (*Pluvialis apricaria*) (both Annex I species under the E.U. Directive); Shelduck (*Tadorna tadorna*), Pintail (*Anas acuta*), Ringed Plover (*Charadrius hiaticula*) and Grey Plover (*Pluvialis squatarola*). Additional species such as Dunlin (*Calidris alpina*), Oystercatcher (*Haematopus ostralegus*), Black-tailed Godwit (*Limosa limosa*) and Redshank (*Tringa totanus*) attained nationally important status for some of this period. There are fairly extensive intertidal flats used by feeding waders and dabbling duck and geese. At high tide, the salt marshes and sandy beaches provide suitable roost sites.

Table 4.2: Baldoyle Bay SPA Special Conservation Interests

Bird Species	
Scientific Name	**Habitat**
Branta bernicla Hrota Pluvialis apricaria Limosa lapponica Pluvialis apricaria Charadrius hiaticula Tadorna tadorna,	Light-bellied Brent Goose Golden Plover Bar-tailed Godwit Grey Plover Ringed Plover Shelduck
Wetlands and Waterbirds In establishing their Special Protection Area network, Member States are explicitly required under Article 4 of the Directive to pay attention to the protection of wetlands. To this end the wetland habitat that is contained within this Special Protection Area and the waterbirds that utilise this resource are therefore listed as a special conservation interest for this site. This special conservation interest is listed as "Wetland and Waterbirds".	

Source: (www.npws.ie)

The NPWS website database and Status of EU Protected Habitats and Species in Ireland (NPWS, 2007) set out the Conservation Management Objectives and the conditions underpins the site integrity for Baldoyle Bay SPA as follows:

Table 4.3: Baldoyle Bay, SPA Conservation Management Objective & Conditions underpinning Site Integrity

Conservation Management Objective	Conditions underpinning Site Integrity
To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: • *Branta bernicla hrota [wintering]* • *Tadorna tadorna [wintering]* • *Charadrius hiaticula [wintering]* • *Pluvialis apricaria [wintering]* • *Pluvialis squatarola [wintering]* • *Limosa lapponica [wintering]* Wetlands & Waterbirds	• Water quality including nutrient levels, water clarity, sediment levels • Water levels • Tidal currents • Wind energy • Erosion / deposition levels • Freshwater influx • Intertidal habitats • Coastal habitats • Food supply • Appropriate levels of disturbance

4.2.3.2 Baldoyle Bay SAC

Conservation objectives for Baldoyle Bay SAC were published by the NPWS in November 2012 and the qualifying interests for the site are set out in Tables 4.4 and 4.5 below. Extensive mudflats occupy 79% of the site; these can support diverse invertebrate and algal communities and are important feeding grounds for wintering wildfowl and waders. The overall conservation status of the mudflat habitat in Baldoyle Bay is good, according to the Natura 2000 data form, and the relative area of mudflats in Baldoyle Bay is categorised as representing 2-15% of the national reserve of mudflat habitat (class B in the Natura 2000 data form). The salt marsh habitats represent different native plant communities that develop naturally under varying conditions of substrate, shelter and degree of inundation by the sea. Saltmarsh occupies 7% of the site in the inner estuary (*Spartina* swards), near Portmarnock Bridge, at Portmarnock Point and where the Mayne River joins the estuary.

Table 4.4: Outline of Conservation Objectives for Baldoyle Bay cSAC

Annex I Habitat Type	Habitat Code
Mudflats and Sandflats not covered by seawater at low tide	1140
Atlantic Salt Meadows	1330
Mediterranean Salt Meadows	1410
Salicornia and other annuals colonising mud and sand	1310
Spartina Sward	1320

Table 4.5: Baldoyle Bay SAC Conservation Management Objective & Conditions underpinning Site Integrity

Conservation Management Objective	Conditions underpinning Site Integrity
To maintain the favourable conservation condition of the Annex I habitats for which Baldoyle Bay SAC is selected, as defined by the attributes and targets listed in the sites conservation objectives document.	• Water quality including nutrient levels, water clarity, sediment levels • Appropriate agricultural practices including grazing pressures. • Surface and ground water quality • Appropriate levels of access and disturbance • Water levels • Air quality • Tidal currents • Erosion and deposition rates • Maintenance of habitat extent and condition

4.2.3.3 Other Natura Sites in the Vicinity

Other Natura 2000 sites in the vicinity include Irelands Eye SAC/SPA, Howth Head SAC, Howth Head Coast SPA, North Dublin Bay SAC, North Bull Island (SPA). The estuaries are important bird sites, providing both feeding and roosting areas for a range of wintering

wildfowl. The estuaries hold internationally important numbers of light-bellied Brent Geese and Black-tailed Godwit and nationally important populations of at least another twelve species. Many of the wetland birds of the Baldoyle Bay commute between these four estuaries. This shows that birds can move to an alternative estuarine site if there is disturbance in one of the above sites. However, the habitat quality and carrying capacity of each estuary must be protected to maintain the overall population of bird species that rely on these sites for feeding, roosting and breeding.

The approach and focus of the accompanying Habitats Directive Assessment has been to influence the Draft Portmarnock South Local Area Plan settlement statements in order to adequately protect the Natura 2000 site network within the surrounding area. The requirements of the Habitats Directive Assessment must be incorporated into the Draft Portmarnock South Local Area Plan 2013 – 2019.

4.2.4 Natural Heritage Areas (NHAs), proposed Natural Heritage Areas (pNHAs) and other sites of National and International Importance

The basic designation for wildlife at a national level is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. These sites were established under the Wildlife (Amendment) Act, 2000, but their statutory protection derives from the Wildlife Acts, 1976–2000. Under the Wildlife Amendment Act (2000), Natural Heritage Areas are legally protected from damage from the date they are formally proposed for designation. There are 630 pNHAs which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. They have been identified through various sources, including early inventories, in areas of biodiversity importance or conservation interest. As such their potential importance is recognised and acknowledged through proper planning and sustainable development. NHAs and pNHA's within the county represent a significant biodiversity resource and again, the range of habitats and species found in these sites vary considerably.

In addition to Baldoyle Bay, the Sluice River Marsh is the closet pNHA to the LAP lands. This site is of importance as a relatively intact freshwater marsh, a habitat that is now rare in County Dublin. Some waterfowl from Baldoyle Estuary may use the marsh on occasions.

Table 4.6: NHA's and pNHA's within 15km of the subject site

Proposed Natural Heritage Areas, Nature Reserves and Wildfowl Sanctuaries within 15km of Baldoyle-Stapolin LAP		
Proposed Natural Heritage Areas	**Nature Reserves and Wildfowl Sanctuaries**	**Ramsar Sites**
Baldoyle Bay	Baldoyle Estuary Nature Reserve and Wildfowl Sanctuary	Baldoyle Bay
Howth Head	North Bull Island Nature Reserve	Rogerstown Estuary
Lambay Island	Rogerstown Estuary Wildfowl Sanctuary	North Bull Island
Malahide Estuary		Sandymount Strand/River Tolka Estuary
North Dublin Bay		
Rogerstown Estuary		
Ireland's Eye		
Sluice River Marsh		
Royal Canal		
Liffey Valley		
Grand Canal		
Feltrim Hill		
Santry Demsene		
South Dublin Bay		
Booterstown Marsh		
Portraine Shore		
Dalkey Coastal Zone and Killiney Hill		

Dolphins, Dublin Dock		

Statutory Nature Reserves and Refuges for Fauna and Flora, established under the Wildlife Acts 1976 and 2000 are sites where nature conservation is the primary objective and takes precedence over all other activities. Baldoyle Bay is designated as both a Statutory Nature Reserve and a Refuge for Fauna and Flora.

4.2.4.1 Baldoyle Bay Ramsar Wetland

The Convention on Wetlands of International Importance, especially as waterfowl habitat was adopted at Ramsar, Iran in 1971, and is commonly referred to as the Ramsar Convention. The Convention provides a worldwide framework for the conservation and wise use of wetlands. Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by shallow water. Wetlands are important ecosystems which improve water quality, provide storm protection, provide flood mitigation, stabilise shorelines, maintain biodiversity, and provide natural products such as fish and shellfish. Baldoyle Bay, Bull Island, Malahide Estuary and Rogerstown Estuary are Ramsar sites.

Baldoyle Bay is classified as a tidal embayment separated from the sea by a major sand dune system. Vast mudflats are exposed at low tide and there are extensive beds of *Spartina*. The site is internationally important for the wintering goose *Branta bernicla hrota*, and nationally important numbers of various species of waterbirds use the site. While Ireland ratified the Ramsar Convention in 1985 there is no legal backing for Ramsar sites unless they are also Nature Reserves or SPAs and as such are protected by the Wildlife Acts 1976 and 2000 or the Birds or Habitats Directives.

4.2.5 Primary Ecological Corridors

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for the movement of wildlife. Migration, movement and the long term genetic health of species is assisted through creating linked networks for biodiversity purposes.

The Directive requires that connectivity and areas of ecological value which lie outside of the designated ecological sites are maintained. The Directive recognises the need for the management of these areas through land use planning and development policies. The networks are considered imperative in connecting areas of biodiversity within the County to each other, thus avoiding the creation of isolated islands of habitat. These corridors are particularly important for mammals, small birds and bats.

Further elements to be considered within any habitat or green network include streams, wet ditches, hedgerows of biodiversity and heritage importance which form barony or townland boundaries, and stepping stone areas such as defunct quarries, ponds, pools and areas of woodland or substantial tree-lines.

The County has a number of undeveloped or protected corridors of land, which act as links from the surrounding countryside, through the County and into the denser urban core of Dublin City such as the Liffey Valley and the Royal Canal. While the majority of the River Mayne, with the exception of the Mayne River Marsh, is not subject to environmental designation, it is none-the-less an important biodiversity corridor and particularly so as it flows into the designated estuary at Baldoyle Bay. The Sluice River Marsh, a proposed Natural Heritage Area [pNHA], is located to the north of the plan lands and is also identified as an important ecological corridor within the county. This wetlands support a diverse range of wetland plants and animals.

A Flora and Fauna Assessment of the Sluice River Marsh was commissioned by Fingal County Council in 2008[2]. In terms of habitats the assessment concluded that there is a unit of

[2] Sluice River Marsh, Flora and Faun a Assessment, Report prepared for Fingal County Council by Dr Roger Goodwille and Associates, May 2008.

wet willow-alder wood (WN6 in Fossitt 2000), leading to reed and large sedge swamp (FS1) with some tall herb swamp (FS2) mixed in and occasional, more open patches of marsh (GM1). These gradually change to upper saltmarsh (CM2) to the east, which expands in grazed form along the Sluice River and adjacent low lying runnels. The remaining fields would be classified as wet grassland (GS4) though there are only occasional patches of rushes and sedges. Hedgerows (WL1) form the final category and follow the field boundaries and the river embankment. In drier places the hedges are expanding to produce a type of scrub whereas in the marshes they remain isolated on high spots. Overall it was found that the study area holds a number of interesting habitats that are surprisingly little affected by modern development. The flora that occurs is primarily a wetland one with some contribution of grassland species. The interplay of salt- and freshwater is one of the dominant ecological factors and likely to change in the future. Several of the plant species that were found were rare nationally, in particular the curved hard grass *Parapholis incurva* which had only been found in two places on the Howth peninsula before the survey took place.

In terms of bird life the assessment found that the area supported a larger variety of bird species than might be expected. The primary reasons for this are the diversity and local rarity of the habitat and the proximity of Baldoyle Bay, an important site in winter for wildfowl and waders. As habitats include in the area include marsh and reedswamp, woodland and hedges, wet and dry grassland and saltmarsh. The relevance of Baldoyle Bay is that birds from there visit the study area to feed and roost, mainly during high tide. It was found that Brent geese and waders such as oystercatcher, curlew and both species of godwits frequent the eastern grassier sections at this time. In addition to the aforementioned species the area was identified as being import ant for several bird species; in particular for wintering Brent Geese and Little Egrets as well as some breeding species such as Grasshopper Warbler, Whitethroat and Stock Dove that are relatively uncommon or declining. The presence of a breeding wader (Snipe) is also noteworthy in a Fingal context. A feature of the area is the lack of use by people and, consequently, of disturbance.

In terms of mammals the predominant species found included Soprano pipistrelle & Common pipistrelle Bats, Leisler's bat, Otter, Rabbit, Irish hare, fox and brown rat. Although witnessed the assessment noted that bat activity was lower than would be expected given the availability of insect prey.

The Fingal Development Plan and the Fingal Biodiversity Plan is fully committed to the protection of plant and birds species associated with both the Mayne Marsh and the Sluice River Marsh. Specifically, Objective BD15 of the Fingal Development Plan seeks to 'protect the integrity of proposed Natural Heritage Areas [pNHA's], Natural Heritage Areas [NHA's], Statutory Nature Reserves, Refuges for Fauna and Annex 1 Habitats'.

Action 42 of the Fingal Biodiversity Plan seeks the 'preparation of a masterplan for a linear park along the Mayne River between Fingal and Dublin City Council that will combine recreational and nature conservation requirements in such a way that allows both functions to be developed to their full potential. The creation of a linear park is an important environmental/recreational project for both Council's to co-ordinate and deliver through the Clongriffin/Belmayne North Fringe LAP within Dublin City Council's jurisdiction and the Baldoyle/Stapolin LAP within Fingal.

Action 44 of the Fingal Biodiversity Plan seeks to protect and manage the Sluice River Marsh and its surrounding lands for protected plant species and migratory birds.

4.2.6 Ecological Buffer Zone

The open space and high amenity lands within the Plan area form an ecological buffer zone as designated in the Fingal Development Plan. This buffer zone also extends into Racecourse Park to the south of the plan lands within the Baldoyle-Stapolin LAP area. The purpose of the buffer-zone is to protect the integrity of the nationally and internationally designated sites, [Baldoyle Bay in this case] by providing suitable habitat for key species such as birds and providing for compatible land-uses around the designated sites. The Fingal Biodiversity Action Plan 2010-2015 recognises the importance of the buffer zone around the estuaries. These areas will be developed as multi-functional landscapes where agricultural land-use is

maintained and, where appropriate, combined with nature conservation targets and low intensity recreational use.

4.2.7 Local Area Plan Lands

As part of the Appropriate Assessment for the Proposed Coastal Pathway Portmarnock-Baldoyle at Baldoyle Bay cSAC and SPA an ecological assessment was carried out by Hans Visser, Biodiversity Officer, Fingal County Council and Dr Roger Goodwillie[3] along the eastern perimeter of the LAP lands. In addition and Ecological Study of the LAP lands was carried out by Dr Roger Goodwillie in January 2007 by the landowner[4]. The results of these studies found that the lands are all in agricultural use except for the few gardens along the coast road. The fields are used for growing cereals or occasionally vegetables. Some of the hedgerows marked on the O.S map have been removed but that marking the townland boundaries between Portmarnock, Drumnigh and Maynetown persists, as well as parts of those in the south-eastern quarter. The townland boundaries are considerably taller, better-grown examples of hedgerows with lines of ash, hawthorn, elm, grey willow, blackthorn, elder, bramble and wild rose as the dominant species. The railway is also bordered by a treeline, as is Station Road. In both places ash, sycamore and elm are important and both elms occur *Ulmus procera* and *U.glabra*. The ground flora under these hedges is richest along the townland boundary where there is a bank and ditch.

Other hedges have a poorer flora often with ivy *Hedera helix*, goosegrass *Galium aparine* and hogweed *Heracleum sphondylium* predominating. At the northern end of the site several introduced species occur, e.g. winter heliotrope *Petasites fragrans*, alexanders *Smyrnium olusatrum* and giant hogweed *Heracleum mantegazzianum*. The last is an allergenic plant inducing a skin rash in most people.

The most interesting adjoining habitat is in the railway cutting north of the small farm bridge. Here a grassland based on upright brome *Bromus erectus* occurs along with rest harrow *Ononis repens*, wild carrot *Daucus carota*, fairy flax *Linum catharticum*, quaking grass *Briza media*, glaucous sedge *Carex flacca*, hoary ragwort *Senecio erucifolius* and the St John's wort *Hypericum perforatum*. This mirrors grassland along Strand Road south of Mayne Road and will be a seed source for the development of natural grassland communities in the parkland on site.
The only mammal species regularly on site are thought to be rabbit, fox, brown rat, field mouse and pygmy shrew. Rabbits occur in many of the field boundaries but are most numerous along the railway cutting and adjoining hedge. They have some grazing effect on the edges of crop fields. Foxes may only visit the area as no regular earth was found. The railway line would again seem a likely base though temporary holes may be used in some of the hedgebanks through the year. The smaller species are associated with hedgerows since the ditch along most of the hedges is dry. There may be occasional hedgehogs in this habitat also though no evidence of them was seen.

Sufficient trees occur in the area around Portmarnock Station for a few bats to occur. These would roost in nearby houses and feed in treebelts along the railway line and Station Road. Numbers would be small and only pipistrelles would be expected. The townland boundary hedge is the only one on site with potential for bats.

There was no evidence of badgers in the area but since the animals are widespread, individuals may sometimes be seen. The same goes for the otter as this species is likely to be in the Sluice River on a regular basis. Otters follow watercourses in overland travel but so little water reaches the Sluice from the LAP lands that it is most unlikely for the species to occur.

The birds that live in the area are predominantly those associated with cereal growing land, for example pheasant, woodpigeon, rook, jackdaw, magpie, meadow pipit (mainly winter), skylark, goldfinch, linnet, yellowhammer and chaffinch. In the hedges are some more 'garden'

[3] Proposed Coastal Pathway Portmarnock – Baldoyle at Baldoyle Bay cSAC and SPA Appropriate Assessment under the EU Habitats Directive, Article 6(3), Fingal County Council, November 2009.
[4] portmamock LAP lands, Ecological assessment, Roger Goodwillie, January 2007.

species such as blackbird, robin, dunnock, wren, blue tit and goldcrest. Bullfinches were seen along the railway.

The skylark and yellowhammer are both declining species of some interest locally. Skylarks have limited nesting grounds in the LAP lands as they depend on the sowing stage of the tillage crops – which is nowadays often too early. Greater numbers occur south of Mayne Road and on the estuary side of Strand Road where there are better nesting and feeding territories. The yellowhammer requires cereal fields for feeding with nesting and singing places in the peripheral hedges. It does not persist as a breeding bird if grain-growing ceases but may continue to occur in roving flocks of finches in autumn and winter.

4.2.8 Aquatic Biodiversity- Flora and Fauna

EU Shellfish Waters Directive (2006/113/EC)

The Malahide Shellfish Waters are located c.2km to the north-east of the plan lands is 36.3 km^2 in area and extends from Lambay Island to Portmarnock. Balbriggan/Skerries shellfish area is situated in adjacent tidal waters. While these areas are outside the functional area of the Plan lands the contributing catchment is 376.66 km^2 in area and drains a number of rivers including the Sluice and Mayne which are adjacent to the LAP lands. These waters were designated under the European Communities (Quality of Shellfish Waters) Regulation 2006 (as amended) S. I. No. 268 of 2006 to protect or improve shellfish waters in order to support shellfish life and growth. The aim of the Shellfish Waters Directive is to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. Any pollution or output from the LAP lands to the estuary has potential to impact on the quality of sea water and on the health of the Shellfish Area off the Irish coast. The County Development Plan seeks to ensure the protection of the quality of designated shellfish waters off the coast of Fingal and to the implementation of the Pollution Reduction Programme measures for the Malahide Shellfish Area.

The Shellfish Waters Directive sets out a mix of mandatory and recommended physical, chemical and microbiological water quality requirements that EU members must meet in order to protect these designated areas. On foot of the designated legislation the Malahide Pollution Reduction Programme came into effect from the 22nd of December 2009 and this includes measures such as monitoring of water quality, review/monitoring of the Pollution Reduction Programme, monitoring of environmental impacts and monitoring implementation of the Pollution Reduction Programme.

Local Aquatic Systems

The Sluice which runs to the north and drains into Baldoyle Bay represents a regionally important salmonid system. The Sluice supports a resident population of Brown trout and a migratory population of Sea trout (both Salmo trutta) among other fish species.

The Mayne River, which runs to the south of the site, within the adjoining Baldoyle-Stapolin LAP lands, is a non-salmonid river; however Inland Fisheries Ireland has indicated that it is currently assessing the viability of a salmonid reintroduction programme. The system is non-salmonid as a result of blockages to fish passage in the lower reaches in combination with local water quality issues. An impassable feature at the coast (non-return tidal flap) is a key issue impacting on fish transition in this system.

4.2.9 Invasive Species

Invasive alien species are defined as plants or animals which did not originally occur in Ireland before human colonisation and which are expanding their numbers and distribution so as to cause a competitive threat to such native fauna and flora. Invasive alien species are rated globally as the second biggest threat to biodiversity after habitat loss. In Ireland the scale of impacts is immense not just on biodiversity but also on agriculture, forestry, fisheries, water quality, tourism, infrastructure, etc.

A number of invasive are present in Portmarnock including Japanese Knotweed and Giant Hogweed. Fingal County Council is aware of their distribution within the area and is actively controlling the Giant Hogweed. Japanese knotweed has not been tackled yet due to lack of

funding. It is an action of the Fingal Biodiversity Plan to control these species on a river catchment basis (Action 41).

4.2.10 Integration of Strategic Environmental Assessment and Habitats Directive Assessment

The Local Authority is required to prepare an Appropriate Assessment (AA) on the likely impacts of the Plan's implementation within or adjacent to Natura 2000 sites. AA is a focused and detailed practical appraisal of the possible impacts that the adoption of the Plan, in this case the Portmarnock South Local Area Plan 2013-2019 may have on the integrity of identified Natura 2000 sites within and adjoining the administrative boundaries of the Plan area. It details proposed measures which will be implemented to ensure that the long term conservation status of these sites is not adversely impacted upon and includes details of activities which may affect the conservation status of the designated sites. The Natura Impact Report is provided as a separate document entitled 'Natura Impact Report – Appropriate Assessment of the Draft Portmarnock South Local Area Plan 2013-2018'.

Articles 6(3) and (4) of the Habitats Directive sets out the decision-making tests that will be applied to plans or projects that may impact on a Natura 2000 site. Article 6(3) is primarily concerned with safeguarding Natura 2000 sites from implementing plans and projects that will negatively impact on their qualifying features in an unsustainable manner and provides a set of strict mechanisms to allow for only plans and projects to proceed through the assistance of conservation objectives in the event that they will not adversely impact on the integrity of a Natura 2000 site. However, should the Plan result in having an adverse effect on a Natura 2000 site without putting in place mitigation measures, Article 6(4) states that amelioration measures must be put in place which will compensate for direct risk or damage likely to occur so as to ensure that the integrity of Natura 2000 sites are not compromised.

The Directive presumes against plans and projects that adversely affects the integrity of a Natura 2000 site from being allowed to proceed except in exceptional circumstances, i.e. where:

1. No reasonable alternatives exist, and
2. There are IROPI - Imperative Reasons of Overriding Public Interest (in the case of all Annex I habitats and Annex II species). In the case of priority habitats, the only IROPI that may be raised are matters of Human Health and Public Safety.

The Planning Authority acknowledge the importance of such designated sites and therefore will require any proposals for development on, or adjacent to, a Natura 2000 site to be accompanied by a Habitats Directive Assessment. It is an objective of the Council to require all planning applications for development within, adjacent to, or likely to impact on Natura 2000 sites, to carry out a Habitats Directive Assessment in accordance with the Habitats Directive (1992), including the following:

- Developments likely to give rise to downstream impacts on water sensitive Natura 2000 sites (including coastal sites).
- Developments likely to give rise to cumulative impacts on Natura 2000 sites, i.e. taking into account impacts from existing development and possible future development.
- Developments likely to give rise to in combination impacts on Natura 2000 sites, i.e. developments requiring master plans, ancillary developments.
- Developments likely to fragment destroy or encroach on Natura 2000 sites and their buffer zones.
- Developments likely to disrupt the flight paths, movements, feeding and breeding areas of annexed species.

4.2.11 Biodiversity: Existing Problems and Environmental Considerations

The Fingal coastline is an area of high landscape quality, natural heritage and amenity value. The coast is increasingly important for a range of recreational activities (e.g. sailing) and for its amenities (e.g. beaches). The unprecedented population and economic growth over the past number of years has put pressure on habitats and species within Fingal due to urban expansion, housing and building in general, tourism and recreation and infrastructure

provision. As the population of the region increases, the demands made on the coastline, its habitats and waters will grow. It is important that the coastal zone, together with its associated ecological networks, is managed and developed in a way that protects and enhances its natural heritage and landscape.

For the Portmarnock South LAP the following issues are of concern in terms of biodiversity in the area and it should be noted that many of these issues have also been identified in the Habitats Directive Assessment that is being carried out in tandem with the SEA:

- The threat of pollution is a potential threat to flora and fauna within the LAP lands and the surrounding area. Baldoyle Bay is an estuarine system. According to the Natura 2000 Data Form, the site receives pollution from a number of sources, mainly the inflowing rivers (Mayne and Sluice) but also an unsatisfactory sewage network. The River Mayne has a Q-value of 3 which is classed as Poor under the EC Water Framework Directive. An investigative monitoring report on the Mayne was undertaken in March/April of 2012 (DCC, 2012). The results shows that water quality within the river for Ammonia, Phosphorus and Biochemical Oxygen Demand (BOD) did not meet the requirement of the "good" status required under the Water Framework Directive. The current "Poor" status and any further depreciation of water quality are considered a potential threat to habitats downstream and their supporting species.
- Any changes in local water catchments leading to changes in water quality could affect condition of the habitats. The LAP could result in an alteration of baseline conditions which may impact upon the qualifying interests of the cSAC included within LAP lands. A potential alteration in the surface water, ground water, pollution, flooding regime, flood defence, recreational uses, increase in population and a potential alteration of erosion rates all have potential alone or in combination all have potential to result in changes to baseline conditions on which qualifying interests depend.
- Loss and/or alteration of habitat due to development pressures along the Mayne River.
- Loss and or alteration of coastal habitat including open grassland/salt marsh habitats along the River Mayne. These are known feeding grounds for Brent Geese. Increased population and activity within the area may further reduce attractiveness of area through increased disturbance levels
- Disturbance to wildlife and habitats, and particularly birds due to increased recreational pressure. Increased development pressures and an increase in population associated with the Portmarnock South and Baldoyle-Stapolin LAPs may impact upon the designated sites. Baldoyle and Portmarnock are set to grow with several thousand people under the proposed LAPs. Other large scale housing developments are underway further inland at Balgriffin and along the Mayne River in the Dublin City area.
- Need to establish a Biodiversity Network, along the hedgerows (in particular along historic hedgerows) streams, springs and ditches. Include, at a minimum all hedgerows or stream sections of moderate value
- The spread of invasive alien species is a particularly important threat to local biodiversity as they compete for space and food.
- The Site Synopsis for Baldoyle Bay SPA identified the main threat to the birds as disturbance and dumping, as it is located in a densely populated area. In particular, the dumping of spoil onto then foreshore presents a threat to the value of the site.

4.2.12 Evolution of Biodiversity, Flora and Fauna in the Absence of a Local Area Plan

In the absence of a Local Area Plan, development within the area would have no long term guidance and each planning application on these zoned lands would be treated individually. Consequently long term impact or holistic impacts on ecological habitats within the area are unlikely to be fully assessed with the result that fragmentation and loss of habitats would occur. The opportunity to create a robust biodiversity network within the LAP lands would be lost and would result in a reduction in ecological continuity within and between these and other habitats.

Pressures on natural resources would continue, though the rare or threatened habitats, protected under EU and national legislation would continue to be afforded protection under the Fingal Development Plan 2011-2017. The local authority does however have control over activities which may adversely impact the sites both directly and indirectly. Certain activities such as surface water runoff due to urbanisation, and the development of an ecological network etc. are all factors which influence the Local Area Plan process.

The Fingal Development Plan 2011-2017 is the overriding document controlling, directing and managing development within the County. It contains specific policies in relation to the natural environment and therefore in the absence of the Portmarnock South Local Area Plan 2013-2019 considerable protection to habitats/wildlife will continue through the implementation of the Fingal Development Plan 2011-2017.

Fingal has a diverse natural heritage and as such there are many plans and guidance documents at European, National and Local level, which aim to guide development in order to ensure that this natural heritage is protected. However, in the absence of the Portmarnock South LAP 2013-2019 there would not be a localized framework within which to regulate, aid and/or control development.

In the absence of the Plan pressures on biodiversity, flora and fauna would occur and possibly escalate even though designated habitats and species are protected under EU and National legislation. Loss, disturbance, deterioration and fragmentation of biodiversity, flora and fauna are the greatest threats for biodiversity as well as. The Portmarnock South LAP provides an opportunity to integrate the ecological protection measures required by habitat directive with planning and development management of vulnerable areas.

4.3 Population & Human Health

4.3.1 Population

The Electoral Division covering the Plan lands is Portmarnock South ED, which also covers the Portmarnock Village to Carrickhill Road. The 2006 Census indicated that the population of Portmarnock South stood at 3,522, which was an increase of 6% from 2002. The majority of this growth can be accounted for by new residential developments along Station Road that were being occupied during this period. The population in Portmarnock North Electoral Division (ED), that is, north of Blackberry Lane, dropped by 9.5% between 2002-2006 which can be attributed to the natural lifecycle and an aging population in this established residential area. Results from the 2011 Census indicate that population in both EDs has declined in the inter-censal period. Again it is likely that this decline can be accounted for by an aging population and falling household sizes in established residential areas.

Table 4.7: Population Change 1991-2011

Portmarnock South ED	1991	1996	2002	2006	2011
Population	3,767	3,706	3,338	3,522	3,465
% Change	1.6%	-1.6%	-9.9%	6%	-1.6%

Source: CSO

In terms of household size, the average occupancy rate i.e. persons per household or pph, in the Dublin Region has been decreasing and this trend is set to continue, Table 4.8 below indicates this decrease.

Table 4.8: Average Occupancy Rates (persons per household)

	Actual				Projected	
Area	**2002**	**2006**	**2010**	**2011**	**2016**	**2022**
Dublin City	2.74	2.50	2.39	2.43	2.26	2.02
DLR	2.99	2.77	2.61	2.67	2.42	2.17
Fingal	3.23	2.95	2.81	2.92	2.58	2.32
South	3.25	3.03	2.83	2.93	2.65	2.38

Dublin				
Dublin Region	**2.96**	**2.82**	**2.58**	**2.65**

Source: 2002, 2006, 2011 Census & RPGs 2010-2022

The decrease is influenced by a number of factors including the general increase in divorce/separation, people living longer, availability of credit for first time buyers and the growing trend among young adults to live alone and have children at a later age. The family life cycle has an impact on household size in certain locations at certain times, for instance, many of the more mature areas e.g. Malahide West, Portmarnock North have more 'empty nests' as the younger family members leave to set up their own homes. In other areas e.g. Lusk, there are a higher number of younger families with a corresponding increase in the persons per household. Culture can also play a role in family size and therefore, household size. The overall implication of decreasing household size is that more houses will be needed for the same number of people. It is important that residential developments cater for the different demographics through mixed tenure and mixed house type.

4.3.1.1 Current Situation

The Portmarnock South Local Area Plan 2006-2012 provided for approximately 1,400 homes on the Plan lands. The lands are located within the Outer Public Safety Zones for Dublin Airport and as such there is a restriction on density of development which is allowable on the site. Specifically, residential densities should not exceed sixty persons per half hectare and no single half hectare plot will accommodate more than sixty persons. On the basis of the recommended densities specified it was calculated that the lands would accommodate up to 4,920 residents in total, however, in order to provide for a mix of housing some, of which was to be below 60 persons/half hectare, it was proposed that the lands would accommodate approximately 4,200 persons.

On foot of the 2006-2012 LAP permission was granted for Phase 1 of development under F07A/0947 for a total of 684 dwelling units in the context of the previous Portmarnock LAP. No development has occurred to date on foot of this permission and the permission is due to expire in May of 2013.

4.3.1.2 Education

As the lands are located within the Outer Public Safety Zone of Dublin Airport, schools and childcare facilities are not proposed as part of the LAP. The area is currently well served by primary and post-primary schools.

The following table gives a breakdown of schools in the area.

Table 4.9 Schools within the Local Area

National School	Secondary School
St Andrews NS, Malahide	Malahide Community School
St Oliver Plunkett, Malahide	Portmarnock Community School
St. Helens Junior NS, Portmarnock	St Fintans High School, Sutton
St. Helens Senior NS, Portmarnock	Sutton Park
St Fintans NS, Sutton	Santa Sabina, Sutton
Burrow National School, Sutton	St Marys Secondary, Baldoyle
Pobalscoil Neasain Community School, Warrenhouse Road.	
St. Marys NS, Grange Road	
St Peter & Pauls Boys NS,	

Baldoyle	

There are additional schools within the developing North Fringe within the administrative area of Dublin City Council to the west of the rail line including Belmayne Educate Together and Saint Francis of Assisi National Primary Schools both of which are currently in temporary accommodation but for which permanent sites have been identified within the Clongriffin-Belmayne area. A site has been reserved for a 16 classroom primary school within the Draft Baldoyle-Stapolin LAP lands as well as an additional site in Clongriffin. The Department of Education and Skills were consulted as part of the preparation of this LAP and they have confirmed that the primary educational needs of the new community within the plan lands can be met by the future school provision within the Draft Baldoyle-Stapolin LAP area. With respect to secondary school provision, the Department has advised that adequate capacity exists within existing schools to cater for existing and future needs of the LAP area with potential to increase capacity at existing sites if required. There are also a number of crèches and montessori schools at key locations within the vicinity of the plan lands. This LAP provides for a network of pedestrian and cycle routes inclusive of pedestrian crossings connecting to the Baldoyle/Stapolin LAP lands where a future school is proposed.

4.3.2 Human Health

Human Beings clearly comprise one of the most important elements of the “environment” and any potential impact on the status of humans by a plan of programme must be comprehensively addressed. The principal concern in this respect is that human beings experience no significant diminution in any aspect or aspects of “quality of life” as a consequence of the implementation of the Draft LAP.

Human health data for the Plan area is not easily available. Specific information on health of the population is not readily available at the local level. The Department of Health have published key trend statistics for 2011 at the national level. These trends are can be applied to the population at the local level, namely that the principal cause are (i) diseases of the circulatory system, (ii) cancer and (iii) external causes of injury and poisoning (transport accidents, suicide).

The impacts relevant to the SEA in terms of human health are usually those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm and can be transported so that they come into 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. Accordingly, the topic of human beings and their quality of life are addressed in this Environmental Report by means of an appraisal of the baseline of each environmental component of the Plan on the other environment parameters, of which human beings and their quality of life are an integral part. Where appropriate, mitigation measures to reduce/avoid adverse impacts are identified and incorporated into this Report and the Plan.

The influence of environmental factors on human health is well established and can be easily demonstrated in the following diagram:

(derived from Whitehead, M and Dahlgren, G, 1991))

4.3.3 Population and Human Health Issues: Existing Problems/Environmental Considerations

Fingal is experiencing two main issues in relation to population; that of depopulation in older established areas, and population growth in Greenfield areas, on the edges of existing settlement. The Portmarnock South LAP lands are located within the Metropolitan Area of Dublin and there is already both good public transport and considerable community infrastructure in place which can be supplemented and augmented within the plan lands. Analysis of the existing housing indicated the need to provide a variety of dwelling type and mix of tenure to reflect needs of population. There is also a need to facilitate the development of a mixed use neighbourhood at sustainable densities that encourages the efficient use of urban land in the Plan area. Other potential problems include issues with the availability of adequate infrastructure e.g. transport drainage, water wastewater infrastructure and capacity of the existing electricity network to serve the proposed increase in population.

In terms of human health the following issues are of concern within the Portmarnock South LAP:

- Increased amounts of traffic and the effect of emissions and traffic noise on human quality of life. Associated with the quality of life issue is the need to maintain areas of urban green space.
- Provision of clean drinking water for existing and proposed areas is another issue of concern. The recent growth of Dublin has seen greater pressure being put on existing water sources for the County. While the water standard in the county is currently considered very high (see Section 4.10.3) a significant future source of drinking water is required.
- Increases in population can impact on biodiversity, water quality, landscape and cultural heritage and which would impact on human health.
- Waste generation, old landfills and illegal dumping can impact on human health and biodiversity.
- Flooding due to heavy rainfall may impact on human health, on structures and the safety of water supply and water quality in the area.
- Possible transboundary impacts with future development in the adjoining local authority area of Dublin City Council and also within neighbouring areas of Fingal (cumulative impacts).

4.3.4 Evolution of Population and Human Health in the Absence of a Local Area Plan

In the absence of the Portmarnock South LAP there would not be a localised framework within which to regulate or determine an appropriate phasing of development within the zoned lands. A lack of controlled development could lead to the development on these lands that did not keep pace with the provision of economic, social or environmental infrastructure. Planning for appropriate community & social facilities, educational facilities and infrastructure is a key element of the Draft Plan may not be undertaken. Therefore, the target population increase will not be provided for by an adequate level of service provision. This would place undue pressure on existing service provisions and infrastructural facilities, which could in turn affect the natural environment in which the population lives leading to human health and quality of life issues. In the absence of an agreed target population and appropriate zoning of settlement land all of the environmental parameters would be adversely affected to varying degrees.

In the absence of an agreed target population and appropriate development framework for the lands all of the environmental parameters would be adversely affected to varying degrees. In the absence of the Plan, the predicted population increase will not be provided for by an adequate level of service provisions and the environmental consequences would be both deleterious and undesirable.

It should be noted however that, considerable environmental protection would remain due to the implementation of the Fingal Development Plan 2011-2017 and its policies and objectives relating to the environment.

4.4 Landscapes

4.4.1 Landscape

'Landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Landscape Convention, 2002). It is this definition that is incorporated into Section 4(c) of the Planning and Development (Amendment) Act 2010. The Heritage Act (1995) defines landscape as including 'areas, sites, vistas and features of significant scenic, archaeological, geological, historical, ecological or other scientific interest'. The landscape is made up of a range of unique characteristics including land form, which results from geological and geomorphological history, and land cover, which includes vegetation, water, human settlements, in combination with associated human values which are a result of historical, cultural, religious and other understandings and interactions with landform and landcover. As well as being an important part of people's lives - giving individuals and communities a sense of identity and belonging, and bestowing a sense of place on our surroundings - the landscape is the context in which all change takes place.

The importance of landscape and visual amenity and the role of planning in its protection are recognised in the Planning and Development Act 2000 (as amended), which requires that development plans include objectives for the preservation of the character of the landscape, including the preservation of views and prospects and the amenities of places and features of natural beauty or interest. The *Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022* state that policies and measures should be adopted at county level to protect, manage and plan landscapes through the provision of Landscape Classification and Character Assessments in accordance with adopted European (and National) Landscape Guidance Documents such as *Guidelines for the Implementation of the European Landscape Convention, February 2008*.

4.4.2 Landscape Character Assessment

The Fingal Development Plan 2011-2017 Landscape Character Assessment (LCA) provides for the classification of Fingal's landscapes into the following (1) types and values and (2) sensitivities. The LCA divides the County into 6 Landscape Character Types representing generic areas of distinctive character that makes one landscape different from another such as uplands or the coast. The LCA places a value on each landscape character type ranging

from exceptional to low. Subsequent to the type and value being identified, the sensitivity of each character type is defined as its overall ability to sustain its character in the face of change. Sensitivity is evaluated using criteria ranging from high to low. A highly sensitive landscape is likely to be vulnerable to change whereas a landscape with a low sensitivity is likely to be less at risk from change. It is important to note that it does not necessarily follow that an exceptional value landscape will be highly sensitive to change or similarly a low value landscape will have a low sensitivity to change.

The Landscape Character Assessment for Fingal identifies Baldoyle Bay as being of an Estuary and Coastal Character Types which are categorised as having an exceptional value recognised by the EU designations (candidate Special Areas of Conservation and Special Protection Areas) that apply to each in additional to national designations such as proposed Natural Heritage Areas and Ramsar. The aesthetic quality of the estuary is also identified as outstanding while the Coastal Character Type is categorised as having exceptional landscape value. In terms of sensitivity both Character Types are identified as having a high sensitivity to development with particular parts of these areas having a low capacity to absorb new development. Both the Coastal and Estuary Character Types are highly sensitive to development due to the exposed nature of many of the coastal and estuarine areas making them particularly vulnerable to intrusive development. The setting and character of coastal areas could easily damaged by inappropriate development. The LAP lands are a designated 'sensitive landscape' in the Fingal County Development Plan.

4.4.3 Views and Prospects

A protected view is the requirement within the Fingal Development Plan to preserve the view of a specific place or historic building from another location. In terms of the LAP there are protected views along the Coast Road affording attractive views of the Baldoyle Bay and Portmarnock peninsula to the east.

The quality of views from within the subject lands is variable. The relative lack of visual enclosure and the topography combine to afford extensive views from the subject lands over the Baldoyle Bay, Irelands Eye and Howth beyond.

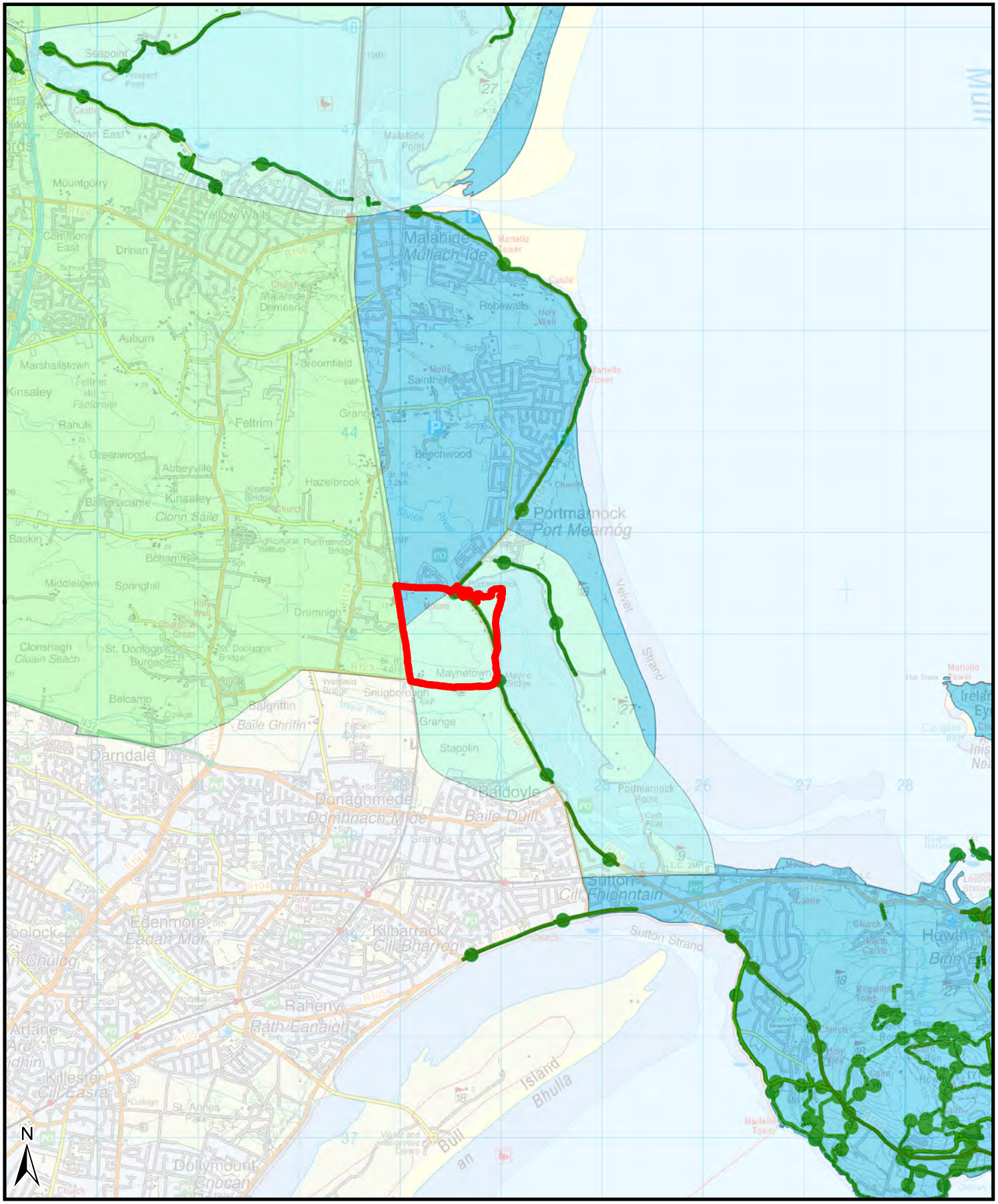
4.4.4 Topography of the LAP Lands and Visual Sensitivity

In terms of topography the western and middle portion of the site forms an elevated plateau which slopes away towards Strand Road to the east and Mayne Road on the southern boundary. The site generally falls from a high point of 15m AOD along the mid-western boundary adjoining the rail line and 12m in the centre of the site. The lands are approx 10m in the north west by the railway station, 4.5m in the north east adjoining Station Road, falling to 2m toward the estuary and 2.0m in the south east along Mayne Road (see figure 5 'Existing Topography & Vegetation'). The contours are more compressed on the southern side with a distinctive ridgeline running east - west and a more steeply sided slope running towards Mayne Road.

The eastern half of the plan area is highly visible when viewed form the shoreline of Baldoyle Bay and the Portmarnock Peninsula and enjoys panoramic views of the coast and it's islands notably Lambay Island, Howth Head and Ireland's Eye. The east-west ridge just south of the residential development area is highly visible from Clongriffin and Stapolin development areas, Clongriffin Railway Station and the mound in Father Collins Park. St. Doolagh's is a notable built feature when looking westward from the plan lands. From the southern slopes of the plan lands, there are open panoramic views towards Baldoyle, Clongriffin and Howth to the southeast. Beyond the silhouette of Baldoyle and Clongriffin, the backdrop of the Dublin Mountains is visible from this location. The plan lands are considered more visually sensitive than the lands further to the south and south-west where large contemporary developments at Baldoyle-Stapolin and Clongriffin have been constructed. These lands are located further back within the coastal compartment, on lower elevations and therefore less visually sensitive than the plan lands. The landscape character of the plan lands is highly sensitive to change.

4.4.5 Present Use of the Subject Lands

The subject lands are predominantly agricultural in use consisting of arable and grassland divided by hedgerows and drainage ditches. Along the boundary with the Coast Road and



Landscape Character Areas at Portmarnock South

Figure 4.3

Legend

- Draft Portmarnock South LAP Outline
- Coastal
- Estuary
- Low Lying Agricultural
- Preserve Views

Moyne Road there is a discontinuous corridor of development on the landwards side comprising primarily of a number of houses and a monitoring station associated with Dublin Airport. Moyne Lodge, located in the south/western section of the lands, which appear on the c.1837 map appears to have been modified in recent years.

4.4.6 Boundaries and Vegetation of the Subject Lands

The fields in the Portmarnock South area are large and irregularly shaped, there are a number of established hedgerows and trees within the plan lands, the majority of which mark the historic townland boundaries between Portmarnock, Drumnigh and Portmarnock. The Dublin- Belfast railway line for the most part is defined by mature hedgerows and trees and there are a number of notable tree clusters and established field boundaries in the vicinity of Moyne Lodge, located in the south/western section of the lands. The c.1837 map shows this dwelling in existence at that time. This dwelling appears to have been modified in recent years. Small clusters of detached housing have been developed in the vicinity of the Station Road junction and the Mayne Bridge in recent times.

4.4.7 Landscape Issues: Existing Problems / Environmental Considerations

Going forward, potential issues with regard to the landscape in Portmarnock South include; developments which do not reflect local landscape character, and the relationship of the coastal landscape of the area with the surrounding area. Panoramic view of the edge of the urban fringe at this location meeting the coastal landscape could be damaged by inappropriate and uncoordinated expansion resulting in declining landscape quality. In addition, the elevated nature of a significant portion of the LAP lands increase overall visual sensitivity to large residential developments.

Some particular aspects of the landscape that need to be given consideration:

- The need to resist the removal of hedgerows and field boundaries where still in place.
- The need to ensure that no further culverting of streams occurs within the plan lands.
- The need to protect important features of the wider landscape such as views for example views towards Howth, the rural area in Fingal with hedgerows and the railway embankment
- The need to ensure the natural environment and open space amenities are connected and integrated as main features of the area's identity and character
- The need to diversify the existing landscape character through the creation of new open spaces including urban squares, wetland parks etc
- The need to ensure that new developments not reflect the local landscape character

4.4.8 Evolution of Landscape in the Absence of a Local Area Plan

The LAP lands are zoned RS1, 'to provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure'. It should be noted that there is an extant permission for c. 600 residential units on the site which could proceed independently of the LAP if time permitted before the expiration of the permitted. This development would have a significant impact on the landscape of the area if constructed. If however, this development does not proceed, in the absence of a Draft LAP (LAP) there would be no significant change in the landscape. The majority of the subject lands would remain in agricultural use.

In terms of natural and cultural heritage, and residential, recreation and visual amenity value locally, the landscape would remain in a sub-optimal condition.

4.5 Soils and Geology

4.5.1 Introduction

Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities,

landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance.

Changes in soil result from natural processes and human activities, both contribute to their dynamic and evolving nature. Such changes are matters of concern if they result in the physical, biological or chemical degradation of soils. This can result in the impairment of ecologically essential soil processes, the reduction in productive capacity, the depletion of soil quality and biodiversity and the direct loss of soil.

Many of the changes arise as a result of pressures from human activities. The main pressures on soil resources in Ireland arise from the following sectors:

- intensive agriculture and organic waste disposal;
- forestry;
- industry;
- peat extraction; and
- urbanisation and infrastructure development.

These activities can lead to soil degradation including loss of organic matter, decline in soil fertility, acidification, loss of soil stability, increasing soil erosion, soil compaction, contamination, loss of biodiversity and loss of soil to buildings and infrastructure, and flooding.

To date, there is no legislation which is specific to the protection of soil resources. While the EU has produced a Thematic Strategy for Soil Protection, the proposed Framework Directive for Soils (2004/35/EC) has not been established in law and hence has not been transposed into national legislation yet. Article 5 of the proposed Directive states that, for the purposes of preserving the various functions of soil; sealing, the development of artificial surfaces on top of soil resources, should be limited. The proposed Directive suggests that this may be achieved through rehabilitating brownfield sites, thus reducing the depletion of greenfield sites. The proposed Directive also states soil should be used in a sustainable manner which preserves its capacity to deliver ecological, economic and social services, while maintaining its functions so that future generations can meet their needs.

The Geological Survey of Ireland GSI has been the source of information on Bedrock, Soils, Groundwater Classification and Aquifer Vulnerability in the Portmarnock South Area (www.gsi.ie).

4.5.2 Soil Type

Soil types, as classified by Teagasc in cooperation with the Forest Service, EPA and GSI, for the LAP lands are mapped on Figure 4.4. The most common soil type in the LAP area is identified as Till derived chiefly from limestone with a narrow band of Alluvium soil running through the southernmost section of the Plan lands. The eastern fringes of the land, including the Morrow Spit area Marine/estuarine silts and clays.

A ground investigation and walkover survey of the site is known to have been carried out on the Plan lands over the in 2006 as part of the preparation of an EIS's which was submitted with the main planning application on the site[5]. These investigations consisted of field work, cable percussive boreholes and trial pits with routine sampling and in-situ testing followed by laboratory testing and factual reporting.

Based on the available records of the ground investigations carried out on the plan lands the ground conditions would appear to generally consist of topsoil overlaying Glacial deposits to substantial depths.

The Glacial Deposits within the study area were seen to generally consist of firm sandy gravely clay a variable amount of coarse constituents and grading locally to granular material.

[5] Portmarnock South Local Area Plan Lands Residential Development, Environmental Impact Assessment, prepared for Sherman Oaks Ltd, July 2007.

Soil Types within the Portmarnock South LAP lands
Figure 4.4

0 750 1500 2250 m.

Map center: 323474, 241008

N

Legend

RBD Subsoils

- Alluvium
- Beach sands and gravels
- Bedrock outcrop and subcrop
- Esker sands and gravels
- Glaciofluvial sands and gravels
- Lake sediments
- Made ground
- Marine/estuarine silts and clays
- Marsh
- Peat
- Scree
- Till derived chiefly from Devonian sandstones
- Till derived chiefly from Lower Palaeozoic rocks
- Till derived chiefly from Namurian rocks
- Till derived chiefly from granite
- Till derived chiefly from limestone
- Till derived chiefly from metamorphic rocks
- Till derived from metamorphic rocks
- Till derived from mixed Devonian and Carboniferous rocks
- Water
- Windblown sands
- RBD Boundaries
- County Boundaries

Watermark

Scale: 1:28,525

Snapshot Date: 31-Jan-2013

4.5.3 Soil Sealing

Soil sealing occur where the soil surface has been covered with impervious materials as a result of development and infrastructure construction or has changed in nature leading to impermeability, as a result of, for example, compaction. The ecological and infiltration functions of sealed areas are impaired or prevented while surrounding soils may be influenced by change in water flow patterns or the fragmentation of habitats. The function of soils in abating climate change is particularly important in a regional context for cities such as Dublin experiencing rapid growth. The conversion of greenfield sites and sealing of soils can release CO2 into the atmosphere and further reduce areas of 'carbon sinks'. Soils contain about three times the amount of carbon globally as vegetation, and about twice that in the atmosphere. Land use planning must target the use of brownfield sites. Only a portion of the soils in the LAP area have been built upon or sealed off to date.

4.5.4 Soil Sampling

The existing baseline of data on soils in Fingal has been developed by the Geological Survey of Ireland (GSI) in cooperation with the three other Dublin Local Authorities. This work has been in progress since 2009 under the SURGE Project and was completed in 2012. The project aims to create a baseline dataset of soil geochemistry in Dublin and assess the extent and nature of metals and organic chemicals in Dublin soils both natural and man-made. Geochemical maps of Dublin soils have also been produced which can be used for land use planning, environmental management and health risk assessment. This involved sampling of 1058 points of which 2 were within the boundary of the Draft LAP area. All samples were analysed for 31 inorganic elements including heavy metals. Of the 1058 samples taken, a subset of 194 samples were also analysed for the following persistent organic pollutants:

- Polycyclic aromatic hydrocarbons (PAHs) and
- Polychlorinated bipheyls (PCBs).

The sampling points were for the most part within public parks, open spaces and road margins. For the purposes of the study and to examine the spatial extent of soil chemical concentrations in Dublin, the city was divided into zones which account for the history and geography of different city areas. Portmarnock South falls within the 'Rural Zone'. Results for heavy metals indicate that the concentrations of lead, copper, zinc and mercury are strongly influenced by human activities. PAHs were detected across the city, with Concentrations decline towards the outer suburbs. Results for PCBs in soil indicate isolated, low level detections of PCBs in Dublin again declining towards the outer suburbs.

4.5.5 Geology

Geology encompasses the understanding and study of the solid and liquid matter that constitutes the earth and the processes by which they are formed, moved and changed. Its understanding is necessary to fully appreciate the geological factors that shape and influence the world and its particular structure.

The geology of the area consists of a thick Tournasian argillaceous (muddy) bioclastic (contains fossils) limestone comprising medium to dark grey calcarenites interbedded within thin calcareous shales locally containing oolitic (small round fossil) beds. The glacial overburden is generally relatively thin and is greater than 3 metres in depth.

The Geological Survey of Ireland classifies the hydrogeology as LI – Locally Important aquifer. This equates to bedrock which is moderately productive in localised zones. The impure nature of the argillaceous bioclastic limestone means that it is not as brittle as pure limestone and therefore will deform more readily. Deformation of the rock tends to seal fractures and inhibit water movement.

Maps produced by the Radiological Protection Institute of Ireland indicate that 1-5% of the houses in the Portmarnock South area are predicted to have radon levels in excess of the 200 Bq/m^3 reference level. This is the second lowest range of radon levels.

4.5.6 Sites of Geological Interest

In 2007 the Geological Survey of Ireland (GSI) assessed the geological heritage of Fingal and produced a report entitled The Geological Heritage of Fingal which is available on the Council's website (www.fingalcoco.ie). In this report GSI identified sites of geological importance in the County and recommended their protection as County Geological Sites within the Fingal Development Plan. Some of these sites may be designated, in due course, as Natural Heritage Areas (NHAs) because of their geological interest from a national perspective. There are no sites of geological interest either within or adjoining the plan lands, the closest being at Ireland's Eye.

4.5.7 Soil and Geology Issues: Existing Problems/Environmental Considerations

Article 5 of the proposed Soil Directive states that, for the purposes of preserving the various functions of soil; sealing, the development of artificial surfaces on top of soil resources, should be limited. The proposed Directive suggests that this may be achieved through rehabilitating brownfield sites, thus reducing the depletion of greenfield sites. The proposed Directive also states soil should be used in a sustainable manner which preserves its capacity to deliver ecological, economic and social services, while maintaining its functions so that future generations can meet their needs. New residential, commercial and transportation developments and site preparation works, including those in recent years, have resulted in an extent of soil being sealed off across the site.

Soil and geology is closely linked to biodiversity and landscape thus loss, fragmentation and/or deterioration of soils and geology would have a direct negative impact on biodiversity and the landscape. Increase volumes of surface water run-off due to conversion of permeable landscapes to impermeable causes increased flooding, erosion and alteration of soils and their associated habitat. Other threats include pressures that recreational uses can place on soils and their habitats, including erosion. Finally, the lack of protection and mitigation of impacts of construction on soils can cause soil structural degradation and compaction.

4.5.8 Evolution of Geology/Soils in the Absence of the Local Area Plan

In the absence of the LAP there would be no framework directing developments to appropriate locations within the area and ensuring that sensitive locations remain untarnished.

In the absence of a LAP, soils have the potential to be contaminated by development which is not controlled in construction stages to mitigate run-off or spillage. There is also potential for contamination by inappropriate wastewater and surface water management.

The absence of a LAP would also lead to less cohesive residential and community planning. Although greenfield sites are being lost to the residential areas, there is a impetus to maintain open space lands and green areas for amenity purposes.

4.6 Water Quality and Flooding

4.6.1 Introduction

This section assesses the baseline water quality in the LAP lands for ecological and human health requirements. For the purposes of this section, water in the study area is categorised as surface water and groundwater. Groundwater and surface water quality are critical for the protection of designated and important ecological areas. River water quality and groundwater quality are critical for potable water supply. These waterbodies are discussed in the following sections.

4.6.2 Legislative Context

The European Communities (Water Policy) Regulations, 2003 (SI No. 722 of 2003) transposed the Water Framework Directive (2000/60/EC) into Irish Law. The Water Framework Directive (WFD) sets an objective of achieving at least 'good status' for all water bodies - surface, ground, estuarine and coastal - and protect, enhance restore all waters with the aim of achieving "good status" by 2015. Good status for surface water is a combination of

the chemical quality, biological quality and microbiological quality that must be achieved. For groundwater, good status refers to chemical water quality and quantity.

The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status by 2015.

The governance of water in Ireland is directed through 8 River Basin Districts (RBD's). The LAP lands are covered by the Eastern River Basin District. The WFD Article 5 Characterisation Report submitted to the EU in March 2005 summarises the impacts of human activity on water bodies in the SERBD. The pressures on the water bodies are grouped into:

- Point source pressure: discharge from a single source such as a wastewater treatment plant or a industry
- Diffuse source pressures: pressures from agriculture, forestry or septic tanks
- Hydrological pressures: abstractions for industry, or drinking water supplies
- Physical alterations: dredging and river straightening for navigational purposes

The Characterisation and Analysis Summary Report (2005) completed for the National Article 5 Characterisation Report concludes that 5% of groundwater bodies, 45% of river water bodies, 25% of lake water bodies, 48% of transitional water bodies and 11% of coastal water bodies within the SERBD are identified as being at risk or significantly at risk of not meeting good status by 2015. (Source: SERBD Article 5 Characterisation Summary Report, SERBD November, 2005.)

4.6.2.1 River Basin Districts and Water Bodies

For the purpose of implementing the WFD, Ireland has been divided into eight river basin districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine/coastal areas. The management of water resources will be on these river basin districts. The Portmarnock South area falls within the Eastern River Basin District (ERBD).

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies.

The Local Authorities located in the ERBD - including Fingal County Council - have prepared a River Basin Management Plan and Programme of Measures. This Eastern River Basin Management Plan (ERBMP) (2009-2015) identifies the status of water bodies within the RBD and provide objectives in order to implement the requirements of the WFD. This is in the form of an interim status assessment carried out by the EPA, which is based on the results of monitoring up to 2008. The interim assessment classifies the surface waters according to their ecological and chemical status while groundwater is classified based on a system combining chemical and quantitative status.

4.6.2.2 Register of Protected Areas

The WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies that must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

The WFD requires that these RPAs contain the following areas: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilisers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species, e.g. salmonid areas; Special Areas of Conservation (SACs) and Special Protection Areas(SPAs).

Recreational waters (bathing waters) are included in the RPA and contain all the areas listed in the Bathing Water Regulations (S.I. 155/1992). These include beaches along Sutton

(Burrow Beach), Malahide, Portmarnock and Portrane which are located a 15km buffer zone of the LAP lands.

There are a number of RPA Shellfish Areas along the Fingal coast that include the coastal areas of Malahide which is located within a 15km buffer zone of the LAP lands (see Section 4.2.7 for further details). It should also be noted that the Broadmeadow Estuary (Inner) has been listed on the RPA as a Nutrient Sensitive Estuary.

4.6.3 Rivers

4.6.3.1 Q Values

While there are no significant watercourses running through the LAP lands the Mayne River runs to the south of the site and the Sluice River runs to the north. Both of these rivers discharge to Baldoyle Bay with the Mayne discharging at the junction of Mayne Road and Strand Road (R106) and the Sluice discharging via a culvert at Portmarnock Bridge. The Mayne River rises near Dublin Airport and drains a substantially rural catchment. In general the river slopes uniformly from an elevation of 64.0 m O.D. at the upstream end to 0.0 m O.D. at the outfall. The lowest reaches of the river which traverse the plan lands are relatively flat with the section of the plan lands forming a natural floodplain. The Racecourse Stream is a tributary of the Mayne River, and flows from the south, draining the catchment of Baldoyle and Seagrange.

The Sluice River rises to the north of Dublin Airport and flows by way of Kinsealy into the head of Baldoyle Bay. Its lower course is meandering and it has been embanked since before 1830 to curtail tidal flooding. Other tributaries to the Sluice are the Wad and Kealys streams. During high tide, flap gates at Portmarnock Bridge close, preventing the tide from propagating into the floodplain upstream to the west of Portmarnock Bridge. '

Biological water quality is measured for the EPA at recorded sampling locations throughout the county. Biological indicators are probably the best indicators in a water body as they represent long-term water quality. The data gathered for the biological sampling (kick sampling) is used to determine the EPA biotic index for the water body.

The EPA water quality monitoring station on the Mayne River located at hydrometric station 08006 (Hole-in-the-wall) shows the water quality of the Mayne River in the year 2010 as Q1 (poor status). The EPA website does not show any water quality monitoring data for the Sluice River.

4.6.3.2 Water Framework Directive Surface Water Status

The WFD defines ‘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. Thus, to achieve ‘good surface water status’ both the ecological status and the chemical status of a surface water body need to be at least ‘good’.

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of “good ecological status” when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedance of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. Good surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

The River Mayne is a reportable river under the Water Framework Directive and is currently identified as being of “poor status” while the catchment of the River Sluice to the north is identified as being of “good status” with both rivers having a Risk Status of 1a – At Risk. An Investigative Monitoring Programme for the River Mayne Catchment was undertaken as part of the LAP process for Clongriffin-Belmayne and Baldoyle-Stapolin over four weeks in March and April 2012. The purpose of this investigative monitoring was to obtain up to date

information on the physicochemical status of the river and to attempt to identify the significant pressures on the river. Samples were taken at 12 locations between the M50/M1 junction and the railway bridge at Baldoyle. The first samples were taken on Wednesday, 21st March 2012 and continued weekly for a month (i.e. 21st March, 28th March, 4th April and 11th April). As the limits imposed on certain pollutants in the European Communities Environmental Objectives (Surface Water) Regulations, 2009 as measured as means or 95 percentile values, more data would be required to determine if the current status of the river satisfied the requirements of the Water Framework Directive. However, if the results in the current study are indicative of typical water quality in the river, then it would fail to meet the requirement of good status under the Water Framework Directive for Ammonia, Phosphorus and possible Biochemical Oxygen Demand (BOD).

The Mayne River along with the Sluice River, which runs to the south and north of the Portmarnock South LAP lands respectively, are part of the Santry-Mayne-Sluice Water Management Unit. In Santry-Mayne-Sluice Management Unit the problems which are preventing the achievement of 'Good Status' can be attributed to:

- High Nutrients (Phosphorus)
- Oxygen Demand
- Low Ecological Rating
- Inferior Habitat

The principal pressures identified are wastewater and industrial discharges and in Dublin misconnected foul sewers from houses and businesses, combined sewer overflows (wastewater discharges) and urban area pollution are principal pressures. A Programme of Measures (POM) is set out to address these issues and must be implemented before 2015. The POM is made up of key priority actions drawn from legislative laws and additional required actions. Notwithstanding this the WFD recognises that in some cases it may not be possible to achieve all core objectives by 2015.

Within the Santry-Mayne-Sluice Management Unit the main factor preventing achievement of Good Status is urban point and diffuse pollution. Full implementation of the measures is expected to correct this; however recovery time will mean that the Mayne River will not achieve Good Status before 2015. Consequently a derogation to achieve good ecological status by 2027 has been obtained for the River Mayne however, the water body into which the River Mayne discharges is an SPA which has a priority status of 2015.

Objective 460 of the Fingal Development Plan seeks to work in co-operation with relevant national agencies, to draw up a plan for improving the water quality of Baldoyle Estuary in conjunction with the Eastern River Basin Management System.

4.6.4 Transitional Waters

Coastal waters are important for tourism, for use as bathing locations and for supporting marine wildlife. The EPA uses the Assessment of Trophic Status of Estuaries and Bays in Ireland ATSEBI) System in order to classify the quality status of transitional waters, such as estuaries and coastal waters. Categories of criteria for nutrient enrichment, accelerated growth, and undesirable disturbance are used by the ATSEBI in order to classify the estuarine and coastal waters. There are four classifications:

- *Eutrophic waterbodies* are those in which each of the criteria is breached, i.e. where elevated nutrient concentrations, accelerated growth of plants and undesirable water quality disturbance occur simultaneously.
- *Potentially Eutrophic waterbodies* are those in which two of the criteria are breached and a third falls within 15% of the relevant threshold value/values.
- *Intermediate waterbodies* are those which do not fall into the Eutrophic or Potentially Eutrophic classes but in which breaches of one or two of the criteria occur.
- *Unpolluted waterbodies* are those which do not breach any of the criteria. It is noted that estuarine and coastal waters can attain Good Status as defined by the WFD through the achievement of Unpolluted status.

The transitional water bodies to be rated within 15km of the LAP lands are North Dublin Bay, Rogerstown Estuary and Malahide Estuary. North Dublin Bay has been classified as being "Unpolluted" and Rogerstown Estuary has been classified as "Eutrophic". The Broadmeadow Water side of the Malahide Estuary has been described as "Eutrophic", while the Malahide Bay side has been classified as "Intermediate". In terms of achieving the WFD objectives by 2015, the entire coastal region of Fingal has been classified as (1a) at significant risk of failing to achieve WFD objectives by 2015.

4.6.5 Quality of Bathing Water

Information on Bathing Water is compiled by the EPA from data submitted by local authorities around the Country. Monitoring results are assessed for compliance with two sets of EU standards specified in the Directive: minimum quality standards (EU mandatory values) and more stringent quality targets (EU guide values). Over the bathing season, water quality at each bathing area must comply with the minimum EU mandatory values. In addition, all bathing areas should endeavour to achieve the stricter EU guide values. In Fingal, water quality is monitored at Balbriggan, Donabate, Loughshinny, Malahide, Portmarnock, Portrane, Rush (South Beach), Skerries and Sutton (Burrow Beach).

The nearest bathing areas to the LAP lands are at Portmarnock and Sutton. While the nearby Portmarnock Velvet Strand beach is classified by the EPA as having 'good' water quality in 2010, Sutton Burrow beach to the south is classified as having 'poor' water quality due to the presence of microbiological parameter faecal coliforms. Overflows from local pumping stations may have been the cause. Uncontrolled factors such as the weather resulting in overflows from septic tanks and onsite treatment plants may also have contributed. Fingal County Council has recently completed a new pumping station at Sutton "as part of the Dublin Bay Contract 5" with foul drainage from the area now being transferred to the regional sewage plant at Ringsend. It is envisaged that on foot of these works there will be a significant improvement in Bathing Water Quality at Burrow Beach going forward.

4.6.6 Ground Water

4.6.6.1 Introduction

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water.

Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD.

Aquifers are exposed in our surface lakes and rivers. Most groundwater originates from the surface but it permeates through the ground to supply (or 'recharge') wells or boreholes. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil (Todd, 1980). The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality.

4.6.6.2 Water Framework Directive Groundwater Status

For groundwater bodies, the approach to classification is different from that for surface water. For each body of groundwater, both the chemical status and the quantitative must be determined. Both have to be classed as either "good" or "poor". The WFD sets out a series of criteria that must be met for a body to be classed as good chemical and quantitative status. Groundwater underlying the LAP area is classified as being of "Good Status".

In conjunction with the GSI, a Groundwater Protection Scheme has been prepared for the County. This provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of

developments and activities in order to protect groundwater. Use of the scheme will help to ensure that within the planning and licensing processes due regard is taken of the need to maintain the beneficial use of groundwater. A Groundwater Protection Scheme aims to maintain the quantity and quality of groundwater and in some cases improve it, by applying a risk assessment-based approach to groundwater protection and sustainable development.

4.6.6.3 Aquifer Vulnerability and Productivity

The Geological Survey of Ireland (GSI) rates aquifers based on their hydrogeological characteristics as well as on the value of the groundwater resource. Groundwater vulnerability indicates how vulnerable the aquifers are to contamination through assessment of the subsoil thickness and the aquifer classification. Groundwater vulnerability is divided into four vulnerability categories, extreme (E), high (H), moderate (M) and low (L), based on geological and hydrogeological factors. However a significant amount of the current mapping is at an interim stage. Groundwater vulnerability in the LAP area is mainly classified as being low with only the southwestern sections of the land, to the north of Moyne Road classified as having moderate vulnerability.

The site is underlain by the Boston Hill Formation (also referred to as the Malahide Formation on the GSI website). This consists of muddy limestone and shale. The Plan area is covered by two designations on the National Draft Bedrock Aquifer Map. Specifically, the northern half of the plan lands are identified as being Dinantian Lower Impure Limestones which is classified as (LI) - Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones.

4.7.6 Flooding

The Planning System and Flood Risk Management Guidelines (OPW & DOEHLG, 2009) states that:

'Flooding is a natural process that can happen at any time in a wide variety of locations. Flooding from the sea and from rivers is probably best known but prolonged and intense rainfall can also cause sewer flooding, overland flow and groundwater flooding. When it impacts on human activities, it can threaten people, their property and the environment. Assets at risk can include housing, transport and public service infrastructure, and commercial, industrial and agricultural enterprises. The health, social, economic and environmental impacts of flooding can be significant and have a wide community impact'.

Thus the underlying causes of flooding, heavy rain and high sea levels are, essentially uncontrollable. However, the factors affecting the extent and severity of the flood can be addressed. The most influential of these factors is development, in particular development in flood plains i.e. areas adjacent to rivers that tend to become flooded following periods of heavy rain. Historic records help to indicate which areas are prone to flooding, although it is always possible that areas not known to have flooded in the past or for which no records of flooding are available, might flood in the future due to changes in upstream or downstream conditions or the occurrence of a more extreme rainfall event. The Office of Public Works (OPW) monitors flooding throughout Ireland and has recorded significant flood events within the plan area.

4.7.6.1 OPW National Flood Hazard Mapping & FEMFRAMS

The statutory Planning Guidelines on "The Planning System and Flood Management – Guideline for Planning Authorities" (2009) focus on providing comprehensive consideration of flood risk in the preparing of Regional Plans, Development Plans and Local Area Plans, and in determining applications for planning permission.

These Guidelines indicate that Flood Risk Assessments should be undertaken at different scales by different organisations for many different purposes. The scales are as follows:

- Regional Flood Risk Appraisal (RFRA): A regional Flood Risk Appraisal provides a broad overview of the source and significance of all types of flood risk across a region and highlights areas where more detailed study will be required. These appraisals are undertaken by regional authorities.

- Strategic Flood Risk Assessment (SFRA): A Strategic Flood Risk Assessment provides a broad (area-wide or country-wide) assessment of all types of flood risk to inform strategic land use planning decisions. The SFRA allows the Planning Authority to undertake the sequential approach (described below) and identify how flood risk can be reduced as part of the development plan process.
- Site Flood Risk Assessment (Site FRA): A Site FRA is undertaken to assess all types of flood risk for a new development. This requires identification of the sources of flood risk, the effects of climate change on the food risk, the impact of the proposed development, the effectiveness of flood mitigation and management measures and the residual risks that then remain.

Floodmaps.ie

The OPW maintain a flooding database at floodmaps.ie. From examination of the database there are records of previous tidal or fluvial flooding in this immediate area of the indicated on the OPW Flood maps, but none within the site, or in particular, within the RA zoned section of the site. The floodmaps.ie generated report identifies all flooding within 2.5 km of the site. Of the 13 flooding instances listed within 2.5 km of the site, the Baldoyle Coastal recurring (12) and Sluice River Strand Road Portmarnock Recurring (13) are unlikely to directly impact on the Objective RA zoned lands *provide for new residential communities in accordance with approved local area plan and subject to the provision of the necessary social and physical infrastructure.*

FEMFRAMS

The Fingal East Meath Flood Risk Assessment Management Study (FEM FRAMS) was one of four pilot CFRAM studies for the new Flood Risk Assessment and Management Programme. The CFRAM studies are the core of the delivery of the new Flood Policy adopted by the Irish Government in 2004, shifting the emphasis in addressing flood risk towards '*a catchment-based, pro-active approach for identifying and managing existing, and potential future, flood risk*'. The Fingal East Meath Flood Risk Assessment and Management Study has been examined to determine the existing and potential future tidal and fluvial flooding proximate to the site.

The water levels predicted by the FEMFRAMS Tidal Flooding Current Scenario for an exceedance of 0.1 % (1 in 1,000 year) in the vicinity of the LAP lands are set out in Table 4.10.

Table 4.10 FemFrams 0.1% Current Scenario

Node	Location	Flood Level OD Malin	
		Fluvial	Tidal
073	Southwest of subject site	-	3.43
2Sa36U		2.57	-

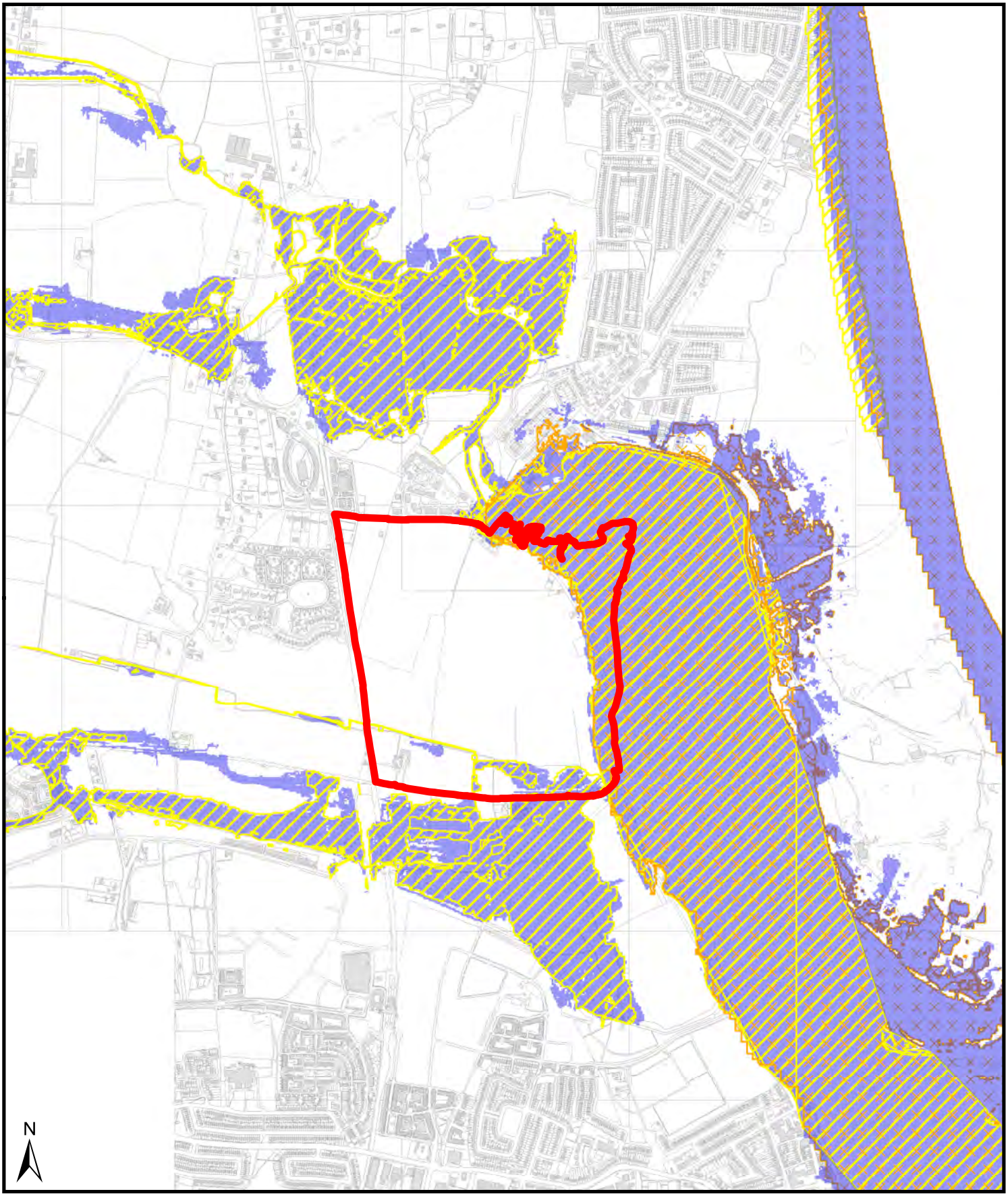
As can be seen from the Figure 4.5 Flood Extent Maps attached the extent of the flooding is outside the residential zoned lands.

However, the northwest corner of the RA lands is adjacent to the flood zone area. The housing at Portmarnock Bridge is within/immediately adjacent the flood zone area, as is the site for the proposed foul water pumping station within the LAP lands. The existing housing at the southeastern corner of the LAP lands are also with the flood zone.

The FEMFRAMS Draft Flood Risk Management Plan states that "Portmarnock is affected by both fluvial and tidal flooding. The most significant flood risk is at Strand Road where a large number of properties are at risk of flooding from both the Sluice River and the Baldoyle Estuary".

Dublin Coastal Flooding Protection Project

The 2005 Dublin Coastal Flooding Protection Project Final Report (Royal Haskoning) was reviewed. Section 5.3.1 outlined the options available to protect five specific areas within Baldoyle Estuary. These where at:



FEM FRAMS Flood Mapping at Portmarnock South

Figure 4.5

Legend

Draft Portmarnock South LAP Outline

River (Fluvial) Flooding

1 in 100 (1% chance of flood event occurring in any one year)

1 in 1000 (0.1% chance of flood event occurring in any one year)

Coastal Flooding

1 in 200 (0.5% chance of flood event occurring in any one year)

1 in 1000 (0.1% chance of flood event occurring in any one year)

Location 1: North of Baldoyle Town Centre
Location 2: South of Mayne River
Location 3: North of Mayne River
Location 4: Northwestern end of Baldoyle Estuary
Location 5: Southern End of Portmarnock

The options outlined general require the construction of flood protection barriers to a minimum of 3.75 m OD Malin in each of the areas.

The works provided will offer protection against tidal flooding to the areas identified as having previously flooded above, or at risk due to the proximity to the flood zones identified in the FEMFRAMS study.

The works proposed at Location 2, 3 & 4 will specifically benefit the LAP lands

4.7.6.2 Flood Risk Assessment of LAP lands

In accordance with the 'Planning Systems and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009), the preparation of this plan was the subject of a Strategic Flood Risk Assessment (SFRA). Based on findings of this assessment it has been found that it is unlikely that there will be tidal or fluvial flooding will occur on the RA zoned lands. However, the lowest existing site levels are within 0.5-1.0 m of the 0.1% tidal flood level. Furthermore, specific areas within the LAP boundary have been identified as being at risk, and also as having previously flooded. The four areas are as follows:

- The North east corner of site
- Existing housing at Portmarnock Bridge
- Proposed foul water pumping station site
- Exiting housing at southeastern corner of LAP lands

The SFRA includes the identification of a number of measures necessary to ensure flood risk is incorporated into the planning of this area and recommendation that development proposals for a number of areas within the plan boundary be the subject of site-specific flood risk assessment appropriate to the nature and scale of the development being proposed.

4.7.7 Water and Flooding Issues: Existing Problems/Environmental Considerations

Based on available water quality data, the water quality in the Mayne River and its wider catchment will need significant improvement in order to comply with the objectives of the WFD. According to the Santry-Mayne-Sluice Water Management Unit Report (2009) the principal pressures on the Santry-Mayne-Sluice are misconnected foul sewers from houses and businesses, combined sewer overflows (wastewater discharges) and urban area pollution. This Draft LAP will not likely be in a position to prevent such pollution with the more strategic County Development Plan in a better position to enforce water body protection from agricultural sources.

The ERBD Management Plan and associated Programme of Measures include provisions to help ensure that these water bodies meet the objectives of the WFD. The Draft LAP through the incorporation of objectives relating specifically to areas such as SuDS and appropriate construction management techniques will help to management pollutants arising from the site that may affect water quality in Baldoyle Bay and the River Mayne thus aiding compliance with targets set out in the ERBD Management Plan. It is noted that Objective 460 of the Fingal Development Plan seeks to work in co-operation with relevant national agencies, to draw up a plan for improving the water quality of Baldoyle Estuary in conjunction with the Eastern River Basin Management System.

The LAP will need to ensure that adequate wastewater treatment is available for the proposed increase to population resulting from the development of the LAP lands. The SUDS design proposed with the Plan will also be implemented to reduce the increase in surface water run-off from the developed lands and ensure that the run-off from the SUDS mitigation measures is unpolluted and fit to enter Baldoyle Bay.

Malahide Shellfish Area is located c.2km to the northeast and extends from Lambay Island to Portmarnock. Balbriggan/Skerries Shellfish Area is situated in adjacent tidal waters. Any pollution or output from the River Mayne or the LAP lands to the estuary has potential to impact on the quality of sea water and on the health of the Shellfish Area off the Irish coast. The Shellfish Waters Directive sets out a mix of mandatory and recommended physical, chemical and microbiological water quality requirements that EU members must meet in order to protect these designated areas.

The plan area is at risk from several sources of flooding including fluvial and tidal flooding. A number of areas of potential flood risk are identified within or adjacent to the Portmarnock South LAP land zoned for development. In addition, a number of other hotspots of flooding potential have been noted. The requirements of the "The Planning System and Flood Risk Management – Guidelines for Planning Authorities" (2009), need to be taken into account in order to ensure that flooding in these areas does not impact on human health, property, or the ability to meet the requirements of the WFD or need to protect biodiversity.

Development in locations suitable for flood water retention areas would be likely to increase the potential of flooding in the Portmarnock South LAP area.

4.7.8 Evolution of Water in the Absence of a Local Area Plan

There is significant legislation which provides for the protection and enhancement of water resources and quality at European, National, Regional and County level. These include the Water Framework Directive and associated EU Directives, the Eastern River Basin District (ERBD), and associated WMU action plans, the Planning Guidelines on Flooding and Risk Management and the Fingal Development Plan 2011-2017.

In the absence of the Draft Portmarnock South LAP 2013-2019, these instruments will continue to provide universal protection to surface, groundwater and estuarine waters and their associated habitats and species. However, there would not be a localised settlement specific planning framework within which to regulate, aid and/or control development whether economic, social or environmental. The Local Area Plan sets out specific objectives for the area and is adaptable to local issues, particularly in relation to surface water drainage and flooding. The combination of all approaches will yield the best approach to improving and safeguarding water resources.

In the absence of a Plan, developments could be granted planning permission without providing a hydrological assessment, determining the development's impact on surface water generation, drainage provisions and altering surface water morphology. Alteration of surface water flows and surface water morphology could negatively impact on aquatic environments.

The issue of Sustainable Drainage Systems (SuDS) would not be implemented in site specific locations, thus surface water run-off due to uncontrolled development would be discharged directly into the groundwater system. The cumulative effects of such runoff have the potential if combined with other factors, e.g. severe rainfall, to result in flooding. Biodiversity would be exposed and vulnerable to a direct loss of species types and numbers, and amenity value of the area could indirectly suffer if lake and beaches in the plan area suffered reduction in their water quality status.

While EU and national legislation will apply, the primary issues affecting water quality and flood control such as population increase, loss of floodplain, increased run-off etc which can be controlled at the LAP level will not be addressed adequately at a local level. Ultimately the result would be unsustainable and undesirable.

4.8 Air Quality and Noise

4.8.1 Ambient Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards for Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion for space-heating, traffic, electricity generation and

industry and, in sufficient amounts, could affect the well-being of the area's inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles for this European approach are set out under Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) as transposed into Irish law under Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). These Regulations replaces the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999.

At a national level the National Climate Change Strategy 2007-2011 provides for the protection of air quality. The strategy for reducing emissions will be shared across all sectors but the main focus will be on transport, residential, industry, electricity production, the public sector and waste. The Programme for Government outlines a 3% reduction in greenhouse gas emissions per annum. The programme will also require Ireland to join the top five countries in the world, as measured by the Environmental Performance Index (EPI). The National Climate Change Strategy will also be supported by other relevant government policy such as the National Development Plan, Transport 21 and National Energy Policy 2007.

Air pollution can have a negative affect on the quality of life of residents of the County. Air pollution can be generated through home or office heating, transport fuel combustion, energy generation and industry. In order to monitor, manage and reduce the amount of pollutants discharged to air, a number of EU Directives have been created and transposed to Irish law.

Studies indicate that in recent years, the focus of air pollution monitoring has shifted from black smoke, sulphur dioxide (SO2)(both from home heating) and lead (petrol based) to monitoring benzene, nitrogen oxide (NOx) and particle matter (PM10), which are derived from traffic based sources. Significant reduction of nitrogen oxides (NOx) from road transport is required if Ireland is to meet its commitments under the National Emissions Ceiling (NEC) Directive by 2010. NOx emissions are not expected to meet the target date.[6]

At a regional level, Fingal County Council has adopted 'The Air Quality Management Plan for the Dublin Region, 2008-2012' under the provisions of the Air Pollution Act 1987.

4.8.1.1 EPA Air Quality Zones

The Air Quality Standards Regulations 2002, (S.I.271/2002) transposed the Air Quality Framework Directive (96/62/EC 1996) and the first two daughter directives on air quality into Irish law.

These established the air quality standards for sulphur dioxide, nitrogen dioxide, lead, PM10, carbon monoxide CO and benzene. There are additional air quality regulations with regard to ozone which are dealt with directly by the Environmental Protection Agency.

The various regulations specify the dates by which the limit values or target values for each of the pollutants must be achieved and also the reference methods for sampling, analysis and, measurement. There are also specific requirements in relation to providing the public with information on ambient air quality.

For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (S.I. 271 of 2002).
The main areas defined in each zone are:

- Zone A: Dublin Conurbation;
- Zone B: Cork Conurbation;
- Zone C: Other cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Dún Laoghaire-Rathdown, Naas, Carlow, Tralee and Dundalk; and

[6] EPA. Irelands Environment 2008. Air Quality. P43.

- Zone D: Rural Ireland, i.e. the remainder of the State - small towns and rural areas of the country - excluding Zones A, B and C.

The LAP lands are located within Zone A for the Dublin Conurbation. The index is calculated based on the latest available measurements of PM10, sulphur dioxide, nitrogen dioxide and ozone. In October 2010, air quality in Zones A was reported as 'Good'. Fingal County Council does not conduct any ambient air quality monitoring in the county. However, ambient air quality monitoring is undertaken by the EPA with the closest monitoring sites to the LAP lands being located at Swords and Marino. Continuous monitoring is completed for ozone and nitrogen oxides snapshot of the period between 14 February to the 20th of February 2012 shows that both ozone and nitrogen oxide levels are well within the limits of 180 Tg/ m3 and 200 Tg/ m3 respectively and considered good levels by the EPA.

4.8.1.2 Point Sources for Emissions in Air

There are three (3) sources of large scale industrial and agricultural activities monitored by the EPA. These are Integrated Pollution Prevention Control (IPPC) licenses, waste licenses and SEVESO licenses or sites. There are no licenses under the above categories present within the Portmarnock South LAP area.

4.8.2 Noise

4.8.2.1 The Environmental Noise Directive

Noise is unwanted sound. It can seriously harm human health and interfere with daily activities at school, at work, at home and during leisure time. Traffic noise alone is today harming the health of almost every third European. The main health risks of noise identified by the WHO include: pain and hearing fatigue; hearing impairment; annoyance; interferences with social behaviour; interference with speech communication; sleep disturbance and all its consequences; and performance at work and school.

The Environmental Noise Regulations (SI No. 140 of 2006) transpose into Irish law the EU Directive 2002/49/EC relating to the assessment and management of environmental noise, which is commonly referred to as the Environmental Noise Directive or END. The END defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.

This is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing EU policy on noise reduction from source. The Directive requires competent authorities in Member States to:

- Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels;
- Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and,
- Inform and consult the public about noise exposure, its effects, and the measures considered to address noise.
- The END does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities. Limit values are left to each member state. At this point in time, Ireland does not have any limit values.

4.8.2.2 Noise Action Plan and Noise Model

Under the Environmental Noise Regulations 2006 SI number 140 of 2006, the Fingal County Council is required to produce 'Maps' for noise emanating from major Industry and transport. Fingal County Council has revised and upgraded their 'Noise Maps' for the 2012 base year. These maps are to be used to assess the number of people annoyed and sleep-disturbed respectively throughout Dublin. The maps are Strategic Noise Maps, and should be used for strategic, high level planning and not for the assessment of local noise nuisances.

The 'Noise Maps' show colour coded areas in Fingal based on noise levels, in 7 bands beginning at 45 decibels and increasing in increments of 5 decibels. Noise Maps are

produced for Night Time Levels, Daytime Levels and 24Hr Levels. The EU Directive does not give an indication as to what level of noise is acceptable. This is left to each member state. At this point in time, Ireland does not have any statutory limit values, as is the case for air pollution. However, in accordance with the requirements of EU Directive 2002/49/EC Fingal County Council, in collaboration with the three other Dublin Local Authorities, produced an Action Plan relating to the 'Assessment of Environmental Noise for the Dublin Agglomeration 2008-2013' including noise maps for the Dublin Agglomeration. In conducting the noise mapping exercise, night and day time levels of greater than 55 decibels (db) and 70 (db) respectively, were considered to be undesirable. It identifies areas with desirable low sound levels as those area with a with a night time level less than 50 decibels and\or a daytime level less than 55 decibels.

The main Dublin to Belfast rails passes to the western edge of this area. The Rail Maps have been revised for the 2012 base year. It has been estimated that there has been no significant change in sound emissions from this source over the 2007 base year. From the noise mapping carried out it is evident that the undesirable noise levels in the LAP lands are focused around Grange Road where daytime levels of 65-70dB are approached with night-time levels of 50-55dB. These levels decrease when moving away from the road thus confirming the main findings from the Fingal noise mapping where traffic noise is considered the dominant source in Fingal.

Of particular relevance to Draft Portmarnock LAP is the control of noise from Dublin Airport. Fingal County Council has recognised that there is a need to minimise the adverse impact of noise without placing unreasonable restrictions on development and to avoid future conflicts between the community and the operation of the airport. Two noise zones are shown in the Fingal Development Plan maps, an Outer Zone, within which the Portmarnock South LAP lands are located and, within which the Council will continue to restrict inappropriate development, and an Inner Zone within which new provisions for residential development and other noise sensitive uses will be resisted.

From a land use planning perspective, the Noise Action Plan includes the following measures

- Fingal County Council will promote appropriate land use patterns in the vicinity of the flight paths and strive to restrict housing development in order to minimise the exposure of residents of such developments to undesirable noise levels. This will further reduce the potential for future conflict between airport operations and residents; and
- The continued restriction of inappropriate development in the Outer Noise Zone and the resistance to residential development and other noise sensitive uses in the Inner Noise Zone will continue to be pursued.

A detailed series of actions, utilising the measures previously noted, is included in the overall Action Plan for Dublin. Monitoring and implementation measures for the Action Plan measures are also detailed. Assessment of the objectives of the Draft LAP will be informed by the information and measures contained within the Noise Action Plan.

4.8.3 Air Quality and Noise Pollution Issues

The monitoring by the EPA has indicated that the air pollution elements of concern are those related to traffic emissions and these remain a threat to air quality and therefore a reduction in private car movements will result in a reduction in emissions such as PM_{10}, $PM_{2.5}$ and NO^2. This will necessitate a modal shift from the private car to high quality public transport. There is also a requirement to reduce greenhouse emissions produced by human activities, particularly in transport and construction. In the absence of a LAP, there would be no framework for the location of new development and as a consequence uncontrolled dispersed development would be likely to occur. Such development would be driven by economic reasons and not by a requirement to improve air quality such as reducing the dependency of private car ownership.

The Draft LAP requires that new housing and building developments comply with the energy regulations. Compliance with these regulations will minimise energy use and the subsequent production of greenhouse gases.

In the absence of proper planning and development, building construction materials may not comply with the energy regulations requirements. Greenhouse gas emissions would increase which would be contrary to the policies of the National Climate Change Strategy (2007).

The Noise levels in the LAP area are likely to increase short-term during the construction period but also in the longer term due to increased vehicular movement following development of the area. Therefore, there is a need to ensure that new residential development is designed and constructed in such a way as to minimise noise disturbances, particularly from traffic. This can be realised by encouraging a greater modal split towards public transport as well as walking and cycling. In addition there is a need to manage potential noise from other proposed uses such as shops, offices etc (e.g. air conditioning units) and from possible night time entertainment uses.

4.8.4 Evolution of Air Quality and Noise Pollution in the Absence of a Local Area Plan

Air quality and noise are transboundary issues and largely outside the control of any one functional area or Local Authority. However, it requires a collective approach in order to counter the potential impacts in this regard. In the absence of the Plan issues may potentially arise through excessive commuting through a lack of coordinated transport policy, etc. in the absence of the LAP, there is little strategic direction or policy to facilitate modal shift, energy efficiency measures etc and potentially lead to a deterioration in air and noise quality.

4.9 Climate Change and Sustainability

4.9.1 Introduction

The Intergovernmental Panel on Climate Change (IPCC) concluded in its 4th assessment report (2007) that warming of the climate system is unequivocal. This report was preceded by Sir Nicholas Stern's 2006 economic review estimating the cost of inaction regarding combating climate change.

Climate change is becoming the greatest challenge facing society today, an issue which affects all citizens at a local, national and international level. It is important that the Council, and its residents, act responsibly at a local level in order to assist in the reduction of greenhouse gas emissions - which are created primarily by the use of non-renewable fossil fuels. Holistically reducing these emissions will require implementing an overarching strategy affecting many aspects of the development of the County.

Rising sea levels will have as dramatic an effect on a county such as Fingal given its extensive coastal edge. The Portmarnock South LAP lands are flanked on their eastern edge by Baldoyle Bay and, the parkland area in particular, could be susceptible to any future increases in sea levels arising as a result of climate change. Also, if sea levels rise dramatically one of the predicted effect is the increase in vertical and horizontal extent of estuaries resulting in penetration of tides further upstream. Outflow from rivers would be impeded by this, which during times of high rainfall and run-off, would increase chances of flooding. A flashy river such as the Mayne or Sluice, would be significantly affected by such an event.

4.9.2 Causes of Greenhouse Gases in Ireland

Climate change is a transboundary issue affecting the entire planet and is fundamental in providing social stability and sustainable development. It is now generally accepted that the build up of greenhouse gases such as carbon dioxide is threatening global climate stability. Ireland ratified the UN Framework Convention on Climate change in 1994 and the Kyoto Protocol in 1997. Ireland has given an undertaking to limit net growth of greenhouse gases to 13% above 1990 levels by the period 2008-2012. However the economic growth witnessed in Ireland over the past decade has resulted in greenhouse gas emissions being 29% above 1990 levels in 2002.

In terms of emission sources for 2007, agriculture is the single largest contributor to overall emissions, at 26.8% of the total, followed by energy (21.5%), transport (20.8%) and industry

and commercial (17.9%). Agriculture and energy emissions decreased in 2007, while transport increased significantly. Between 1990 and 2007, transport has shown the greatest increase at 178%. This is as a result of increased numbers and sizes of cars in addition to a greater reliance on cars, particularly in relation to commuting to work.

4.9.3 Climate Model Predictions and Sea Level Rise

The EPA's 'Climate Change: Regional Climate Model Predictions for Ireland' (2005) report provides an analysis of future Irish climate conditions for the period 2021–2060 based on the outputs from a new regional climate modelling facility located in Met Éireann. Projected temperature changes from the model output show a general warming in the future period with mean monthly temperatures increasing typically between 1.25 and 1.5°C. The largest increases are seen in the southeast and east, with the greatest warming occurring in July.

For precipitation, the most significant changes occur in the months of June and December; June values show a decrease of about 10% compared with the current climate, noticeably in the southern half of the country; December values show increases ranging between 10% in the south-east and 25% in the north-west. In the ERBD River Basin Management Plan it is predicted that less rain will fall during the year, but that more intense storms will be experienced. Year on year the conditions will vary significantly, and from catchment to catchment, and it is not yet clear what conditions should be accommodated.

In the future scenario, the frequency of intense cyclones or storms over the North Atlantic area in the vicinity of Ireland increases by about 15% compared with the current climate. This is related to the projected general rise in sea surface temperatures. Sea level changes result from changes that occur in external forcing mechanisms, such as changes in the redistribution of heat between the equator and the poles and other atmospheric changes. The EPA's 'Climate Change: Scenarios and Impacts for Ireland' (2003) report chose three sea level rise scenarios in order to assess six selected areas along the Irish coastline (one of which is Dublin Bay) at risk from an increase in sea level: 0.09 m, 0.48 and 0.88 m in conjunction with a digital elevation model to project probabilities of inundation. The maps presented in the publication were not of sufficient quality to use in this report and the GIS layers used to create the maps were not available from either the EPA or the authors of the report. However, it is noted that the maps indicate that rising sea levels could place certain areas of land at Dublin Bay -including lands in Fingal – at risk. At the time the report was written, sea level at Dublin was rising by 0.23 mm per year.

4.9.4 Potential Effects of Changed Climate and Rising Sea Levels

The EPA's 'Climate Change: Scenarios and Impacts for Ireland' (2003) report identifies where vulnerability to climate change exists in Ireland and what adjustments are likely in the operation of environmental systems in response to such changes.

At the regional scale, the major effects of a sea level rise are loss of land as a consequence of increased erosion (due to changes in coastal currents and sedimentation rates) and inundation and increased risk of flooding (both at the coast and inland along major river networks during storm surge events). Flooding risk would also be enhanced if a storm surge were coupled with intense or long duration precipitation events. Coastal floodplains are especially at risk on occasions when a high tide and storm surge coupled with a period of intense rainfall lead to a breach in the carrying capacity of the drainage network, a situation in Ireland which has become evident over the last decade. Sea level rise presents itself as a serious problem where there is infrastructure at risk of inundation. In Ireland, the EPA report identifies the impacts of sea level rise will be most apparent in the major cities, including Dublin, and that these will be most vulnerable from an economic perspective. The inability of the shoreline to adjust naturally to a change in conditions in areas of dense infrastructure may enhance any impacts as the system tries to attain a new equilibrium between sediment erosion, transportation and deposition.

As increased temperatures will lead to greater amounts of water vapour in the atmosphere and an accelerated global water cycle, it is reasonable to expect that river catchment areas will be exposed to a greater risk of flooding. Heavier winter rain and summer storms may cause more flash flooding, causing an increase in diffuse pollution loads to waters from soil

run-off or the overflow from CSOs (combined sewer overflows) and raising demand for flood controls. Summer droughts are more likely and there may be a reduction in drinking water supplies.

River flooding tends to be more common during the wetter winter months when soils are near saturation and can be exacerbated in coastal areas when interactions occur between high tides and high flows. Many of the rivers draining upland areas have a rapid or 'flashy' response to rainfall enhanced by rising topography. Steep slopes and thin soils favour rapid flow pathways and water is rapidly transmitted to the channel network especially in urbanised catchments with extensive areas of impermeable surfaces.

The effect of a sea level rise on estuaries will tend to enlarge their vertical and horizontal extent, resulting in the penetration of tides further upstream. The outflow from rivers would be impeded as a consequence, which, in a high intensity rainfall event where runoff is high, would increase the risk of flooding.

A critical impact of climate change will be the likely changes to habitats and the flow conditions in rivers and lakes. The ERBD has been undertaking research work on the effects of abstractions on river and lake ecology to develop an understanding of the relationship between hydrology, flow, depth and habitats for key species.

4.9.4.1 Biodiversity

Salt marshes and sand dunes are ecological strongholds providing a variety of habitats for a range of different species. Many of the marsh systems in Ireland provide over-wintering feeding grounds for many species of migratory birds. The loss of these habitats could present major problems for species numbers and diversity; aspects dealt with in a previous section (see Section 4.2 on Biodiversity, Flora and Fauna).

Rising sea levels could lead to the covering of some of the County's habitats which are important to bird populations, in particular Baldoyle Bay and the Malahide Estuary. As much of the County's coastal areas are developed, the potential for habitats to migrate inland is limited. This could impact in certain areas on waterfowl roosting as well as feeding areas, by reducing or eliminating roosting areas, or making them more liable to human disturbance. In addition, temperature changes might give invasive alien species a competitive advantage in waters, thus affecting biodiversity.

4.9.5 Climate Change Issues: Existing Problems/Environmental Consideration

The main issues facing Fingal in relation to the development of the Portmarnock South LAP lands are climate change related to increased amounts of greenhouse gases, including CO^2 emissions, from transport movements, and the danger posed by flooding events, which will occur as a result of the former. Solutions require reductions in unsustainable transport movements, and the amelioration of potential flooding events. In this regard, prioritising the development of LAP areas adjoining the rail line, the carrying out of a Flood Risk Assessment and the use of Sustainable Urban Drainage Systems (SUDS) in the LAP lands will be primary strategies in the plan.

The manner in which transport movements can be reduced is tied into the provision of high quality public transport between key locations in Fingal and into the surrounding counties, particularly Dublin City Council. At the neighbourhood level, the design and incorporation of walkable and cycle friendly urban developments is to be accommodated. The preservation, or creation of walking links within the Portmarnock and Baldoyle area and the developing area of Clongriffin/Belmayne, specifically to shops, workplaces, schools and public transport links, along the most direct routes must be given high priority, otherwise trips by car will continue to grow. Reducing car movement at the neighbourhood level through increasing ease of pedestrian movement must be the foundation stone for an overall decrease in emissions.

4.9.6 Evolution of Climate Change in the Absence of a Local Area Plan

The Local Area Plan will provide for opportunities to locate a medium/high density mixed use development in proximity to the existing train station at Portmarnock. In the absence of a Local Area Plan, such development would be less regulated, and could tend towards lower

unsustainable densities which would work against the further provision of high quality public transport.

The lack of a Local Area Plan would also facilitate development based around existing estate models, providing for enclosed unconnected developments which would not facilitate pedestrian movement. This would increase short distance car movements to local facilities as well as reducing public transport movement to workplaces thus increasing the levels of greenhouse gases and CO^2 than will be produced if the Plan was in place.

The Draft LAP requires that new housing and building developments comply with the energy regulations. Compliance with these regulations will minimise energy use and the subsequent production of greenhouse gases. Also in the absence of proper planning and development, building construction materials may not comply with the energy regulations requirements. Greenhouse gas emissions would increase which would be contrary to the policies of the National Climate Change Strategy (2007).

The full implementation of the Guidelines on Flood Risk Management would be less likely, leading to unsuitable location of development and poor design for water inundation, along with increased areas of impermeable surfaces.

Development along potential river floodplains would be likely to take place, leading to increased likelihood of flooding in the event of high rainfall. Development on green spaces and in locations suitable for retention areas would be likely, further increasing the likelihood of severe flooding.

4.10 Material and Cultural Assets

4.10.1 Introduction

The Cultural and Material Assets of Portmarnock South LAP area may be broken down into a number of relevant categories. These are:-

Material Assets

- Waste Water;
- Drinking Water;
- Waste Management;
- Transport Infrastructure.

Cultural Assets

- Architectural Heritage;
- Archaeological Heritage.

Material Assets

4.10.2 Wastewater

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment.

In addition, the treatment of wastewater is relevant to the Water Framework Directive which requires all public bodies to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2015.

Development of Wastewater Treatment Works (WwTw) within the Greater Dublin Area has not kept pace with construction or the amount of zoned lands. The WwTw in Ringsend currently operates at a Population Equivalent (PE) of 1.9 million. All of the sludge products generated are either recycled as a useful fertiliser, or used as a green energy source. Sampling and analysis of Ringsend Wastewater Treatment Plant effluent is carried out daily in fulfilment of the requirements of the Urban Wastewater Treatment Regulations 2001 (S.I. 254

of 2001). Dublin City Council is currently finalising proposals to increase the capacity of the plant from 1.7 million PE (population equivalent) to 2.1 million PE, with a target completion date of 2015.

Under the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) wastewater discharges above a certain threshold will have to be licensed by the Environmental Protection Agency. Dublin City Council currently has a licence application in respect of the discharge from Ringsend wastewater treatment plant with the EPA and will have to adhere to the discharge emission limit values that which will be set by the EPA. Local Authorities are expressly forbidden under these regulations from knowingly allowing further developments if these developments are likely to result in a deterioration in the status of any waterbodies.

In 2010, the Environmental Protection Agency granted a Discharge Licence to Dublin City Council under the Waste Water Discharge (Authorisation) Regulations (2007). Dublin City Council must comply with the conditions of this discharge licence. The ultimate objective of this licence is to restrict discharges from the wastewater network into rivers and waters. The 2007 Regulations also require that the Water Service Authority satisfies itself that there is drainage capacity available in the network prior to granting a planning permission for any development. This requirement will apply to all developments within the LAP.

There is recognition of the need to upgrade the existing treatment plants and the drainage connection network in the region. The predicted development flows to 2031 set out in the GDSDS indicate a need to plan for the expansion of the existing system. The majority of options examined within the GDSDS indicate the capping of flows to Ringsend at 2.16 million PE and directing additional flows to another facility within the Greater Dublin Area[7].

The Greater Dublin Drainage initiative which is currently underway aims to provide strategic drainage infrastructure required for the Greater Dublin Area (GDA) to continue to develop, both socially and economically. The Greater Dublin Drainage initiative involves the provision of a new wastewater treatment works; a marine outfall; and a new drainage network in the northern part of the GDA. It is currently estimated that construction for the new Wastewater Treatment Plant and orbital pipelines will commence in approximately mid-2017.

The North Fringe Interceptor Sewer, which is a major trunk sewer constructed in 2004, will be the receiving environment for any future development within the Portmarnock South LAP lands. The North Fringe Interceptor Sewer runs along the southern boundary of the lands. The sewer in this area is a 1600mm GRP pressure pipe and is connected to the Sutton Pumping Station. It generally flows under gravity except for specific flow and overflow conditions that could arise if the Sutton Pumping Station is out of commission. From the Sutton Pumping Station the wastewater will be discharged to the Waste Water Treatment Plant at Ringsend. The lands within the Draft LAP area are all part of the original design catchment for the North Fringe Sewer, and hence, at a strategic level, there is adequate capacity to facilitate development within this area.

The provision of a new main sewer from the LAP lands to the North Fringe Sewer and a new foul water pumping station is required to facilitate development within the plan area. An existing foul water pumping station is located outside of the plan lands on the edge of the Sluice River marsh to the north and serves the surrounding area. This is currently operating at capacity and site size does not allow for expansion of this facility. The most suitable location for a new pumping station identified is within the north/eastern section of the plan lands within designated open space lands.

An outfall and overflow is required for the pumping station. The overflow from the pump station is required in the case of pump failure. This overflow is proposed to connect to the proposed surface water outfall into Baldoyle Bay. This outfall and overflow network is dependent on acquisition of a Foreshore License before it can proceed.

[7] Final Environmental Report for the SEA of the GDSDS (May 2008) Section 3.3

4.10.3 Drinking Water

4.10.3.1 Existing and Future Water Supply

Fingal County Council Water Services Department is responsible for the delivery of a high quality drinking water supply to approximately 90,000 households and non-domestic properties in the County. In addition the Council provides drinking water to the same number of premises in Dublin City, South Dublin, Meath and Kildare.

Fingal is fortunate to be self sufficient in terms of water supply. The Council runs two water treatment plants. The primary source of Fingal's water is the Leixlip Treatment plant on the River Liffey. This plant provides a guaranteed output of 148 megalitres per day, although it can produce up to 168 megalitres for short periods. Of the water produced by Fingal only a half is used within the county, the rest being exported to Dublin City, South Dublin, Kildare and Meath. Some parts of the county that border on the City are supplied by feeds from within Dublin City, whose water originates from Ballymore Eustace and Roundwood.

Treated water is distributed throughout Fingal using a combination of pumped mains, gravity mains and reservoirs. Presently, the water supply serving Portmarnock comes from the Liffey at its abstraction point at Leixlip and is fed by the North Fringe Water Supply Scheme via the Ballycoolin Reservoir.

There are plans for the expansion of the Leixlip Plant to increase production capacity to 215Ml/day. The expansion should be complete by the end of the end of 2013. Following the expansion there will be no more capacity for additional abstractions from the River Liffey.

The Water Supply Project – Dublin Region is currently assessing the strategic need and source options for a new water supply source for the Dublin Region Water Supply Area, which includes Fingal. The requirement for a new water supply is based on the future planned development of the Greater Dublin Area as identified in the National Spatial Strategy (2002-2020) and previous studies carried out to investigate how water demand for future development in the region can be met when existing sources have been developed to their sustainable water supply limits. The current estimate, based on a per capita consumption of 145 l/day indicates that a new source is required by 2016. Ten new water source options are currently being evaluated in this study. From 2014, the provision of strategic projects will be a matter for the Water Services Board.

4.10.3.2 Drinking Water Quality

The Environmental Protection Agency (EPA) Provision and Quality of Drinking Water in Ireland Report 2006-2007 is the first assessment on the quality of drinking water in Ireland since new Regulations, the European Communities (Drinking Water) Regulations (No.2), 2007, came into force in March 2007. The EPA is now the supervisory authority over public water supplies and has new powers of enforcement over local authorities in this regard. The EPA now has enforcement powers to ensure that local authorities take action where there is a quality deficiency in a public water supply and can serve a legally binding direction on the local authority. Failure to comply with a direction is an offence which can lead to prosecution by the EPA.

The EPA Provision and Quality of Drinking Water in Ireland Report 2010 indicates that Fingal County has exceeded the monitoring requirements as required by the European Communities (Drinking Water) Regulations (No.2), 2007. Microbiological compliane in Fingal Public Water Supplies stood at 100% in 2010 whilst chemical compliance levels stood at 99.8%. The overall rate of compliance with water standards in Fingal at 98.5%, was above the national average and the quality of water in Fingal was in general good.

The County Council continually monitor of all known waste depository sites in the County in order to preserve sources of drinking water from contamination. Compliance with the EPA requirements to actively manage risks identified in relevant catchments and continually assess the quality of the source water is required in order to ensure that treatment at plants is optimised.

4.10.4 Waste Management

National waste policy is well established in Ireland with the foundation laid in the publication of Changing Our Ways in 1998. At the core of this national policy statement is the EU Waste Hierarchy with a preference for the prevention, reuse and recycling (including biological treatment) of waste ahead of energy recovery and landfill disposal. The waste sector is estimated to account for an estimated 2% of total green house gas emissions in 2009.

Fingal County Council, Dublin City Council, South Dublin County Council, and Dún Laoghaire-Rathdown County Council jointly developed the Waste Management Plan for the Dublin Region. The current Waste Management Plan for the Dublin Region 2005-2010 sets out a regional policy framework for the sustainable management of waste arising in the region. It is based on the priority of prevention and minimisation of waste, maximising recycling and minimising landfill bulk through thermal treatment. This Waste Management Plan is currently under review and will be accompanied by a Strategic Environmental Assessment.

Fingal County Council has a commitment under the Waste Management Plan 2005- 2010 to provide infrastructure for recycling, biological treatment and composting of waste as well as waste prevention and minimisation initiatives. Facilities within the county at Arthurstown and Balleally are now at capacity and closed with waste collection now being carried out by a number of third party companies and disposed of under licence.

Recycling remains central to the Waste Plan with a new Regional Materials Recovery Facility at Ballymount in South Dublin for the processing of all green bin recyclables. Regional Materials Recovery facility at Ballymount, Dublin 12 became operational in 2009. The regional MRF is designed to cater for the processing of green materials in the Dublin Region for the next 20 years. The facility has an annual capacity of 100,000 tonnes per annum. An issue for recycling is developing recyclable markets as most materials are exported to foreign markets for reprocessing and recycling, as the quantities generated in Ireland do not provide the necessary economies of scale for indigenous reprocessing.

In 2007, the DOEHLG Market Development Group published a 5-year programme for the stimulation of recycling markets. Energy recovery is part of the management plan and the region will thermally treat residual waste with a new Waste to Energy Plant (6.2 hectares) in Poolbeg. The facility will be able to handle 600,000 tonnes of municipal waste annually. The facility will produce energy to meet the needs of approximately 50,000 houses in the form of energy supplied to the National Grid. The facility will also have the capacity to provide district heating for up to 60,000 homes. Planning permission, an EPA Licence and a licence from the Commissioner for Energy Regulation has been granted. A grid connection with the ESB and a Foreshore licence has also been granted.

In the Dublin Region, progress towards achieving the adopted waste targets has been steady. The municipal waste recycling rate is the headline indicator for municipal waste and a target of 45% by 2010 was set in the Regional waste plan 2005 - 2010. A municipal waste recycling rate of 47% was reached in 2010 and represents a 3% increase on the 2009 figure. The commercial sector continues to perform well with high levels of segregation of dry recyclable and packaging waste types driving recovery in this sector. The household recovery rate continues to progress with the use of green (dry recyclables) and brown bins(garden and food waste). The household waste recycling rate is a secondary indicator for municipal waste and increased to 44% in 2010 compared to 41% in 2009. The long term waste recycling target of 59% by 2013 remains a challenge.

The Council has four recycling centres which are located at Balleally Landfill; Estuary Recycling Centre, Swords; Coolmine Recycling Centre and Balbriggan Recycling Centre, and 80 bring banks around the County with the closest being located at Portmarnock, Golf Links Rd Car Park, Portmarnock, Portmarnock Sports & Leisure Club and Portmarnock, Beach Car Park. Fingal County Council have reported increases in the volume of material being recycled at the bring bank facilities.

4.10.5 Transport

4.10.5.1 Roads

Portmarnock South is well situated in close proximity to the strategic national road network. The R106 Coast Road runs through Portmarnock village and along the eastern boundary of the LAP connecting the plan lands to the coastal towns and villages of Fingal. Station Road located on the northern boundary of the plan lands connecting to the Drumnigh Road (R124) to the west which connects to the Moyne Road to the south of the plan lands. The Moyne Road (R123) connects to the Malahide Road (R107), the Hole in the Wall Road and Clare Hall Avenue/R139 and onwards to the M50 and M1 to the west. Coast Road links the northern villages of Portmarnock and Malahide, via Baldoyle, with Sutton Cross and the Dublin Road (Howth – Clontarf) and onwards to the city centre.

The County Development Plan includes an indicative map based objective for an upgrade of the Moyne Road. This road proposal traverses the open space lands of the plan area and would link the plan lands to the Coast Road and the Hole in the Wall Road to the south-west.

4.10.5.2 Public Transport

The main Dublin-Belfast railway line lies immediately to the west of the site and provides DART and suburban rail services to Malahide (and further north) and to the City Centre from the existing train station located at the northwestern corner of the LAP lands.

The total journey time from Portmarnock to Connolly Station in Dublin City Centre is estimated at 17 minutes on the DART and c. 15 minutes on the Suburban Commuter Train. Currently, this station is served by a maximum of 5 no. suburban commuter trains and 9 no. Dart trains in the am peak hour (7.30am – 9am) and with a maximum total of 6 no. commuter trains and 10 Dart trains serving the station from Connelly between 5pm and 7pm. Outside of these hours the station is served by trains going in either direction on average every half an hour. It is an objective of the County Development Plan that lands shall be reserved to provide for additional rail tracks along public transport corridors.

The following provides a list of all services operating within proximity of the LAP lands at the time of preparation of the Plan:

- 32 Malahide - Portmarnock - City Centre
- 32X Estuary Road - Portmarnock - City Centre – UCD
- 102 - Malahide and Sutton Dart Station via Portmarnock.

Bus Services operating on the Malahide QBC, which is within 2km of the plan lands, currently include the following:

- • 27 – Clare Hall via Eden Quay to Tallaght
- • 27X – Clare Hall via Connolly to UCD
- • 42 – Malahide to Eden Quay
- • 43 – Swords to Eden Quay

Based on the above it can be concluded that the LAP lands are accessible in terms of public transport given their proximity to the newly constructed Clongriffin Train Station and the level of bus services that can potentially be accessed from the site.

4.10.5.3 Pedestrian and Cycle Route Network

At present there are no pedestrian and cycle routes within the Plan lands. Outside the Plan lands, while there is a dedicated pedestrian and cycle track along Baldoyle Road from the Dublin Road in Sutton to Baldoyle Village, the Coast Road is not an attractive environment for cyclists and pedestrians due to its narrowness coupled with the speed and volume of the traffic. There is an objective for a dedicated cycle/pedestrian route along the Coast Road linking through the Main Street of Portmarnock town centre to the north and to the Dublin Road, Sutton to the south. This will form part of the proposed Fingal Coastal Way which, when fully operational will link Balbriggan with Howth and at Sutton will connect in with the proposed Sutton to Sandycove route (S2S route).

4.10.6 Material Assets Issues. Existing Problems/Environmental Considerations

In the short term there is the potential for a waste water treatment shortfall in the area if the proposed upgrade of the pumping station to serve Portmarnock and the LAP lands and the upgrade of the Waste Water Treatment Plant at Ringsend do not keep pace with development. The overloading of waste water treatment plants, low levels of treatment and discharge of outflow to water bodies at risk has significant potential to harm human health - through contamination and pollution of drinking water – and biodiversity and contribute to failing Water Framework Directive(WFD) objectives if unmitigated.

In the longer term however, it is considered that the completion of the GDSDS will resolve the majority of issues regarding wastewater treatment constraints up to 2031. This will allow for wastewater treatment capable of serving sustainable and in some instances, appropriate higher density development of the County, without any negative impact on the achievement of the objectives of the WFD. Notwithstanding the increased capacity of the wastewater treatment plants for the County, sustainable development along high quality public transport corridors should form the basis for growth over the lifetime of the LAP. If new development was not accompanied by appropriate waste water infrastructure /capacity then it is likely that adverse impacts upon a number of environmental components would arise.

Long-term water supplies for the County should be resolved through the Water Supply Project –Dublin Region. This project aims to supply water to the Dublin region up to 2031 and beyond. Improvements in the existing water infrastructure as well as more efficient use of the water resource, including payment for usage, are considered sufficient to accommodate development within the County for the period of the LAP. To this end the need to conserve water will be highlighted in the LAP. Fingal County Council currently ensures the provision of excellent quality drinking water. These high standards will not be affected by improvements to the network.

The management of waste and promoting better waste management both in developments and altering people's behaviour around waste management and recycling also remains an ongoing issue. The Council through the planning process will ensure that new residential and commercial developments will include facilities for the collection of separate waste streams. The Council will also continue its environmental awareness programme for the public and businesses with regard to their responsibility as generators of waste. In the case of the LAP the plan will promote sustainable material use in development by developing relevant policies and standards particularly in the area of construction as the construction industry accounts for a quantity of waste generation. In addition, the should insist on a proportion of building materials being recycled materials, such as, concrete, brick, stone thereby reusing materials rather than utilising new materials in development. Similarly, the planning authority should insist on a proportion of materials being from renewable sources such as low embodied energy materials and low toxic materials. The LAP should also ensure the provision of sufficient quantity and high quality recycling facilities for waste sorting located conveniently for collection as well ensuring that standards for the storage, segregation and removal of waste at individual development/site level are taken into account at the planning stage.

In terms of transport provision, there is a need to prioritise development where alternative and sustainable modes of public transport are available or planned, to make provision for improved cycle and walking routes within the LAP land, and to improve accessibility to and maximise the use of sustainable forms of transport. Notwithstanding this, the maintenance and upgrade of the existing road network and, where necessary, the provision of new road networks or realignments of existing roads are essential to ensure that the road network and its carrying capacity are maintained to a high standard as well as recognising the importance of a safe and efficient road network for all users.

While transportation is one of the cornerstones of the Irish economy and will continue to be promoted as an essential component to the further sustainable development of Fingal and the LAP lands, the function of the Local Authority can be somewhat limited in that the National Roads Authority are directly responsible for the national roads network, funding for all Regional and Local roads comes principally from the Department of Transport, Iarnród

Éireann are directly responsible for the rail network and Bus Éireann and other private operators are responsible for public bus services

4.10.7 Evolution of Material Assets in the Absence of a Local Area Plan

The Local Area Plan will ensure sustainable development of necessary infrastructure/capacity for the predicted population increases throughout the area. In the absence of a plan, development would not have the necessary infrastructure to provide adequate environmental mitigation. In this case, the receptors, population and habitats, would suffer from unplanned and unmonitored development. It is envisaged that the provisions of the Draft LAP and the County Development Plan 2011-2017 will contribute towards protection of the environment with regard to impacts arising from material assets.

4.10.8 Cultural Assets

4.10.8.1 Introduction

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes physical buildings, structures and objects, complete or in part, which have been left on the landscape by previous and indeed current generations.

The most important items of archaeological and architectural heritage in the county are recorded under the Record of Monuments and Places, and Appendix 3- the Record of Protected Structures, of the current Development Plan. There are over 700 Recorded Monuments and approx 800 Protected Structures. The National Inventory of Architectural Heritage (2002) undertaken by Duchas and the Department of the Environment also highlights a representative sample of important architecture of the county.

4.10.9 Architectural and Archaeological Heritage

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all: structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

The Record of Protected Structures (RPS) is legislated for under the Planning and Development Acts 2000-2010. Protected Structures are defined as structures, or parts of structures that are of special archaeological, artistic, cultural, scientific, social or technical point of view.

Located within the northern and southern extremities of plan lands are archaeologically important National Monuments, the Portmarnock Burial Mound [DU15:014] and Protected Structure Ref No. 475 and the Maynestown Enclosure site [DU015:055. Test-excavation of the Maynestown Enclosure as part of a previous planning application of the lands identified it as early medieval in date.[8] Geophysical survey undertaken in 2008 also as part of a planning application on the revealed that that this monument is part of a much larger landscape with a further four enclosures identified subsurface in the immediate vicinity of the Maynestown monument within the open space lands to the south of the designated residential area[9].

The Portmarnock Mound (DU015-014) is a medieval burial mound and consists of an oblong shaped knoll 27m NS x 14mEW x3m high. These archaeological sites have been the subject of a sequence of progressive desk studies, surveys and on-site investigations as part of the previous application for the lands. Agreement was reached with the National Monuments Division of the DoEHLG to preserve these monuments in situ. A 20 metre reservation is required around both these monuments.

[8] Moriarty C. 2009 Final report for archaeological excavations at Portmarnock Mound (DU015:014) and the Maynetown Enclosure (DU015:055, Co. Dublin 07E574

[9] Unpublished report Margaret Gowen & Company

4.10.10 Townland Boundaries

There are hedgerows on the Portmarnock South LAP lands which mark the boundary of the historic townland, and are of cultural-historic value.

4.10.11 Cultural Assets Issues

Among the key issues facing cultural assets in the area are:

- The protection of archaeological sites within a changing environment and the development of the LAP lands so they have a meaningful expression and reason to be within the present landscape
- Making these remains into an accessible historic landscape that individuals can relate to
- Provision of signage that can be adopted throughout Fingal so it becomes a recognisable brand

4.10.12 Evolution of Cultural Heritage in the Absence of a Local Area Plan

The LAP provides the opportunity to provide a coherent vision for the integration, preservation and management of archaeological features into the development of a new vibrant residential, civic and commercial community.

There is a need to understand the archaeological remains as a significant heritage resource and its vulnerability and the need for protection. This means that development control measures can be proactive, location specific and sensitive to the particular requirements of the remains.

Individual attempts at preservation and interpretation can be of limited value without the existence of an overall vision for the treatment of these sites. Without that larger picture, a mechanism for linkage between the remains, does not exist. In effect, appropriate protection and presentation of the remains can only be successfully achieved with a strong and secure long term ‘vision’ for the proposed development context of the lands at Portmarnock South.

As the LAP is being designed to incorporate the archaeological remains, it will be possible to assess the potential dividends of the preservation of remains and presentation as development occurs on a phased basis through out the site. This provides an opportunity to assess what works best in relaying information to the general public and to fine tune the conservation techniques in the future.

Section 5 Strategic Environmental Objectives

5.1 Introduction

SEA uses a combination of objectives, targets and indicators to predict impacts, and describe and monitor changes to the environment arising from proposed plans and programmes. Strategic Environmental Objectives (SEOs) are set out under a range of topics and are used as standards against which the provisions of the Draft LAP and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated. If complied with in full, SEOs would result in an environmentally neutral/positive impact from implementation of the plan.

Allied to the development of the SEOs are environmental indicators and targets. Indicators facilitate the monitoring aspect of the SEA, while Targets provide a realistic and achievable target to which the local authority can work towards. Indicators are used to illustrate and communicate impact in a simple and effective manner. Indicators will also form the basis of the monitoring programme which will monitor the environmental effects of the Draft LAP as well identifying targets which the LAP can help work towards. The result of the monitoring programme will inform the next Plan Review and other studies.

As such, this Section of the SEA presents the environmental objectives, targets and indicators that have been identified for the environmental assessment process, against which the different LAP alternatives will be assessed in Section 7.

5.2 Development of Strategic Environmental Objectives, Targets and Indicators

SEOs are distinct from the objectives of the LAP - although they will often overlap, the SEA objectives have been devised having regard to the baseline information and the existing environmental issues relevant to the Local Area Plan. The objectives were developed from environmental protection objectives established by International, European and National environmental policies, objectives and standards. Such policies include those of various European Directives which have been transposed into Irish law, all of which are implemented at county level in Fingal and are intended to be implemented in this LAP and any other plan for the County. They are also derived through consultation with in-house expertise, the SEA team and various others sections of the Planning Authority, EPA SEA Guidelines and SEA best practice in Ireland, the UK, and elsewhere. The Strategic Environmental Objectives are focussed on protecting and enhancing the natural and human environment and on minimising negative effects.

The primary source used in formulating the SEOs were the SEA Guidelines (DOEHLG, 2004) and the Environmental Report of the Fingal Development Plan 2011-2017. This list has been amended to give affect to objectives that are considered relevant to this LAP. The use of SEOs is a requirement of Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) which specifies the information content of Environmental Reports.

The SEA objectives used in this report take the form of a general statement referring to a general direction of change, which are given specific targets and then measured by an indicator. A target usually underpins an objective often having a time deadline that should be met. Indicators are measurements of variables over time, which are used to measure or demonstrate the achievement of objectives and targets. The objectives outlined in this section will be used for the assessment of the alternatives. The SEA objectives are set out in Table 5.1.

Also included in Table 5.1 are Detailed Assessment Criteria, which represent the issues that will be considered during the assessment of whether the Plan, including the proposed alternatives, will contribute to meeting the Strategic Environmental Objectives.

Table 5.1 Strategic Environmental Objectives

Strategic Environmental Objective and SEA Topic Area	Detailed Assessment Criteria
Objective 1 **Biodiversity Flora and Fauna (BFF)** Protect and where appropriate, enhance biodiversity, particularly protected areas and protected species	• Provide effective protection of international, national and local "protected areas" and "rare and distinctive species" • Provide effective protection of biodiversity in the wider landscape including species and habitats protected by law • Contribute to the Fingal Biodiversity Action Plan objectives
Objective 2 **Population, Human Health (PHH)** Provide high-quality residential, working and recreational environments and sustainable transport	• Reduce population exposure to high levels of noise, vibration and air pollution • Increase modal shift to public transport • Contribute to the co-ordination of land use and transportation • Improve access to recreation opportunities • Contribute to the mitigation of floods and droughts
Objective 3 **Soil (S)** Protect the function and quality of the soil resource in Fingal	• Re-use of brownfield lands, rather than developing Greenfield lands • Safeguard soil and geological quality, quantity and function
Objective 4 **Water (W)** Protect and where necessary improve water quality and the management of watercourses and groundwater to comply with the standards of the Water Framework Directive objectives and measures and all water, habitat and fisheries based legislation including the Urban Wastewater Treatment Directive, the Freshwater Fish Directive, the Shellfish Waters Directive, etc.	• Improve water quality in rivers, lakes, estuaries and groundwater • Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for biodiversity • Reduce the impacts from point source pollution, diffuse source pollution, abstraction and flow regulation and morphological alterations • Ensure flow regulation is appropriate • Prevent deterioration of water bodies from morphological alterations • Promote sustainable use of water and water conservation
Objective 5 **Air Quality and Climatic Factors (AQ/C)** Contribute to mitigation of, and adaptation to, climate change and air quality issues	• Reduce levels of air pollution • Minimise emissions of greenhouse gases • Reduce waste of energy, and maximise use of renewable energy sources • Ensure that all new housing is energy efficient • Ensure flood protection and management • Restrict development in flood plains • Reduce vulnerability to the effects of climate change

Strategic Environmental Objective and SEA Topic Area (cont'd)	Detailed Assessment Criteria (cont'd)
Objective 6 **Cultural Heritage (CH)** Protect and, where appropriate, enhance the character, diversity and special qualities of cultural, architectural and archaeological, heritage	• Improve protection for areas of archaeological potential and for undiscovered archaeology • Promote a better understanding of sensitive environments and human interaction with those environments
Objective 7 **Landscape (LH)** Protect and, where appropriate, enhance the character, diversity and special qualities of landscapes in Fingal	• Improve protection for landscapes and seascapes of recognised quality • Ensure that landscape character is considered in the development process • Maintain clear urban/rural distinctions • Enhance provision of, and access to, green space in urban areas
Objective 8 **Material Assets (MA)** Make best use of existing infrastructure and promote the sustainable development of new infrastructure	• Improve availability and accessibility of commercially provided facilities and public services • Protect Greenfield land and promote the use of brownfield sites • Increase local employment opportunities • Improve efficiencies of transport, energy and communication infrastructure • Ensure sufficient waste water treatment infrastructure • Provide drinking water supply and water conservation measures • Reduce the generation of waste and adopt a sustainable approach to waste management

5.2.1 Internal Compatibility of Strategic Environmental Objectives

The internal compatibility of the Strategic Environmental Objectives has been examined to identify potential areas of conflict in relation to each objective so that subsequent decisions can be well based. As shown in Table 5.2 the eight objectives are generally compatible. For example, the objectives for air quality and climate change are consistent with protecting and enhancing biodiversity and protecting human health. In some cases there is no obvious relationship between the objectives, e.g. no direct link between enhancing soil quality and function and making efficient use of water management infrastructure.

Table 5.2 Internal Compatibility of SEA Objectives

Objective 1 BFF	Y							
Objective 2 PHH	Y/N	Y						
Objective 3 S	Y	Y	Y					
Objective 4 W	Y	Y	Y	Y				
Objective 5 AQ	Y	Y	Y	Y	Y			
Objective 6 CH	Y/N	Y/N	Y/N	Y/N	Y	Y		
Objective 7 L	Y/N	Y/N	Y	Y/N	Y	Y	Y	
Objective 8 MA	Y	Y	Y/N	Y	Y	Y/N	Y	Y
	Obj 1 BFF	**Obj 2 PHH**	**Obj 3 S**	**Obj 4 W**	**Obj 5 AQ**	**Obj 6 CH**	**Obj 7 L**	**Obj 8 MA**

Key: Y = Yes, compatible N = No, not compatible 0 = Neutral Y/N = May be compatible depending on how it is implemented

5.2.2 Compatibility with the LAP Vision

The Vision for the Portmarnock South LAP is outlined in Section 3 of this report. It seeks to develop a high quality urban extension with a unique sense of place, maximising the area's natural assets and coastal location adjoining Baldoyle Bay and its high level of accessibility adjoining Portmarnock DART station. The LAP will facilitate residential development in this area in a coordinated and sustainable manner, focusing on the development of sustainable communities, and a quality environment, connected to the existing urban context of Portmarnock village to the north and Baldoyle-Stapolin urban area to the south with connectivity to green infrastructure networks along the coast and to the west.

This Vision is supported by a series of Strategic Aims that are grouped under Themed Headings. The compatibility of the Strategic Environmental Objectives and the Strategic Aims was examined using a compatibility matrix (Table 5.3). The LAP Strategic Aims are listed below for ease of reference.

Strategic Aims of the LAP:
Environment and Heritage

- Ensure that the integrity of the Natura 2000 site of Baldoyle Bay and its associated conservation objectives are appropriately protected and recognised within the plan area.
- Protect and improve where possible the water quality of the receiving waters of Baldoyle Bay and ground water quality through appropriate sustainable water management within the plan lands.
- Promote and develop opportunities for biodiversity and its supporting natural features (trees/hedgerows/watercourse), open space, green routes/corridors and key views as defining characteristics of the developing area including their priority in phasing proposals.
- Promote the conservation, enhancement, and enjoyment, including public access where appropriate, of the archaeological, natural and built heritage as important elements in the long-term sustainability of the area.

Movement and Transport

- Promote and encourage the use of sustainable means of travel including walking, cycling and public transport through the development of an integrated movement and transport network

- Promote connectivity and the integration of new and established communities through a hierarchy of spaces linked through a network of green permeable walking and cycling routes at a local and strategic level.

Urban Design and Housing

- Ensure that all new development is of a high quality and standard, promotes a local sense of place, protects existing residential, public and environmental amenities and enhances the plan area.
- Ensure that new development is physically, visually and functionally integrated with the landscape character of the plan area.
- Promote the provision of a wide choice of dwelling types and tenure with a strong emphasis on family orientated, high quality, adaptable, life long homes which are energy efficient and incorporate green design techniques.
- Ensure that housing on the LAP lands contributes to meeting the requirements of Fingal's Core Strategy in Portmarnock.

Community, Recreational, Social and Commercial Infrastructure

- Promote and encourage a socially inclusive community that caters for all age groups, that accords with the principles of universal design and that offers equal opportunity and good services to all.
- Promote the provision of a mix of retail, service, healthcare, recreational and community facilities within the local centre and at a level commensurate with local need.
- Provide for an integrated network of open space areas to meet the recreational needs of residents while respecting the sensitivities of the Plan lands through the Green Infrastructure and Landscape Strategy.
- Promote and facilitate employment and environmentally sustainable tourism opportunities appropriate to this area.

Infrastructure and Services

- Ensure the timely and adequate provision of infrastructure and services through phasing to serve the new development within the plan lands.

Table 5.3 Compatibility of SEA with LAP Strategic Aims

	SEA OBJECTIVES							
LAP VISION OBJECTIVES	**BFF**	**PHH**	**S**	**W**	**AQ**	**CH**	**L**	**MA**
1	Y	Y	Y	Y	Y	Y	Y	Y
2	Y/N	Y	Y/N	Y/N	Y/N	Y	Y/N	Y
3	Y	Y	Y	Y	Y	Y	Y	Y
4	Y/N	Y	Y/N	Y/N	Y	Y/N	Y/N	Y
5	Y/N	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y
6	Y/N	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y
7	Y/N	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y
8	Y/N	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y

5.2.3 Strategic Environmental Indicators and Targets

The overall purpose of environmental indicators in the SEA is to provide a way of measuring the environmental effect of implementing the LAP. Environmental indicators are also used to track the progress in achieving the targets set in the SEA as well as the LAP itself. The proposed indicators have been selected bearing in mind the availability of data and the feasibility of making direct links between any changes in the environment and the implementation of the LAP.

Targets were considered over the duration of the baseline data collection and assessment, and throughout the consultation process, in order to meet the Strategic Environmental Objectives as well as the objectives of the Plan. In each case, any target that is set must be attributable to the implementation of the Plan. The targets and indicators associated with each SEA Objective are presented in Table 5.4.

Table 5.4 Strategic Environmental Objectives, Targets and Indicators

Objectives	Sub Objective (where relevant)	Targets	Indicators	Source/Responsibility
Objective 1 **Biodiversity Flora and Fauna** Protect, and where appropriate, enhance biodiversity, particularly protected areas and protected species	***BO1*** Avoid loss of locally rare and distinctive species ***BO2*** Avoid loss of designated sites (SACs/SPAs/NHAs) ***BO3*** Enhance Green linkages ***BO4*** Facilitate the actions set out within the Fingal Biodiversity Action Plan	• No planning permissions granted within 100m of the boundary of a designated site • Facilitate relevant actions of the Fingal Biodiversity Action Plan by 2019 • No loss of locally rare /distinctive species/habitats • No net loss of green linkages established under Green Infrastructure Plan/Strategy • No loss of designated sites	• Number of developments receiving planning permission within 100m of the boundary of a designated site • Number of actions facilitated in Biodiversity Action Plan • Number of sites containing locally rare/distinctive species/habitats. • Area of new green infrastructure established • Number of planning permissions with biodiversity conditions	Fingal Co. Co. – Planning/Heritage Officer Biodiversity Officer
Objective 2 **Population, Human Health** Provide high-quality residential, working and recreational environments and sustainable transport.	***PO1*** Ensure that all new developments granted permission are adequately served with community facilities ***PO2*** Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure ***PO3*** Ensure that local employment opportunities are promoted ***PO4*** Ensure that sustainable transport modes are readily accessible	• Provide 20 childcare places per 75 houses • Reserve a school site to accommodate resident school going children. • All new homes to be built within o 300m of a local park o 2km of a neighbourhood park o 1km of commercial facilities • Appropriate mix of house and tenure type (including social housing) in all new developments. • All granted planning applications for new residential developments to be	• Ratio of houses in LAP to total childcare places provided • School site reserved for primary school • Number of new homes built within o 300m of a local park o 2km of a neighbourhood park o 1km of commercial facilities • % of planning applications granted for new residential developments that are accompanied by a design statement • % of employed both living and working in Fingal	Fingal Co. Co. - Housing Planning (with input from Fingal Childcare Committee) Parks/Planning Community/Planning CSO, POWSCAR

Objectives	Sub Objective (where relevant)	Targets	Indicators	Source/Responsibility
		accompanied by a design statement • Increase the % of local residents working locally. • Decrease in journey time and distance travelled to work during the lifetime of the plan.	• Distance and mode of transport to work.	
Objective 3 **Soil** Protect the function and quality of the soil resource in Fingal.	***SO1*** Safeguard soil and geological quality, quantity and function.	• No land reclamation permits	• Number of land reclamation permits issued.	Fingal Co. Co. - Environment
Objective 4 **Water** Protect and where necessary improve water quality and the management of watercourses and groundwater to comply with the standards of the Water Framework Directive objectives and measures and all water, habitat and fisheries based legislation including the Urban Wastewater Treatment Directive, the Freshwater Fish Directive etc.	***WO1*** Improve water quality in rivers, lakes, estuaries and groundwater. ***WO2*** Promote sustainable use of water and water conservation.	• Implementation, insofar as effected by the Plan lands, of the Programme of Measures identified under the ERBD River Basin Management Plan for the River Mayne. • New residential developments to incorporate water conservation measures such as rainwater harvesting.	• River Mayne achieving 'good status' as defined in the WFD. • % of residential units which incorporate water conservation measures as part of their planning permission.	EPA Fingal Co. Co. - Water Services Planning
Objective 5 **Air Quality and climate** Contribute to mitigation of, and adaptation to, climate change and air quality issues.	***CO1*** Implement the Planning System and Flood Risk Management Guidelines. ***CO2*** Incorporate the objectives of the Floods Directive into sustainable planning and development.	• All new residential development within the areas to have undergone a site. specific flood risk assessment. • No new residential development within the 1:1000 flood plain.	• % of new developments that have been conditioned to implement the recommendations of the site specific flood risk assessment. • Number of non water compatible developments	FEMFRAMS Fingal Co. Co. - Housing/ Architects/ Planning Transportation/Planning Water Services/Planning Planning

Objectives	Sub Objective (where relevant)	Targets	Indicators	Source/Responsibility
	CO3 Development of a sustainable transportation infrastructure which reduces the need for travel and journey length ***CO4*** Ensure that all new housing is energy efficient	• All new residential buildings granted planning permission within the lifetime of the plan to have a minimum A3 BER Rating. • Increase in the number of persons using sustainable modes of transport i.e. bus, rail, cycling and walking in the Plan lands.	permitted in the high risk zone (greater than 1:200 year event for coastal flooding and 1:100 year event for river flooding). • Percentage of new residential buildings granted planning permission with minimum A3 BER rating. • % of persons using sustainable modes of transport within the CSO small areas relevant to the Plan lands.	CSO – small area population statistics (SAPS)
Objective 6 **Cultural Heritage** Protect and, where appropriate, enhance the character, diversity and special qualities of cultural, architectural and archaeological, heritage in Fingal	***CH1*** Protect the cultural heritage of Fingal with regard to the landscape surrounding the LAP lands.	• No impacts on the cultural heritage value by development granted planning permission. • Retention of views to key sights such as Ireland's Eye.	• Number of planning permissions within 100m of designated sites. • Number of developments which have taken account of views.	Fingal Co. Co. - Planning Heritage Officer
Objective 7 **Landscape** Protect and, where appropriate, enhance the character, diversity and special qualities of landscapes in Fingal	***LO1*** Avoid the loss of designated views ***LO2*** Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive.	• Maintain and enhance the character of the coastal landscape and its biodiversity value. • Layout of development to incorporate protected views.	• Number of protected views lost through development. • Implementation of the objectives and measures of the Landscape Masterplan in the LAP by 2019.	Fingal Co. Co. – Planning/ Heritage Officer Environment (Parks) Biodiversity Officer

Objectives	Sub Objective (where relevant)	Targets	Indicators	Source/Responsibility
Objective 8 **Material Assets** Make best use of existing infrastructure and promote the sustainable development of new infrastructure	***MO1*** Ensure higher densities are achieved on zoned residential lands in close proximity to public transport ***MO2*** Protect and promote the coastline of Fingal as an asset now and in the future. ***MO3*** Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	• Increase the density of development in proximity to the rail line. • Increase in the length in Km of coastal walkway developed over the lifetime of the plan • Ensure that all waste water is drained to WWTPs that comply with the Water Framework Directive and the Urban Waste Water Directive	• Percentage of development that is built out in accordance with the Preferred Masterplan and the Sequencing and Phasing strategy of the LAP • Length in Km of coastal walkway • % of development that is connected to Ringsend Wastewater Treatment Plant or other plant that conforms with the requirements of the Water Framework Directive and the Urban Waste Water Directive	EPA Fingal Co. Co. – Planning Water services Parks Environment

Section 6 Local Area Plan Alternatives

6.1 Introduction

The preparation of the Local Area Plan and the associated policies and objectives affecting Baldoyle presents an opportunity to affect the way physical change and development occurs, how it happens and the character of that process. The SEA process seeks to document the development process where key decisions are reached, and consider the environmental impacts of the policy path chosen. One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative scenarios for accommodating future growth at the Portmarnock South LAP lands. This section identifies and describes different alternative scenarios, taking into account higher level strategic actions as well as the geographical scope of the LAP lands and the significant environmental effects of the alternatives selected.

These alternative scenarios are realistic – development and implementation of each could be undertaken in compliance with environmental legislation although the resources required for mitigation would vary between scenarios – and capable of implementation.

The scenarios are evaluated resulting in the identification of potential effects and informing the selection of a preferred alternative for the LAP. The policies and objectives which are required to realise the preferred alternative will be evaluated on an ongoing basis and in the SEA Environmental Report.

6.2 Excluding the Do-Nothing Scenario

The consideration of plan alternatives is a real-world exercise that recognises the plan must work within the existing context of national and regional policy and plans, climate change, and an Irish and European legislative framework that has sustainable development at its core. It is not an open-book exercise, where every conceivable option is examined. Therefore, in selecting realistic alternatives that could be evaluated, 'no development' was considered an unreasonable alternative, as it would not reflect the statutory and operational requirements of the Plan.

6.3 Legislative Context

The consideration of Alternatives is a requirement of the SEA Directive (2001/42/EC). It states under Article 5(1) that;

> *Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I.*

Annex 1 (h) of the Directive clarifies that the information to be provided on alternatives under Article 5(1), is *inter alia* 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.

Article 9 of the Directive requires that a statement shall be prepared providing information on the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with.

Annex 1 (f) details the environmental topics to be considered in the evaluation of the alternatives, which is the same as that addressed in the assessment of the plan itself:

biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Therefore, the Directive emphasises that the SEA process must consider alternatives that are 'reasonable', and take into account 'the objectives' of the plan, and 'the geographical scope of the plan'. The term 'reasonable' is not defined in the legislation. Good practice points to the analysis of 'Alternatives' as being a constructive and informative exercise for the policy makers, and that only 'possible' options for policy are examined. Plan scenarios that run counter to European environmental directives, the National Spatial Strategy, Ministerial Guidelines or Regional Planning Guidelines would not be considered reasonable.

Alternatives are required to take into account the objectives of the plan. The alternatives study therefore must operate within the vision set out for the LAP, which itself conforms to Development Plan policy, and provide an examination of alternative means of implementing the plan. For the purposes of this Alternatives Study, it is the Strategic Aims contained within the Vision of the LAP and listed previously in Section 5, Paragraph 5.2.2, which form the basis of the Alternatives analysis.

Finally, the consideration of reasonable alternatives must take into account 'the geographical scope of the plan'. The plan comprises areas of contrasting character, taking in the built form of the urban areas of Portmarnock, the Natura 2000 sites at Baldoyle Bay and the rural lands between the Coast Road and the railway line. The alternatives study must take account of this contrasting landscape and context, and only consider policies appropriate for the nature and extent of the plan area.

6.4 Consideration of Alternatives

The Vision outlined in Section 4 of the LAP seeks to develop Portmarnock South as a high quality urban extension with a unique sense of place, maximising the area's natural assets and coastal location adjoining Baldoyle Bay and its high level of accessibility adjoining Portmarnock DART station. However, as with all land use plans, policy must address a balancing act between economic growth and urbanisation on the one hand with obligations to protect the environment and heritage of the local and wider area on the other. The LAP sits within a wider planning framework which also seeks to balance the need for development with the need to protect the natural and cultural heritage. The Main Aims of the Development Plan, set out in Section 1.2 of that Plan, reflect this challenge, stating it is the aim to provide for the future well being of the residents of the County by:

- promoting the growth of economic activity and increasing employment opportunities;
- protecting and improving the quality of the built and natural environments; and
- ensuring the provision of necessary infrastructure and community facilities.

In line with the Development Plan and national and regional policy, the LAP seeks to consolidate development thus supporting sustainable transport and the identification of settlements and helping to protect, maintain and enhance the natural heritage of the local area and County.

The zoning context of the LAP is set by the Development Plan and alternatives cannot reasonably suggest a different zoning. Therefore, the alternatives all accept that residential zoning makes up the main built element of the Plan lands with a significant area of Open Space zoning to the north and east.

Alternatives also need to consider the local context. In the original Local Area Plan drawn up for the lands in 2006 the lands were to provide for approximately 1,449 homes and a population in excess of 4,200 persons. To date permission has been granted for some 647 residential units and a limited quantum of retail floor area however no development has commenced. The form of development is medium density, compact urban form comprising a mix of apartment, terraced, semi-detached and large detached houses all with on-street car

parking. This scale of development was predicated on the provision of the necessary infrastructure. In particular, the construction of a new pumping station was required to serve the lands.

The consideration of alternatives has taken account of the uncertain economic environment within which the Plan is being prepared. However, it is also recognised that the lifetime of the Plan may go beyond the current uncertainty and the Plan seeks to provide a robust framework that meets with the requirement for proper planning and sustainable development.

Concurrent to a context of uncertain national/international economy, is an increasingly stringent environmental regime. Advancements in legislation from the EU, which include Habitats, SEA, Water Framework and Environmental Liability Directives, place an increasing responsibility on local authorities and state agencies such as the EPA and NPWS to protect and conserve the natural environment. A failure to incorporate and address measures arising out of such primary legislative context would place the parties involved liable to severe penalties.

Three alternatives have been considered within the context of 'reasonable' set out in paragraphs 6.2, 6.3 and 6.4.1 above and in the local and planning context set out above.

Each alternative development scenario has been assessed against the SEA objectives to identify any potential effect or impact on different aspects or components of the environment. The assessment is presented in matrix form. The potential impacts for each alternative are determined as; having a positive or negative impact; as being likely to have both positive and negative impacts but in the absence of further detail the impact is unclear or; having a neutral or no impact. The assessment of the impacts is both qualitative and quantitative, and is based on experience to date and consultation with relevant professionals within the Planning Authority and in relevant agencies.

The key for the potential effects used in the matrices is as follows:

+ Potential positive impact
- Potential negative impact
+/- Both positive and negative impacts likely or that in the absence of further detail the impact is unclear
O Neutral or no impact

Following the environmental assessment of the three alternative development scenarios, the preferred alternative will be selected and described in greater detail. Then a further assessment of the chosen alternative including the identification of any significant impacts of implementing this alternative on the different components of the environment will be outlined in Section 7.

6.5 Description and Analysis of Alternatives

6.5.1 Alternative 1: Retain the layout of the 2006/2007 LAP and Masterplan with minor amendments to incorporate SuDS measures

6.5.1.1 Description

This option would allow for minor amendments to the existing LAP to incorporate, insofar as is possible, new policies in relation to SuDS. The 2006 LAP and associated Masterplan provides for approximately 4,200 persons which equates with approximately 1013 (average household size 3.5 persons) houses and 436 apartments (average household size 1.5 persons). The Plan provides for a local distributor route that runs in an arc form through the eastern section of the LAP and incorporates a series of roundabouts, off this is a secondary distributor road and series of access road that will assist in the dispersal of traffic through the residential areas with the LAP lands. Pedestrian and cycle routes are mainly along the distributor and access roads through the development. The residential areas are divided into architectural character zones. The Masterplan provides for a more geometrical or formal layout cover in the central and western portions of the site and more informal areas along the eastern and

southern edges of the site. Varying forms of open space are proposed within the residential area ranging from squares, crescents, circuses, lozenges and a village green. A local centre, incorporating a residential element, is located close to the train station in the northwestern corner of the site.

Current guidelines and policies suggest that the incorporation of SuDS measures should be frontloaded into the planning and design process. However, in acknowledging the work put into the existing LAP and Masterplan consideration was given to making relatively minor amendments to the original proposals to retrofit, insofar as is possible, new policies in relation to SuDS. This would involve retrofitting SuDS into the existing layout for example by trying to incorporate SuDS features into existing areas of open space where possible and including the use of tree pits, permeable paving, waterbutts, swales along roadside margins and attenuation areas where applicable. Similarly, it may be necessary to now leave watercourses, that were previously proposed to be culverted, open. These elements may, after detailed study, necessitate significant alterations to the layout of both the residential and open space within the development as provided for in the LAP and Masterplan. Given that there may need to be significant alterations to the existing layout it is likely that a complete reassessment of the layout of the overall development will be necessary. Importantly, it must be considered that, even if retrofitting can be undertaken within the existing and altered layout, it is unlikely that best practice standards could be attained.

6.5.1.2 Planning and Environmental Impact.

- This Alternative may compromise the design/function of some/all of the open space and residential areas within the development and current layout as proposed.
- With the exception of SuDS measures, there would be little or no opportunities for improving biodiversity or incorporating other Green Infrastructure measures on the site. The previous landscaping proposed as part of the 2006 LAP and 2007 Masterplan would detract from the open nature and character of the LAP lands overlooking the estuary and would seriously alter the ecology of this important habitat which supports estuarine birdlife. This proposal is not consistent with the protection of this important habitat and objective BD19 of the County Development Plan. These proposals are also inconsistent with the vision and strategy for buffer zones set out in Section 8.2 of the Fingal Biodiversity Action Plan 2010-2015. Based on the bird surveys carried out within the Plan lands and available historic data it is clear that the Plan lands form an important feeding/roosting habitat for birdlife associated with Baldoyle Bay SPA. In this regard the Appropriate Assessment process has identified a series of measures to mitigate against the loss of a valuable feeding and roosting habitat within the southern and eastern section of the lands for birdlife associated with the Baldoyle Estuary involving the retention of the open space lands as open as possible in tandem with the implementation of appropriate conservations measures and low intensity recreational uses. As stated above, the existing landscaping proposed as part of the 2006 LAP and Masterplan are not compatible with these mitigation measures.
- The Fingal Development Plan is underpinned by a key environmental principle based on providing a Green Infrastructure network. The key themes which encompass green infrastructure are Landscape Character, Biodiversity, Open Space and Recreation, Archaeological and Built Heritage, Sustainable Water Management. This Alternative would make little attempt to avoid impacting the natural amenity features of trees, hedgerows and watercourses and incorporating them into the proposed development. Rather, it is intended to remove these features, almost in their entirety.
- This Alternative would provide limited opportunities to reassess the overall layout of the scheme in order to ensure that the distinct character areas, points of visual interest, natural assets for biodiversity, recreational opportunities, maximising on principle views and providing high quality pocket parks and green routes/corridors are promoted.
- In terms of a layout and design solution this alternative does not encourage the investigation of the best ‘fit’ or design solution in terms of recognising the undulating, designated sensitive, coastal landscape. The Urban Design Manual – A Best Practice Guide (2009) clearly states that the context of the site should be the starting point when designing a new scheme.

- This Alternative reduces opportunities to incorporate flood risk management and water quality in a holistic way as envisaged in the Government, Regional and Local Guidelines and policies.

In terms of positive elements that would arise on foot of this alternative:

- This Alternative would represent an improvement in SuDS principles on the previous LAP/Masterplan and there would be greater control of run-off. However, the potential for a complete SuDS solution would not be reached.
- It may obviate the need to undertake a complete redesign although retrofitting in itself may require significant alterations to the layout.

6.5.1.3 Comparison of Alternative 1 against SEA Objectives

The predominantly suburban form of development is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.1.

Table 6.1: Assessment of SEA Objectives against Alternative 1

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	**-**
BO2	Avoid loss of designated sites (SACs/SPAs/NHAs)	**+**
BO3	Enhance Green linkages	**-**
BO4	Facilitate the actions set out within the Fingal Biodiversity Action Plan	**-**
Population and Human Health		
PO1	Ensure that all new developments granted permission are adequately served with community facilities	**+**
PO2	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	**+**
PO3	Ensure that local employment opportunities are promoted	**-**
PO4	Ensure that sustainable transport modes are readily accessible	**-**
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	**+/-**
WO2	Promote sustainable use of water and water conservation	**-**
Climate Factors and Air Quality		
CO1	Implement the Planning System and Flood Risk Management Guidelines	**+/-**

CO2	Incorporate the objectives of the Floods Directive into sustainable planning and development	**+/-**
CO3	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	**+/-**
CO4	Ensure that all new housing is energy efficient	**+/-**
Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**-**
Material Assets		
MO1	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
MO2	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
MO3	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.5.2 Alternative 2: Retain the layout of the 2006/2007 LAP and Masterplan while trying to incorporate SuDS and Green Infrastructure measures

6.5.2.1 Description

This option would be a mix of Alternatives 1 and 3 and would review the existing LAP in an attempt to make it better reflect the existing policies and guidelines in relation to Green Infrastructure, SuDs, Flood Risk Management and the objectives of the Fingal Development Plan 2011-2017. This would involve the removal of part of the existing vegetation and natural features of the site to accommodate sections of the development as provided for under the 2006 LAP and accompanying Masterplan 2007 while still attempting to retain key features on site.

The implementation of Green Infrastructure would for more sustainable modes of transport i.e. stronger cycle and pedestrian linkages while also opening up opportunities for open space along green corridors and maintaining the biodiversity of the site. This Alternative recognises that it will be necessary to make significant changes to the original layout and pattern of movement envisaged within the site while still attempting to retain as much of the original urban design principles and layout of the 2006/2007 LAP and Masterplan. Until this is undertaken in detailed design terms it would be difficult to determine the scale of the changes that would be required.

6.5.2.2 Planning and Environmental Impact

This Alternative would:

- attempt to mitigate against the loss of the natural amenity features of trees, hedgerows and watercourses and incorporate them into the proposed development.
- increase opportunities for biodiversity within the site and the incorporation of some measures to mitigate against the loss of a valuable feeding and roosting habitat within the southern and eastern section of the lands for birdlife associated with the Baldoyle

Estuary involving the retention of the open space lands as open as possible in tandem with the implementation of appropriate conservations measures and low intensity recreational uses.

- improve opportunities for achieving more sustainable movement patterns and linkages across the site.
- compromise the design/function of some/all of the open space areas within the development and current layout as proposed.
- would provide limited opportunities to reassess the overall layout of the scheme in a holistic way in order to ensure that the distinct character areas, points of visual interest, natural assets for biodiversity, recreational opportunities, maximising on principle views and providing high quality pocket parks and green routes/corridors.
- would not represent the best 'fit' or design solution in terms of recognising the undulating, designated sensitive, coastal landscape. The Urban Design Manual – A Best Practice Guide (2009) clearly state that the context of the site should be the starting point when designing a new scheme.
- This Alternative reduces opportunities to incorporate flood risk management and water quality in a holistic way as envisaged in the Government, Regional and Local Guidelines and policies.
- not provide opportunities to maximise the visual interest of the area.
- not be consistent with the vision and strategy for buffer zones set out in Section 8.2 of the Fingal Biodiversity Action Plan 2010-2015. Based on the acknowledged feeding/roosting habitat within the plan lands and consultation within the Council's Biodiversity Officer, these open space lands must remain as open as possible and combined with appropriate conservations measures and low intensity recreational uses, all subject to Appropriate Assessment and National Parks and Wildlife Service approval.

6.5.2.3 Comparison of Alternative 2 against SEA Objectives

The mix of Alternatives 2 and 3 is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.2.

Table 6.2: Assessment of SEA Objectives against Alternative 2

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	**+/-**
B02	Avoid loss of designated sites (SACs/SPAs/NHAs)	**+**
B03	Enhance Green linkages	**+/-**
B04	Facilitate the actions set out within the Fingal Biodiversity Action Plan	**-**
Population and Human Health		
P01	Ensure that all new developments granted permission are adequately served with community facilities	**+**
P02	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	**+**
P03	Ensure that local employment opportunities are promoted	**0**

P04	Ensure that sustainable transport modes are readily accessible	**+/-**
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	**+/-**
WO2	Promote sustainable use of water and water conservation	**-**
Climate Factors and Air Quality		
C01	Implement the Planning System and Flood Risk Management Guidelines	**+/-**
C02	Incorporate the objectives of the Floods Directive into sustainable planning and development	**+/-**
C03	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	**+/-**
C04	Ensure that all new housing is energy efficient	**+/-**
Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**-**
Material Assets		
M01	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
M02	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
M03	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.5.3 Alternative 3: Complete review of the LAP with a strong emphasis on Green Infrastructure

6.5.3.1 Description

This option would involve a complete review of the underlying premises of the original LAP and would involve the development of the Portmarnock South LAP lands using the concept of Green Infrastructure as a guiding theme for development in line with Fingal Development Plan policy. It would also provide a means of integrating adjoining development outside the LAP area with new development into a coherent urban fabric. The theme Green Infrastructure would be implemented under the five key headings set out in the Fingal Development Plan 2011-2017 namely Biodiversity, Parks, Open Space and Recreation, Sustainable Water

Management, Archaeological and Architectural Heritage and Landscape. This scenario seeks to focus on the multi-functionality of Green Infrastructure, which when planned in a coherent manner provides significant social and economic benefits for the surrounding communities. It provides a holistic approach to developing the landscape inclusive of other influences such as ecological development, improving air, water and soil quality, flood protection access provision and linkages, climate change/amelioration, pollution control and quality of life issues. It can be recognised as a significant element within sustainable communities, contributing directly or indirectly to economic development and delivering real benefits to people's quality of life.

Reflecting the proximity of the LAP lands to environmentally sensitive European Sites and the unique setting and typography of the area this option would seek to retain existing landscape features on the site such as townland boundaries, to create green corridors through the site and to create sensitively designed recreational lands that would serve the needs of the future population of the lands while also providing feeding/roosting habitat for estuarine birdlife within a designated ecological buffer zone through appropriate habitat protection measures and management would be major priorities for this LAP. The important archaeological heritage of the site would also be a key determinant in shaping the layout of development.

This scenario would, insofar as is possible, safeguard the distinctive character and openness of the area and would conserve the natural and cultural heritage. The existing streams and hedgerows which traverse the plan lands would be safeguarded, enhanced and maintained with cycle/pedestrian routes provided in strategic locations throughout the plan lands, enabling recreation whilst providing a pleasant environment for the existing and future populations. All surface water run-off within the newly developed plan lands would be managed within the site.

The Urban Design Framework would guide the layout and form of development on the site would be moulded to take account of the landscape, important green infrastructure element set out above, cultural heritage and movement patterns. Detail will be included as to appropriate heights and forms of development reflecting the different level of visual and environmental sensitivities across the site while also maximising important view lines out of the site. Increased emphasis would be placed on the development of extensive pedestrian and cycle links and connections through the residential area linking to the local centre, train station and surrounding areas thereby minimising the need the private car.

Overall allowance is made in this scenario for as great a balance as possible between the needs of built development and environmental protection with mitigation measures ameliorating any negative environmental impacts. This option would improve the status of habitats, species, ecological connectivity and water quality protection as well as facilitating flood risk management. This Alternative would also contribute towards the minimisation of impacts upon visual sensitivities and archaeological heritage and would provide a strong sense of place and high quality living environment for all residents.

This scenario is based on the principles of sustainable development which means that the Plan is promoted in accordance with International, National, Regional and County guidelines and legislation and the entire Plan area is also covered by the objectives and policies of the Fingal Development Plan 2011-2017 and the mitigation measures proposed in such.

6.5.3.2 Planning and Environmental Impact

This Alternative would:

- significantly go towards maximising the potential for land use-transport integration (*Smarter Travel*) and sustainable travel.
- through the use of Green Infrastructure, contribute towards the minimisation of impacts upon visual sensitivities and archaeological heritage. The plan would be informed by the natural and man made heritage, topography, views, flooding issues, groundwater status, the protection of soil functions and this is combined with an appropriate open space network, appropriate buffering of sensitive areas to form a plan for a sustainable urban extension.

- minimise conflicts with the status of habitats, species, ecological connectivity, water quality protection, groundwater status and soil function as well as flood risk management and visual and cultural sensitivities and maximise the potential for the inclusion of appropriate mitigation measures where there is any potential for negative impacts to occur.
- allow for explicit recognition of the 12 urban design principles set out in the Urban Design Manual – A Best Practice Guide (2009) and as reiterated in the Fingal Development Plan 2011-2017.
- allow for a comprehensive review of unit types and sizes.
- facilitate the development of strong pedestrian and cycle linkages with adjacent lands to the south at Baldoyle.
- provide opportunities to minimise the visual impact of the development.

6.5.3.3 Comparison of Alternative 3 against SEA Objectives

The 'Complete review of the LAP with a strong emphasis on Green Infrastructure' is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.3.

Table 6.3: Assessment of SEA Objectives against Alternative 3

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	+
B02	Avoid loss of designated sites (SACs/SPAs/NHAs)	+
B03	Enhance Green linkages	+
B04	Facilitate the actions set out within the Fingal Biodiversity Action Plan	+
Population and Human Health		
P01	Ensure that all new developments granted permission are adequately served with community facilities	+
P02	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	+
P03	Ensure that local employment opportunities are promoted	+
P04	Ensure that sustainable transport modes are readily accessible	+
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	+
WO2	Promote sustainable use of water and water conservation	+

Climate Factors and Air Quality		
C01	Implement the Planning System and Flood Risk Management Guidelines	**+**
C02	Incorporate the objectives of the Floods Directive into sustainable planning and development	**+**
C03	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	**+**
C04	Ensure that all new housing is energy efficient	**+**
Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**+**
Material Assets		
M01	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
M02	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
M03	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.6 Selection of Preferred Alternative

A summary of the scoring/ rating of each of the development alternatives against the SEA objectives is provided in Table 6.4 below. Each development alternative was totalled and the scores were compared against each other, from this it is clear that Alternative 3, which is a complete review of the existing LAP to incorporate all current Government, regional and local policies including the objectives of the Fingal Development Plan 2011-2017 is the preferred Alternative.

Alternative 3 offers sustainable levels of population growth which can be matched by social and physical infrastructure provision. It would have beneficial effects on the provision of community facilities, housing mix, amenities and best use of existing infrastructure as well as providing for opportunities to enhance the biodiversity value of the lands within the vicinity of the designated European sites at Baldoyle Bay.

This Alternative contributes towards the protection of the environment and conforms to high level planning objectives. By complying with appropriate mitigation measures potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Table 6.4 Scoring of Development Alternatives against SEA Objectives

Alternative Development Scenario	+ Potential Positive Impact	- Potential Negative Impact	+/- Both positive & negative or unclear	0 Neutral or no impact	Total Positive
Alternative 1	4	7	5	3	**4**
Alternative 2	4	4	8	3	**4**
Alternative 3	16	1	0	2	**16**

NOTE: The Draft Local Area Plan option that has emerged from the Plan preparation process has a close correlation to Alternative 3 in terms of the inclusion of the element and benefits of the Green Infrastructure, SuDS and the 12 principles of Urban Design. However, in acknowledging current economic realities, the chosen approach also includes elements of Alternative 2 insofar as attempts have been made to retain some of the key elements of the 2006/2007 Local Area Plan and Masterplan.

A combination of the Alternatives 2 and 3 has been developed by the Planning Team having regard to:

- The environmental effects which were identified by the Strategic Environmental Assessment and are detailed under previous subsections above; and
- Planning - including social - effects which are identified alongside environmental effects above.
- Economic conditions pertaining at the time of preparation of the Draft LAP.

Section 7 Evaluation of Plan Policies

7.1 Introduction

The objective of this section is to determine the 'likely significant' effects of the Portmarnock South Local Area Plan on the environment. The assessment methodology adopted here is based on the environmental objectives (Section 5) and the Plan objectives (as set out in the various chapters of the Plan). The environmental objectives of water, biodiversity, cultural heritage and landscape, human health, soils, geology, air and climate listed in Section 9 are individually assessed against the Plan objectives and policies.

The section headings within the draft Portmarnock South LAP are set out in the table below and will be followed in assessing the Plan.

Table 7.1 LAP Section Headings

Executive Summary	
Section 1	***Introduction***
Section 2	***Policy and Statutory Context***
Section 3	***Local Area Plan Context***
Section 4	***Strategic Vision and Aims of the LAP***
Section 5	***Green Infrastructure***
Section 6	***Movement Strategy And Transport Infrastructure***
Section 7	***Urban Design***
Section 8	***Community, Social, Employment And Tourism Infrastructure***
Section 9	***Infrastructure and Services***
Section 10	***Sustainability***
Section 11	***Sequencing and Phasing***

7.2 Assessment Criteria

The assessment criteria used here is based on the determination of the 'likely significant' impacts of the Plan's policies and objectives on the environmental objectives. The likelihood of an impact occurring on any of the environmental objectives are determined and the significance and duration of the likely impact is then determined. The following criteria have been used to determine significance of an impact:

• *Positive or negative impacts*
A positive impact improves the quality of the environment by, for example, improving water quality, protecting sensitive habitats, or providing amenities for people. A negative impact diminishes the quality of the environment by, for example, reducing species diversity, creating habitat loss, reducing air quality or water quality. A negative impact can be sufficiently minimised or eliminated by the adoption of appropriate mitigation measures.

• *Long-term and short-term impacts*
A short-term impact will usually last for the duration of a project for example the construction of a road or a wastewater treatment plant. A long-term impact is normally the residual impact that remains after mitigation measures have been put in place. It may last 10 years or longer which is beyond the lifetime of the LAP.

• *Significant impact*
The likely significant effects of the implementation of the LAP on the environment, including impacts on biodiversity, population, human health, ecology, soil, water, air and climate, cultural heritage, landscape and the interaction of the above, must be investigated. The effects of the LAP on these topics should include quantification of the impacts as short-term, long-term, temporary, permanent and positive and negative.

These criteria will be represented in the matrix and tables as follows:

++	Long term/ permanent positive impact
+	Short term positive impact

-- Long term/ permanent negative impact
- Short term negative impact
? May conflict with environmental objectives
0 Insignificant impact or no relationship

The overall significance of an impact is dependant upon two factors – the size of the disturbance caused (magnitude) and the sensitivity of the receptor. The sensitivity of a receptor may be based on the legal status of a site, for example, a Natura 2000 site or a Natural Heritage Area. It may also be based on the proximity to population centres, schools, hospitals etc. or it may be based on the importance of a resource, for example, groundwater for public drinking water supply or a site of archaeological importance. The magnitude of an impact will be dependent upon its duration and frequency.

7.3 Assessment Methodology

The assessment of the LAP against the environmental objectives will take two forms. A paragraph summarising the impacts for each SEO against each chapter with an associated table. This will allow for the assessment of the LAP where the objectives are more strategic and are not given a specific numbering within the Plan. Map based and specific objectives will also be assessed. The listed LAP objectives within each section of the Plan will be assessed against the SEO's in a matrix.

7.3.1 Population and Human Health

The Local Area Plan residential [RA] zoned lands will facilitate approx. 1200 residential units based on a net development area of c. 28.2 hectares at a density of c.42 units per hectare which accords with airport safety zone criteria. The anticipated new population is c. 3360 persons. There is a strong emphasis in the Plan for a high quality living environment, through the provision of a hierarchical network of open space provision, high quality and sustainable design, local services and local retail and business opportunities, good public transport networks and connections to it and the maintenance of the rich estuarine environment and its associated habitat. However, as the lands are located within the Outer Public Safety Zone of Dublin Airport, schools and childcare facilities are not permitted uses within the RA (residential) zoning of the LAP lands. Childcare and education facilities are also not permitted within the open space zoned lands, therefore these community uses are not proposed as part of this LAP. Such facilities exist and are proposed within the adjoining areas and are capable of accommodating the future educational needs of residents of the plan area.

The overall impact of the Plan on population and human health is considered to be beneficial and will ensure a good quality living environment.

Table 7.2 Summary of Impacts of Draft LAP Policies on Population and Human Health

Draft Local Area Plan Sections	Description of LAP Section	Population and Human Health - Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section sets out the context of the LAP and has no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its	**++**

	surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**++**
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**++** but with some short term negative impact as roads are being constructed.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**++**
Community, Social, Employment and Tourism Infrastructure	This sections covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**++**
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++**
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**++**
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**++**
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands	**++**

7.3.2 Biodiversity, Flora and Fauna

Baldoyle Bay is covered by a number of national and international conservation designations due to the important habitats, species of birds, animals and plants that occur within the site. It is designated as a Special Protection Area (pSPA) for birds under the EU Birds Directive and is internationally important for Light-bellied Brent Geese and nationally important for a further 5 species. It is also a Special Area of Conservation (SAC) for its habitats under the EU Habitats Directive and a Ramsar site recognised as being a wetland of international importance. Nationally it is a proposed Natural Heritage Area and a statutory Nature Reserve. In formulating policies and objectives for the LAP, full regard was had to the EU Habitats and Birds Directives and national environmental legislation. An Appropriate Assessment of the

LAP has been carried out as required by the Habitats Directive and informs the plan and a Natural Impact Report (NIR) accompanies the Plan.

The bird survey commissioned by the Council from December 2011 to February 2012 identifies the plan lands, in a large section of the residentially zoned area, as important habitat for the migratory birdlife associated with Baldoyle Bay. The study also found that estuarine bird species including Brent Geese graze the Racecourse Park lands to the south, providing suitable habitat for key bird species. The fundamental constraint in the preparation of the Portmarnock South LAP is how to mitigate the loss of the valuable feeding and roosting habitat acknowledged within the eastern section of the residentially zoned lands. In acknowledging and dealing with this issue, the LAP proposes the creation of attractive and suitable, alternative habitat for migratory birds to the south/east of the residential part of the plan lands. In this way the Plan has sought to balance the needs and requirements of the environment with the residential zoning objective and resultant increased population and associated pressures on the surrounding sensitive environment. The green infrastructure strategy and Landscape Masterplan for the lands seek to ensure that the amenity of the regional Racecourse Park is available to the growing population while protecting the most sensitive elements of the lands by managing the lands appropriately. In particular, the Murrough Spit which is zoned High Amenity and located east of Coast Road and which is within Baldoyle SAC and SPA will be retained as a managed conservation area to protect estuarine birdlife.

There is an objective in the Fingal Development Plan 2011-2017 to provide a coastal way along the Fingal coast. This would link into the S2S (Sutton to Sandycove) cycleway to the south. A section of this coastal way had previously been identified along the Baldoyle estuary within the Plan lands and had gone through a separate appropriate assessment process. It is an objective of the Plan to ensure that the path will be no wider than 3 metres, wider than originally envisaged and assessed but not as wide as the standards would generally require. A separate AA will be required for the path at project stage. A Landscape Masterplan has been drawn up to compensate any habitat lost because of the coastal way through management within the rest of the park area. This management will include practices to ensure grazed grass suitable for Brent geese as well as other practices to encourage biodiversity and maintenance of the existing species.

Within the residential areas there is a strong emphasis on retention of existing hedgerows and riparian strips and greening the remaining landscape through the provision of wide boulevards and local and pocket parks. These will be part of the ‘stepping stone’ and corridor approach to the green infrastructure strategy. There is also a strong emphasis on sustainable drainage, using best practice solutions which include attenuation ponds planted with appropriate vegetation to encourage waterfowl.

In the preparation of Portmarnock South and Baldoyle-Stapolin LAPs detailed plans have been drawn up for the ecological buffer zones in both areas with the intention that these will function as integrated areas, not only for open space and recreation but, critically, for the appropriate mitigation measures for migratory waterfowl habitat in both LAPs. These areas are to be laid out and managed in a way that provides suitable alternative habitat for bird species likely to be displaced by residential development within the plan lands. These ecological buffer zones will offer a variety of habitats including meadow and arable crops. This will ensure adequate roosting and feeding options are available to migratory birds. Farmland bird species also benefit from these habitats.

The overall effect of the Plan on biodiversity, fauna and flora will be beneficial.

Table 7.3 Summary of Impacts of Draft LAP Policies on Biodiversity, Flora and Fauna

Draft Local Area Plan Sections	Description of LAP Section	Biodiversity, Flora and Fauna Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the	

	preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**++**
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**++** but with some short term negative impact as the section of the Fingal Coastal Way cycle/pedestrian path is being developed.
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**++** but with some short term negative impact as roads are being constructed and as cycle/pedestrian path is being developed.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**?** The provision of new residential properties while beneficial to the local population has the potential to negatively impact biodiversity through loss of greenfield habitat There will be increased population pressures on the sensitive landscapes which will have to be managed.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**++** but with some short term negative impact as the section of the Fingal Coastal Way cycle/pedestrian path is being developed
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++** but with some short term negative impact as pumping station and surface water outfall are being constructed.
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management	**++**
Sequencing and	Linking the delivery of development with	**++**

Phasing	infrastructural investment and delivery of the local centre	
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands	**++**

7.3.3 Soil

Many of the changes to soil arise as a result of pressures from human activities. The main pressures on soil resources in Ireland include urbanisation and infrastructure development. A proposed EU Framework for Soil (2004/35/EC) states that, for the purposes of preserving the various functions of soil; sealing, the development of artificial surfaces on top of soil resources, should be limited. The proposed Directive suggests that this may be achieved through rehabilitating brownfield sites, thus reducing the depletion of greenfield sites.

While the preferred densities within the LAP will reduce future pressure for the development of greenfield lands by accommodating target populations within existing zoned lands. New residential, commercial and transportation developments and site preparation works will result in an extent of soil being sealed off across the site.

Table 7.4 Summary of Impacts of Draft LAP Policies on Soils

Draft Local Area Plan Sections	Description of LAP Section	Soil Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**?** The provision of new residential properties while beneficial to the local population has the potential to negatively impact biodiversity through loss of greenfield habitat, negatively impact water quality with construction and operation runoff, temporarily negatively impact noise levels during construction and negatively impact on loss of soils. These can however be carefully managed to minimise negative impacts.
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular;	**++** but with some short term negative impact as the section of the Fingal

	- Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	Coastal Way cycle/pedestrian path is being developed.
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**--** The provision of new roads while beneficial to the local population has the potential to negatively impact on loss of soils.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**-** The provision of new residential properties while beneficial to the local population has the potential to negatively impact biodiversity through loss of greenfield habitat, negatively impact water quality with construction and operation runoff, temporarily negatively impact noise levels during construction and negatively impact on loss of soils.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**-** (as above for urban design)
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++**
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**++**
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**?**
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the Plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the Plan lands.	**++**

7.3.4 Water

Water Quality – While there are no significant watercourses running through the LAP lands the Mayne River runs to the south of the site and the Sluice River runs to the north. Both of these rivers discharge to Baldoyle Bay with the Mayne discharging at the junction of Mayne Road and Strand Road (R106) and the Sluice discharging via a culvert at Portmarnock Bridge.

The River Mayne is a reportable river under the Water Framework Directive and is currently identified as being of "poor status" while the catchment of the River Sluice to the north is identified as being of "good status" with both rivers having a Risk Status of 1a – At Risk.

In the Santry-Mayne-Sluice WMU the main problems identified were high nutrients, oxygen demand, low ecological rating and inferior habitat. The main causes can be attributed to wastewater and industrial discharges, due to misconnected foul sewers, combined sewer overflows and urban area pollution.

Surface Water - A SUDS Strategy for Portmarnock South, prepared by Waterman Moylans on behalf of the Council identifies various measures that may be employed throughout the development taking into account the existing surface water infrastructure that is in place across the site. The implementation of Sustainable Drainage Systems (SuDS) measures will ensure that surface water run-off will not be discharged directly into the groundwater system, thereby improving water quality, the potential for biodiversity and amenity.

Flooding - In accordance with the 'Planning Systems and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009), the preparation of the LAP was the subject of a Strategic Flood Risk Assessment (SFRA). The SFRA includes the identification of a number of measures necessary to ensure flood risk is incorporated into the planning of the area and recommendations were made that development proposals for a number of areas within the plan boundary be the subject of site-specific flood risk assessment appropriate to the nature and scale of the development being proposed

The policies of the Plan will ensure that there is no dis-improvement in the status of the Mayne and Sluice Rivers and should help to improve their status. The implementation of SuDS strategies will decrease the rate of surface water runoff, thereby reducing the potential for flooding, and its quality. The SuDS measures have the added benefit of increasing the potential for greater biodiversity and also for recreation and amenity. The impact of the Plan on water is considered to be beneficial.

Table 7.5 Summary of Impacts of Draft LAP Policies on Water

Draft Local Area Plan Sections	Description of LAP Section	Water- Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**++**
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage	**++**

	- Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**--**The provision of new roads while beneficial to the local population has the potential to negatively impact water quality with construction and operation runoff.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**--** The provision of new houses while beneficial to the local population has the potential to negatively impact water quality with construction and operation runoff.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**--**
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++**
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**++**
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**--**
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands.	**++**

7.3.5 Air Quality, Noise and Climatic Factors

Air Quality - The LAP lands are located within Zone A for the Dublin conurbation, as identified in the Air Quality Standards Regulations 2002, (S.I.271/2002), with the closest monitoring sites being located at Swords and Marino. The index is calculated based on the latest available measurements of PM10, sulphur dioxide, nitrogen dioxide and ozone. In October 2010, air quality in Zone A was reported as 'Good'.

There are three (3) sources of large scale industrial and agricultural activities monitored by the EPA. These are Integrated Pollution Prevention Control (IPPC) licenses, waste licenses and SEVESO licenses or sites. There are no licenses under the above categories present within the Portmarnock South LAP area.

Noise - Noise mapping as part of the Dublin Agglomeration Draft Action Plan indicated that traffic congestion and movement were the issues regarding noise pollution. The noise levels in the LAP area are likely to increase short-term during the construction period but they could

also increase in the longer term with vehicular movement. The LAP seeks to promote sustainable transport through the use of public transport in the form of rail and bus, walking and cycling. Bus and rail are within 600m walking distance of the residential development while the village centre is at the foot of the railway station. Walking and cycling are encouraged in the plan lands through good connectivity and permeability with cycle routes along the boulevards and through the parklands linking to Baldoyle village to the south and further extensions planned to link the development to Portmarnock Village and further north.

Reduction in private car movements will result in a reduction in emissions such as particle matter (PM10) and nitrogen dioxide (NOx) and in noise levels associated with private transport.

Climatic Factors - The main issues facing Fingal in relation to the development of the Portmarnock South LAP lands are climate change related to increased amounts of greenhouse gases, including CO^2 emissions, primarily from transport movements, and the danger posed by flooding events as sea levels rise and increased frequency and volume of rain events. Solutions require reductions in unsustainable transport movements, and the amelioration of potential flooding events.

The LAP promotes the use of sustainable transport and higher densities along the railway at the village centre and northern edge of the development. Increased densities will enable the improvement of public transport provision and timetabling. This will help to reduce CO^2 emissions. Increased densities will also ensure that efficient use is being made of land thus reducing the pressure for further development to accommodate the same population and reducing the potential impact of flooding and car dependent urban sprawl by less physical area of urban development. The use of the Sequential Test and the Justification Test for any areas prone to flooding, the carrying out of a Flood Risk Assessment and the use of Sustainable Urban Drainage Systems (SUDS) in the LAP lands will be primary strategies in the plan.

Any new urban development has the potential for a negative impact on climate change. Mitigation measures such as SuDS and those indicated in the paragraphs above will be necessary to offset the potential impacts. The LAP has incorporated these mitigation measures and it is considered that the impacts on air quality, noise and climatic factors will generally be insignificant or beneficial.

Table 7.6 Summary of Impacts of Draft LAP Policies on Air, Noise and Climatic Factors

Draft Local Area Plan Sections	Description of LAP Section	Air, Noise and Climatic Factors - Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets	**++**

	out the key objectives to be achieved in the development of the area.	
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**++**
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**++**for the sustainable element of transport. **--** for new roads infrastructure.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**++** Increased densities will mitigate against climate change through better use of land **--** buildings and roads add to carbon emissions unless designed as carbon neutral.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**++**sustainable design and provision of local services will reduce the need to travel and will help climate adaptation. **--** buildings and roads can add to carbon emissions unless designed as carbon neutral.
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++**
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**++**
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**?** Provides for local facilities in tandem with population increase.
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands.	**++**

7.3.6 Cultural Heritage

Located within the northern and southern extremities of plan lands are archaeologically important National Monuments, the Portmarnock Burial Mound [DU15:014] and Protected Structure Ref No. 475 and the Maynestown Enclosure site [DU015:055. Test-excavation of the Maynestown Enclosure as part of a previous planning application of the lands identified it

as early medieval in date.[10] Geophysical survey undertaken in 2008 also as part of a planning application on the revealed that that this monument is part of a much larger landscape with a further four enclosures identified subsurface in the immediate vicinity of the Maynestown monument within the open space lands to the south of the designated residential area[11].

The Portmarnock Mound (DU015-014) is a medieval burial mound and consists of an oblong shaped knoll 27m NS x 14mEW x3m high. These archaeological sites have been the subject of a sequence of progressive desk studies, surveys and on-site investigations as part of the previous application for the lands. Agreement was reached with the National Monuments Division of the DoEHLG to preserve these monuments in situ. A 20 metre reservation is required around both these monuments.

There are hedgerows on the Portmarnock South LAP lands which mark the boundary of the historic townland, and are of cultural-historic value.

Table 7.7 Summary of Impacts of Draft LAP Policies on Cultural Heritage

Draft Local Area Plan Sections	Description of LAP Section	Landscape - Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**++**
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**++**
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	**++** for the sustainable element of transport. **--** for new roads infrastructure.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density	**++**

[10] Moriarty C. 2009 Final report for archaeological excavations at Portmarnock Mound (DU015:014) and the Maynetown Enclosure (DU015:055, Co. Dublin 07E574
[11] Unpublished report Margaret Gowen & Company

	and design amongst other things.	
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**++**
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++**
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**++**
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**++**
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands.	**++**

7.3.7 Landscape

The Landscape Character Assessment for Fingal identifies Baldoyle Bay as being of an Estuary and Coastal Character Types which are categorised as having an exceptional value recognised by the EU designations (candidate Special Areas of Conservation and Special Protection Areas) that apply to each in additional to national designations such as proposed Natural Heritage Areas and Ramsar. The aesthetic quality of the estuary is also identified as outstanding while the Coastal Character Type is categorised as having exceptional landscape value. In terms of sensitivity both Character Types are identified as having a high sensitivity to development with particular parts of these areas having a low capacity to absorb new development.

In terms of the LAP there are protected views along the Coast Road affording attractive views of the Baldoyle Bay and Portmarnock peninsula to the east. The quality of views from within the subject lands is variable. The relative lack of visual enclosure and the topography combine to afford extensive views from the subject lands over the Baldoyle Bay, Irelands Eye and Howth beyond.

In terms of topography the western and middle portion of the site forms an elevated plateau which slopes away towards Strand Road to the east and Mayne Road on the southern boundary. The eastern half of the plan area is highly visible when viewed form the shoreline of Baldoyle Bay and the Portmarnock Peninsula and enjoys panoramic views of the coast and it's islands notably Lambay Island, Howth Head and Ireland's Eye. The east-west ridge just south of the residential development area is highly visible from Clongriffin and Stapolin development areas, Clongriffin Railway Station and the mound in Father Collins Park. St. Doolagh's is a notable built feature when looking westward from the plan lands. From the southern slopes of the plan lands, there are open panoramic views towards Baldoyle, Clongriffin and Howth to the southeast. Beyond the silhouette of Baldoyle and Clongriffin, the backdrop of the Dublin Mountains is visible from this location. The plan lands are considered more visually sensitive than the lands further to the south and south-west where large contemporary developments at Baldoyle-Stapolin and Clongriffin have been constructed. These lands are located further back within the coastal compartment, on lower elevations and therefore less visually sensitive than the plan lands. The landscape character of the plan lands is highly sensitive to change.

The LAP has taken account of the sensitive nature of the site through the identification of character areas. Development within the most visually sensitive character areas will be architecturally designed and finished appropriate to the sensitive coastal setting and its interface with the ecological buffer zone and Baldoyle Bay. Light contemporary structures with simple finishes such as smooth render and extensive glazing are envisaged allowing for maximum visual permeability to and from the plan lands. Buildings shall be designed to ensure physical breaks between buildings to allow for glimpse views to and from Baldoyle Bay and the islands. No development shall occur within the view lines indicated on the plan map.

Table 7.8 Summary of Impacts of Draft LAP Policies on Landscape

Draft Local Area Plan Sections	Description of LAP Section	Landscape - Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**-** Impacts are likely to be significant in the short term until measures set out in the landscape masterplan are given time to bed in and mature.
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**-** Impacts are likely to be significant in the short term until measures set out in the landscape masterplan are given time to bed in and mature.
Movement Strategy and Transport Infrastructure	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates future road improvements.	-- For impact on the landscape of new roads, paths and cyclepaths.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**--** The provision of new houses while beneficial to the local population has the potential to negatively on the landscape until measures set out in the landscape masterplan are given time to bed in and mature.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism	-- The provision of community buildings while beneficial to the

	infrastructure and leisure.	local population has the potential to negatively on the landscape measures set out in the landscape masterplan are given time to bed in and mature.
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**-** Short term negative during the construction phase of development.
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**?** It is an uncertain impact as to how utilising renewable energy sources will impact on the landscape. This will remain uncertain until the developers provide proposals to comply with these objectives.
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**++** The sequencing and phasing in tandem with the implementation of the landscape masterplan will help mitigate the impact of the development on the landscape.
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands.	**++**

7.3.8 Material Assets

The material assets of the Plan lands include waste water and drinking water infrastructure, waste management facilities and transport infrastructure. The regional park itself is also a material asset but the impact of the Plan on it has been dealt with in the paragraphs above.

Waste water – At a strategic level, in the short term there is the potential for a waste water treatment shortfall in the area if the upgrade of the Waste Water Treatment Plant at Ringsend does not keep pace with development. The overloading of waste water treatment plants, low levels of treatment and discharge of outflow to water bodies at risk has significant potential to incur pollution. The Plan has included objectives to ensure that development is not granted which cannot be adequately treated for waste water. This will also be dealt with at planning application stage of each phase of development.

At a local level an existing foul water pumping station is located outside of the plan lands close to Portmarnock Bridge to the north and serves the surrounding area. This is currently operating at capacity and site size does not allow for expansion of this facility. The most suitable location for a new pumping station identified is within the north/eastern section of the plan lands within designated open space lands. An outfall and overflow is required for the pumping station. The overflow from the pump station is required in the case of pump failure. This overflow will connect to the proposed surface water outfall. This outfall requires a Foreshore License.

As there is limited available capacity in the existing Portmarnock Bridge Pump Station, it is a pre-requisite for all development within the plan lands that drainage infrastructure [Pump

Station and outfall complete and commissioned] including the acquisition of a Foreshore License be provided before any development can proceed.

Water supply – There is adequate water supply to meet the needs of the LAP lands. Nonetheless, the need to conserve water is recognised in the LAP and policies are in place, such as rainwater harvesting, to ensure this.

Waste management - Fingal has a commitment under the Waste Management Plan 2005-2010 to provide infrastructure for recycling, biological treatment and composting of waste as well as waste prevention and minimisation initiatives. The Council has four recycling centres which are located at Balleally Landfill; Estuary Recycling Centre, Swords; Coolmine Recycling Centre and Balbriggan Recycling Centre, and local bring banks around the County with the closest to the LAP lands being located in Sutton and Portmarnock. The LAP has included policies on waste management.

Transport infrastructure – The LAP includes provisions for the upgrade of the existing transport infrastructure and new infrastructure in the wider south Fingal area. These are on foot of a transport assessment which identified required infrastructure and phasing requirements. Section 11 of the LAP on Sequencing and Phasing ensures that transport infrastructure, along with other relevant infrastructure, is delivered in parallel with development. Within the Plan lands, cycleways and pedestrian paths are proposed to provide connectivity between different parts of the Plan lands, the existing train station and between the different settlements as part of the green infrastructure strategy.

Table 7.9 Summary of Impacts of Draft LAP Policies on Material Assets

Draft Local Area Plan Sections	Description of LAP Section	Material Assets - Impacts
Introduction	This section introduces the LAP, sets out details of public consultation undertaken and outlines studies and reports that were undertaken to complement the preparation of the Local Area Plan. This section contains no policies to assess.	
Policy and Statutory Context	This section sets out the legislative framework and LAP process and has no policies to assess.	
Local Area Plan Context	This section considers the area, its historical context up to the present day, issues facing the area and the need for change. This section contains no policies to assess.	
Strategic Vision and Aims of the LAP	This section describes the Vision of a vibrant Portmarnock South in the future which will be integrated fully with its surroundings. It also identifies the overall strategic objectives for the LAP, and sets out the key objectives to be achieved in the development of the area.	**++**
Green Infrastructure	Reflects the key themes set out in the Fingal Development Plan green infrastructure strategy, in particular; - Archaeology and Built Heritage - Biodiversity - Parks, Open Space and Recreation - Sustainable Water Management - Landscape	**++**
Movement Strategy and Transport	Seeks to meet future demands for travel and connectivity emanating from the LAP lands in a sustainable way. Indicates	**++** New development puts increased pressure on existing road networks

Infrastructure	future road improvements.	but this will be offset by new road infrastructure. Increased densities will facilitate better public transport service.
Urban Design	Sets out an urban design framework for different character areas within the LAP area. Deals with housing mix, layout, public realm, parking inclusivity, density and design amongst other things.	**++** Increased pressure on existing infrastructure but this will be offset by the requirement for new development.
Community, Social, Employment and Tourism Infrastructure	This section covers the provision of community facilities and services, play facilities, the Local Centre, tourism infrastructure and leisure.	**++**
Infrastructure and Services	Deals with water supply and conservation; foul water drainage; surface water management (including SuDS); Flood Risk Management; Water Quality; Climate Change and with utilities including electricity, gas, telecommunications and renewable energy technologies.	**++** Until Ringsend is upgraded development on the LAP lands will put pressure in waste water infrastructure. However, development cannot go ahead if there is not sufficient capacity in the WWTP and a new pumping station has been constructed to serve the plan lands.
Sustainability	Promotes sustainable urban design principles, design and construction techniques and waste management.	**?** It is an uncertain impact as to how utilising renewable energy sources will impact on the landscape. This will remain uncertain until the developers provide proposals to comply with these objectives.
Sequencing and Phasing	Linking the delivery of development with infrastructural investment and delivery of the local centre.	**++** The sequencing and phasing in tandem with the implementation of the landscape masterplan will help mitigate the impact of the development on the landscape.
Appendix 1 Sustainable Urban Drainage Systems	Outlines the strategy for the sustainable drainage for the plan lands.	**++**
Appendix 2 Strategic Flood Risk Assessment	Flood risk assessment of the plan lands.	**++**

The following matrix (Table 7.10) assesses the impact of the listed objectives within the LAP against the Strategic Environmental Objectives for each Section of the LAP.

Legend (Impacts)
++ Long term/ permanent positive impact
+ Short term positive impact
-- Long term/ permanent negative impact
- Short term negative impact
+/- Potential for both positive and negative impacts in the long and short term
0 Insignificant impact or no relationship

Legend (Strategic Environmental Objectives)
BFF – Biodiversity, Flora and Fauna
PHH – Population and Human Health
S - Soil
W - Water
AQ/C – Air Quality and Climatic Factors
CH – Cultural Heritage
L – Landscape
MA – Material Assets

Table 7.10 Assessment of Impact of Local Area Plan Objectives against Strategic Environmental Assessment Objectives

Section 4 Strategic Vision and Aims of this LAP	Strategic Environmental Assessment Objectives							
	BFF	PHH	S	W	AQ/C	CH	L	MA
Environment and Heritage								
Ensure that the integrity of the Natura 2000 site of Baldoyle Bay and its associated conservation objectives are appropriately protected and recognised within the plan area.	++	++	++	++	++	++	++	++
Protect and improve where possible the water quality of the receiving waters of Baldoyle Bay and ground water quality through appropriate sustainable water management within the plan lands.	++	++	++	++	0	0	0	++

Section 4 Strategic Vision and Aims of this LAP cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
Promote and develop opportunities for biodiversity and its supporting natural features (trees/hedgerows/watercourse), open space, green routes/corridors and key views as defining characteristics of the developing area including their priority in phasing proposals.	++	++	++	++	++	++	++	++
Promote the conservation, enhancement, and enjoyment, including public access where appropriate, of the archaeological, natural and built heritage as important elements in the long-term sustainability of the area.	++	++	++	++	0	++	++	0
Movement and Transport								
Promote and encourage the use of sustainable means of travel including walking, cycling and public transport through the development of an integrated movement and transport network	+/-	++	--	0	++	+/-	+/-	++
Promote connectivity and the integration of new and established communities through a hierarchy of spaces linked through a network of green permeable walking and cycling routes at a local and strategic level.	+/-	++	--	0	++	+/-	+/-	+/-

Section 4 Strategic Vision and Aims of this LAP cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
Urban Design and Housing								
Ensure that all new development is of a high quality and standard, promotes a local sense of place, protects existing residential, public and environmental amenities and enhances the plan area.	--	++	--	--	+/-	+/-	--	++
Ensure that new development is physically, visually and functionally integrated with the landscape character of the plan area.	++	++	--	+/-	0	+/-	++	0
Promote the provision of a wide choice of dwelling types and tenure with a strong emphasis on family orientated, high quality, adaptable, life long homes which are energy efficient and incorporate green design techniques.	+/-	++	--	--	++	0	+/-	+/-
Ensure that housing on the LAP lands contributes to meeting the requirements of Fingal's Core Strategy in Portmarnock.	--	++	--	--	--	+/-	+/-	+/-
Community, Recreational, Social and Commercial Infrastructure								
Promote and encourage a socially inclusive community that caters for all age groups, that	0	++	0	0	0	0	0	--

Section 4 Strategic Vision and Aims of this LAP cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
accords with the principles of universal design and that offers equal opportunity and good services to all.								
Promote the provision of a mix of retail, service, healthcare, recreational and community facilities within the local centre and at a level commensurate with local need.	--	++	--	--	+/-	0	--	+/-
Provide for an integrated network of open space areas to meet the recreational needs of residents while respecting the sensitivities of the Plan lands through the Green Infrastructure and Landscape Strategy.	+/-	++	+/-	+/-	++	+/-	+/-	0
Promote and facilitate employment and environmentally sustainable tourism opportunities appropriate to this area.	--	++	--	--	0	+/-	+/-	+/-
Infrastructure and Services								
Ensure the timely and adequate provision of infrastructure and services through phasing to serve the new development within the plan lands.	--	++	--	+/-	+/-	0	+/-	++

Section 5 Green Infrastructure Objectives		Strategic Environmental Assessment Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Overarching Objectives									
Objective GI 1	Advance a green infrastructure strategy through the integration of a network of natural habitat/biodiversity locations, parkland for passive and active recreational uses, heritage features, sustainable surface water and flood risk management measures within development areas.	++	++	++	++	++	++	++	++
Objective GI 2	Promote the development of a series of green routes /green linear corridors that will connect amenity and open space areas with new and established communities.	+/-	++	0	0-	++	++	++	++
Objective GI 3	Comply with the objectives relating to biodiversity, open and green infrastructure as set out in the current Fingal Development Plan.	++	++	++	++	++	++	++	++
Objective GI 4	Demonstrate in each planning application, how the Green Infrastructure and Landscape Strategy set out in Figure 5.1 has influenced the layout of development and in particular, how it is reflected in the design and layout of open spaces, linear parks and green routes.	++	++	++	++	++	++	++	++

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 5	Ensure the early completion of the provisions of the Green Infrastructure and Landscape Strategy through the phasing of this LAP.	++	++	0	++	++	++	++	++
Objective C 1	Maintain the qualifying interest habitats and species within the Baldoyle Bay SPA and SAC at favourable conservation condition to ensure the ecological integrity of Baldoyle Bay and further ensure that the LAP lands continue to provide supporting function for the Qualifying Interest species.	++	++	++	++	0	0	++	+/-
Objective C 2	Protect and conserve the natural habitats and status of the Sluice River Marsh and ensure that Salmonid waters constraints apply to all development within the Plan lands.	++	++	++	++	0	0	++	+/-
Objective GI 6	Require Appropriate Assessment (AA) Screening for any development, plan or projects including changes to the landscape, within the Ecological Buffer Zone. This will include any changes to existing or future layout, materials or management.	++	++	++	++	++	++	++	+/-
Objective GI 7	Protect and enhance the function of the ecological buffer zone through appropriate mitigation and management measures as set out in the Green Infrastructure and Landscape Strategy.	++	++	0	++	++	++	++	++

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 8	Promote the conservation and enhancement of biodiversity having regard to the objectives of the Fingal Development Plan, the Fingal Biodiversity Action Plan and the Fingal Heritage Plan while allowing for appropriate development, access and recreational activity.	++	++	++	++	++	++	++	++
Objective GI 9	Protect existing trees, hedgerows, townland boundaries and watercourses which are of amenity, historic or biodiversity value and ensure that proper provision is made for their protection and management in future development proposals in accordance with the Green Infrastructure and Landscape Strategy.	++	++	++	++	++	++	++	++
Objective GI 10	Protect significant and ecologically valuable watercourses and maintain them in an open state capable of providing suitable habitat for fauna and flora.	++	++	0	++	++	++	++	++
Objective GI 11	Require measures for the protection and management of local biodiversity features to be submitted in any development proposals. This shall include details of how and where any surplus fill from the plan lands is to be disposed.	++	++	++	++	++	++	++	++
Objective GI 12	Implementation of agreed habitat protection measures as set out in Section 5.2.1 of the LAP and the subsequent transfer of zoned open space lands	++	0	0	0	0	++	++	0

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
	to Fingal County Council to be completed prior to the commencement of development.								
Objective GI 13	Ensure that sufficient information is provided as part of development, plan or project proposals to enable Appropriate Assessment screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.	++	++	0	+/-	0	++	++	0
Objective GI 14	Future developments within the plan area shall have strict regard to the principles for development in coastal and estuarine character areas as set out in the Landscape Character Assessment of the Fingal Development Plan.	++	++	0	++	0	++	++	0
Objective GI 15	Incorporate principal views of the surrounding area, in particular, Baldoyle Bay, Howth Head, Ireland's Eye and Lambay Island into future development schemes.	0	++	0	0	0	++	++	0
Objective GI 16	Protect the following views as indicated on the Local Area Plan Map: ▪ Views from the eastern half of the plan area towards Baldoyle Bay, Howth Head, Ireland's Eye and Lambay Island. ▪ Views southwards of the Dublin Mountains. ▪ Views into the plan lands.	0	++	0	0	0	++	++	0

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 17	Ensure that the existing topography of the lands is incorporated into the design concept and layout with minimal variations to existing ground levels, in as far as is practicable, in development schemes.	++	0	++	++	0	++	++	0
Objective GI 18	Ensure trees, hedgerows and other features which demarcate townland boundaries are preserved and incorporated into the design of developments.	++	++	++	0	++	++	++	0
Objective GI 19	Protect, preserve and ensure the effective management of trees and groups of trees.	++	++	++	++	++	++	++	0
Objective GI 20	Implement a scheme of tree and hedgerow protection measures, in compliance with British Standard 5837 – 2005. 'Trees in relation to Construction' and in agreement with Fingal County Council, prior to commencement of development. The scheme of protection measures to be maintained in place until effective completion of all construction works.	++	++	++	++	++	++	++	0
Objective GI 21	Require that new planting where appropriate in new developments in consultation with the Council. Indigenous, non-invasive species should be considered to provide habitat for locally occurring fauna ensuring, at a minimum, there should be no net loss of the tree and hedgerow resource.	++	++	++	++	++	++	++	0

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 22	Ensure sensitive and appropriate boundary treatments, respecting the estuarine nature of the landscape, in all development proposals.	++	++	++	0	0	++	++	0
Objective GI 23	Require a visual impact assessment of new development on the surrounding landscape, including cross sections and photomontages at planning application stage.	0	++	0	0	0	++	++	0
Objective GI 24	Protect the archaeological heritage within the plan lands, promote best practice in its conservation and management and raise awareness and appreciation of this heritage for future generations. Ensure where appropriate, that elements of the archaeological and architectural heritage are fully integrated into proposals for new developments at the project design stage.	0	++	0	0	0	++	++	0
Objective GI 25	Preserve in-situ known archaeological monuments on the plan lands through appropriate buffer zones and visual and physical linkages and incorporate into the design of development schemes.	+/-	++	0	0	0	++	++	0
Objective GI 26	Protect as yet undiscovered archaeological sites or features that survive subsurface in accordance with National Monument Legislation.	0	++	++	0	0	++	++	0

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 27	Preserve historic townland boundaries and incorporate into the design of future development schemes.	++	++	++	0	++	++	++	0
Objective GI 28	Promote and facilitate appropriate interpretative concepts and signage illustrating the archaeological, built and natural heritage features within and adjoining the plan area, thus facilitating opportunities for education and understanding.	0	++	0	0	0	++	+/-	0
Objective GI 29	Provide an integrated network of open spaces, pocket parks, linear parks and green routes through the implementation of the Green Infrastructure and Landscape Strategy.	+/-	++	+/-	0	0	+/-	+/-	0
Objective GI 30	Integrate public open space provision and surface water management [SuDS].	+/-	++	+/-	++	0	0	+/-	0
Objective GI 31	Promote and facilitate the development of carefully managed access to ecologically sensitive areas.	++	++	0	0	0	++	++	0
Objective GI 32	Promote connections between open spaces and amenity areas including greenways within and beyond the LAP area.	+/-	++	0	0	++	++	+/-	++

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 33	Promote and develop a combined greenway of no more than 3 metres in width for walking and cycling along the eastern edge of the plan lands and access the potential to connect with amenity lands in the adjoining Racecourse Park to the south and further amenities along the coastal corridor, in consultation with the Council's Biodiversity Officer.	+/-	++	-	+/-	++	+/-	+/-	++
Objective GI 34	Assess the feasibility of establishing growing initiatives within the LAP area**.**	+/-	++	+/-	+/-	++	0	+/-	0
Objective GI 35	Ensure every home within a new residential scheme is located within 100 metres walking distance of a pocket park, small park, local park, urban neighbourhood park or regional park.	+/-	++	0	0	++	0	+/-	++
Objective GI 36	A minimum 10% of the proposed development site area shall be designated for use as public open space.	+/-	++	+/-	0	++	0	+/-	++
Objective GI 37	Provide a children's playground within the proposed small park. [Skylark Park]	0	++	0	0	0	0	+/-	++
Objective GI 38	Ensure the timely completion of the open space network and green routes as set out in the Green Infrastructure and Landscape Strategy through the phasing strategy in the LAP.	--	++	--	0	++	0	--	++

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective GI 39	Achieve best practice and innovation in SuDS design as part of development schemes including the successful co-ordination of surface water management with biodiversity features and amenity functions of open space and landscaped areas.	++	++	++	++	++	++	++	++
Objective GI 40	Demonstrate compliance with the provisions of the SuDS Strategy of this LAP in the design and layout of SuDs devices in the plan area. Ensure as far as practical that the design of the SuDS enhances the quality of spaces. SuDS do not form part of the public open space provision, except where it contributes in a significant and positive way to the design and quality of open space. In instances where the Council determines that SuDS make a significant and positive contribution to open space, a maximum of 10% of open space provision shall be taken up by SuDS.	++	++	++	++	++	++	++	++
Objective GI 41	Protect the integrity of existing townland hedgerows and watercourses for their biodiversity and amenity value including surface water management. To this end, ensure that no development, including clearance and storage of materials, takes place within a minimum distance of 10-15 metres measured from each bank of any river stream or watercourse.	++	++	++	++	++	++	++	++
Objective GI 42	Developers shall have regard to the principles and standards for SuDS design as outlined in the	++	++	++	++	++	++	++	++

Section 5 Green Infrastructure Objectives cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
	following technical documents, 'The Greater Dublin Strategic Drainage Study' – Vol. 2 New Developments (2005); 'The Greater Dublin Strategic Drainage Study' – Vol. 3 Environmental Management Executive Report (2004), 'CIRIA C697: SuDS Manual' (2007); and 'CIRIA C698: Site Handbook for the Construction of SuDS, or as updated.								
Objective GI 43	Ensure the early completion of the proposed SuDs wetland.	++	0	++	++	++	0	++	++
Objective PL1	Implement the hierarchy of light intensities as set out in Fig 5.9 Light Intensity Zones for the plan lands to ensure that environmental impact is minimised as far as possible in development schemes.	++	++	0	0	++	0	++	0

Section 6 Movement Strategy and Transportation Infrastructure		Strategic Environmental Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective TM 1	Promote the development of a pedestrian and cycle network of routes that incorporate existing natural features on the lands, connects with local amenities, parks, retail/community facilities and public transport facilities throughout the plan area and that is coherent, direct, safe and convenient.	--	++	--	+/-	++	0	+/-	++
Objective TM 2	Ensure that all planning applications provide for a pedestrian/cycle connection to Portmarnock train station within the plan lands in consultation with Irish Rail. Interfacing with residential development, environmental features and the train station lands shall be carefully considered in future route design proposals.	-/+	++	-	-	++	+/-	-	++
Objective TM 3	Support and facilitate the liaison between developers and Dublin Bus regarding the provision of a bus service and integrated public transport service with direct connectivity to Portmarnock train station for commuters as the area develops.	0	0	0	0	++	0	0	++
Objective TM 4	Liaise with Irish Rail to promote greater frequency and enhanced services at Portmarnock Train Station for commuters as the area continues to grow.	0	++	0	0	++		0	++

Section 6 Movement Strategy and Transportation Infrastructure cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective TM 5	Promote modal split from private car to public transport through the provision of adequate car parking at Portmarnock train station ensuring an efficient use of land at this key location through decked car parking if necessary.	--	++	--	--	+/-	0	--	++
Objective TM 6	Ensure that all new developments are consistent with the principles contained within the national policy documents *Smarter Travel: A Sustainable Transport Future – A New Transport Policy for Ireland 2009-2020* and the Movement and Transport aims outlined in this LAP.]	0	++	0	0	++	0	0	++
Objective TM 7	Facilitate the provision of pedestrian crossings on Moyne Road and Station Road and at other appropriate locations within the plan area.	+/-	++	--	0	0	0	0	++
Objective TM 8	Implement a street network with a high quality public realm and priority for the pedestrian/cyclist and mobility impaired.	--	++	--	--	--	+/-	--	++
Objective TM 9	Detailed design proposals for the primary and secondary streets is required at the Urban Design Appraisal stage to include detailed provision in relation to carriageway widths, surface treatments of cycleways, footpaths, integration of green routes where applicable, road pavement, landscaping, street lighting and building interface.	0	++	0	0	0	0	+/-	++

Section 6 Movement Strategy and Transportation Infrastructure cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective TM 10	Ensure that new applications are consistent with the principles for street design set out in the Draft Design Manual for Urban Roads and Streets 2013.	--	++	--	--	--	+/-	+/-	++
Objective TM 11	Seek well integrated design solutions for adequate car-parking within the design and layout of schemes with particular attention to visitor parking.	0	++	0	++	++	0	0	++
Objective TM 12	Require the provision of cycle parking facilities in new commercial, retail, community facilities etc., in accordance with the standards set out in the Fingal Development Plan.	0	++	0	++	++	0	0	++
Objective TM 13	Protect future rail infrastructure through a rail reservation along the Dublin Belfast Railway line within the plan lands.	--	++	--	--	+/-	+/-	--	++
Objective TM 13	Ensure that new developments within the plan area are accompanied by a Mobility Management Plan that encourages greater use of sustainable travel options.	0	++	0	0	++	0	0	++
Objective TM 15	Ensure that any transport and movement proposals take full account of the sensitivities of the receiving environment including biodiversity features and the conservation objectives of EU designated sites.	++	++	++	++	++	++	++	++

Section 7 Urban Design Objectives		Strategic Environmental Assessment Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective UD1	Require the submission of detailed design appraisals for development schemes within the plan area. The design appraisal is required to: ▪ Outline how the development meets the Development Plan objectives, the objectives of the Local Area Plan or other statutory plan or requirements affecting the site. ▪ Explain the design principles and design concept of the proposed scheme in accordance with the design criteria set out in this section. ▪ Demonstrate how the twelve urban design principles set out in this section have been taken into account when designing the scheme. Each of the twelve principles is of equal importance and has to be considered in an integrated manner. ▪ Demonstrate how proposed units can adapt to changing housing needs. ▪ Outline how green infrastructure integrates into the scheme and how habitat protection measures relevant to the designated sites have been achieved. ▪ Submit boundary treatment details for development schemes in accordance with Sections 5.3.4 and 5.3.5 of the LAP.	0	++	0	++	++	++	++	++

▪ Demonstrate the hierarchy of light intensities as set out in the lighting zone map for the plan lands in the design of development schemes. ▪ Outline detailed proposals for open space and ensure compliance with Development Plan requirements. ▪ Demonstrate that every home within a new residential scheme is located within 100 metres walking distance of a pocket park, small park or regional park. ▪ Submit a Visual Impact Assessment including cross-sections to assist the Planning Authority to determine the full visual impact of development on the plan lands. ▪ Include photographs of the site and its surroundings. ▪ Include other illustrations such as photomontages, perspectives, sketches. ▪ Submit detailed design proposals and cross sections for primary and secondary streets and the inter-monument link to include detailed provisions in relation to carriageway widths, surface treatments of cycleways, footpaths, road pavement, landscaping, street lighting and building interface. ▪ Detailed proposals and cross-sections for priority green routes to include detailed provisions in relation to widths, surface and boundary treatments.								

▪ Details for deposit of surplus construction fill material, including plans and sections through areas where it is proposed to distribute fill, as well as details relating to timing of construction filling works. ▪ Submit proposals and cross sections for an appropriately located construction haul route in agreement with Fingal County Council. ▪ Submit proposals and cross-sections for the treatment of the lands between the Dublin – Belfast railway line and new development to include the treatment of the railway slope.								

Section 8 Community, Social, Employment and Tourism Infrastructure		Strategic Environmental Assessment Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective CF 1	Promote well designed, accessible urban neighbourhoods throughout the LAP area that are well served by local facilities and public transport.	0	++	0	++	++	++	++	++
Objective CF 2	Ensure access for all to community and social infrastructure within and adjoining the plan area for community integration.	0	++	0	0	++	0	0	++
Objective CF 3	Support and encourage an appropriate mix and level of community services and facilities including health centres, and community halls/meeting rooms within the Local Centre.	0	++	0	0	++	0	--	++
Objective CF 4	Seek the provision of an adaptable community facility, of a scale to be agreed with the Planning Authority within the local centre location subject to demand and resources.	0	++	0	0	++	0	--	++
Objective CF 5	Ensure that buildings intended for community related facilities are designed as adaptable flexible spaces that are capable of accommodating a range of uses.	0	++	0	0	++	0	--	++
Objective CF 6	Encourage community integration through such examples as creative recreational space, allotments and markets.	0	++	0	0	0	0	0	0

Section 8 Community, Social, Employment and Tourism Infrastructure cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective CF 7	Seek to create safe and useable open spaces within residential character areas through overlooking and passive surveillance.	+/-	++	+/-	+/-	++	+/-	+/-	++
Objective CF 8	Promote and encourage a socially inclusive community that caters for all age groups, that accord with the principles of universal design and that offer quality of opportunity and good services to all.	0	++	0	0	0	0	0	0
Objective CF 9	Provide an adaptable, integrated and accessible living environment for all sectors of the population offering every resident a sense of dignity, respect and security, in the built and natural environment, irrespective of age.	0	++	0	0	++	0	0	++
Local Employment									
Objective CE 1	Provide a vibrant and well designed local centre, adjacent to Portmarnock train station with a pedestrian priority through route to the train station.	--	++	--	+/-	++	0	--	++
Objective CE 2	Encourage retail and commercial services and facilities within the local centre at a level appropriate to meet the needs of the future local population and visitors to the area.	--	++	--	+/-	++	0	0	++

Section 8 Community, Social, Employment and Tourism Infrastructure cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective CE 3	Ensure that new retail/commercial developments are designed to the highest standards and located to ensure safe, sustainable and convenient access.	0	++	0	0	++	0	+/-	++
Objective CE 4	Assess all retail proposals against the criteria and recommendations set down in the Retail Planning Guidelines, the Retail Strategy for the Greater Dublin Area and the Fingal Retail Strategy.	0	++	0	0	0	0	0	0
Objective CE 5	Facilitate appropriate employment and training uses to include for microenterprise and start-up units within the local centre. Any potential uses shall not unduly impact on residential amenity.	+/-	++	0	+/-	+/-	0	+/-	++
Objective CE 6	Facilitate the provision of flexible use units including live-work units around the local centre.	0	++	0	+/-	+/-	0	0	++
Objective CE 7	Permit appropriate home-based economic activities that do not result in loss of amenity in terms of traffic generation, residential amenity, noise levels and visual amenity.	+/-	++	+/-	+/-	+/-	0	+/-	+/-
Objective CE 8	Encourage developers and other providers to take account of the possibilities of home-working in the design of new houses and the layout of housing areas.	+/-	++	+/-	+/-	+/-	0	+/-	+/-

Section 8 Community, Social, Employment and Tourism Infrastructure cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective CE 9	Promote the development of niche activities in and around Portmarnock South such as those relating to eco-tourism, food, walking/cycling, and historical/archaeological heritage.	+/-	++	+/-	+/-	+/-	0	+/-	+/-
Tourism and Leisure									
Objective TI 1	Facilitate the development of appropriate new recreation, leisure, tourism and service facilities and ensure access for all groups of the community.	+/-	++	--	--	+/-	+/-	+/-	+/-
Objective TI 2	Support and co-operate with the relevant bodies in the marketing and promotion of tourism in the area.	+/-	++	0	0	0	+/-	+/-	+/-
Objective TI 3	Facilitate and promote the development of environmentally sustainable tourism products/activities including an eco-tourism centre, walking, cycling and associated facilities that enhance the special qualities of the surrounding natural and built environment.	+/-	++	--	--	+/-	+/-	+/-	+/-
Objective TI 4	Promote and facilitate the development of the Fingal Coastal Way as a local and tourist amenity, promoting the archaeological and cultural heritage of the area and associated events in appropriate locations.	+/-	++	--	0	++	+/-	+/-	++

Section 8 Community, Social, Employment and Tourism Infrastructure cont'd cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective TI 6	Preserve, protect and enhance the natural, built and cultural heritage features that form the basis of local attractions for the plan area.	++	++	++	++	++	++	++	0
Objective TI 7	Facilitate the provision of local cultural spaces, performance and entertainment spaces, while protecting the existing amenities of the area and sensitivities of Baldoyle Bay.	+/-	++	--	+/-	--	++	+/-	+/-
Objective TI 8	Prioritise and seek the early completion of the Fingal Coastal Way within the plan area in co-operation with landowners, the local community and relevant environmental and funding bodies.	0	++	0	0	0	0	0	++
Objective TI 9	Promote Portmarnock as an eco-tourism destination based on natural heritage and walking and cycling routes and encourage developments which will sustain eco-tourism such as sustainable tourism initiatives like the Greenbox within and adjoining the plan area.	+/-	++	--	+/-	+/-	+/-	+/-	+/-
Objective TI 10	Increase the knowledge and awareness of natural and cultural heritage within the local area and of the value to society in its protection and enhancement through initiatives such as information signage in parkland areas.	++	++	++	++	0	++	++	0

Section 9 Infrastructure and Services	Strategic Environmental Assessment Objectives							
	BFF	PHH	S	W	AQ/C	CH	L	MA
Water Supply Source and Network								
Objective WS 1 Ensure that priority is given to the provision of water supply in the LAP lands corresponding to the area's strategic designation in the Regional Planning Guidelines as being within the Metropolitan Area of the Greater Dublin Area and as set out in the core strategy of the Fingal Development Plan.	0	++	0	0	0	0	0	++
Objective WS 2 Ensure that new developments are adequately serviced with a suitable quantity and quality of drinking water supply. Where deficiencies exist, development will be limited to that which can be provided for, based on available water supply.	0	++	0	0	0	0	0	++
Objective WS 3 Promote water conservation to reduce the overall level of water loss in the public supply and require that new domestic developments provide for water supply metering.	++	++	0	++	++	0	0	++
Objective WS 4 Require the adoption of water saving measures throughout future development. This will increase the extent of development capable of being serviced by the existing water treatment plant. Such measures would include: ▪ Water butts to collect rainwater ▪ Low flush and dual flush toilets	++	++	0	++	++	0	0	++

Section 9 Infrastructure and Services cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
▪ Low water use appliances ▪ Rainwater harvesting								
Objective WS 5 Ensure that water main layout for the proposed development is in accordance with the most up-to-date version of Fingal County Council's 'Guidelines for the Laying of Distribution Watermains' and 'Guidelines for Drinking Water Supply'.	++	++	0	++	++	0	0	++
Waste Water Network and Treatment								
Objective WW 1 Ensure that all required drainage infrastructure including the installation and commissioning of the pump station and network are completed and operational following the completion of the first 100 dwellings and prior to the commencement of further development.	++	++	++	++	++	0	0	++
Objective WW 2 Ensure the separation of foul and surface water effluent through the provision of separate sewerage and surface water run-off networks.	++	++	++	++	++	0	0	++
Objective WW 3 All foul infrastructure shall be designed and constructed in accordance with the Greater Dublin Regional Code of Practice for Drainage Works and comply with the Greater Dublin Strategic Drainage Study (GDSDS).	++	++	++	++	++	0	0	++

Section 9 Infrastructure and Services cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
Objective WW 4 Ensure compliance with the Urban Waste Water Directive.	++	++	++	++	++	0	0	++
Odour Control								
Objective OC 1 Protect residential amenity by ensuring an odour control buffer zone of 50m minimum from any new pumping station to existing and future development.	0	++	0	0	0	0	0	++
Greater Dublin Drainage Scheme and Proposed Outfall Pipeline Corridor								
Objective GDDS1 Protect existing and future infrastructure though the provision of wayleaves/corridors and the co-ordination of developments with the requirements of infrastructure service providers.	+/-	++	+/-	+/-	0	0	+/-	++
Surface Water Management and SuDS								
Objective WM 1 Require that surface water attenuation is provided generally in locations identified in the SuDs Strategy. Design of surface water attenuation shall be based on the requirements of the Greater Dublin Strategic Drainage Study. Particular reference shall be made to Volume 2, Appendix E which provides guidance on attenuation design and best practice cases (as may be updated).	++	++	++	++	0	0	+/-	++

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective WM 2	Require all planning applications to submit details of compliance with the SuDs Strategy for the LAP which include proposals for the management of surface water within sites, and runoff rates from sites, protecting the water quality of Baldoyle Bay.	++	++	++	++	0	0	+/-	++
Objective WM 3	Require local/site specific SuDs measures in tandem with development.	++	++	++	++	0	0	+/-	++
Objective WM 4	Require green roofs for commercial development within the LAP unless otherwise agreed and investigate the feasibility of green roofs for residential development	++	++	++	++	++	0	0	++
Objective WM 5	Ensure urban areas are designed to accommodate surface water flood flow at times of extreme events through the dual use of roads and pathways as flood conveyance channels and appropriate areas (parkland, car parks, large paved areas etc) are used as temporary flood ponding areas.	+/-	+/-	++	++	0	0	0	--
Objective WM 6	Ensure that all trees planted in/adjacent to hard paved areas (footpaths, parking areas, etc.) incorporate tree root structural cell systems.	+/-	++	++	++	++	0	0	0

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective WM 7	Ensure the provision of the proposed regional Suds wetland/pond device as set out in the SuDs Strategy for the plan lands in the first phase of development.	++	++	+/-	+/-0	0	0	+/-	++
Objective WM 8	Require that proposals for sustainable drainage systems include provisions for future maintenance of these systems. In this regard, maintenance plans shall be submitted with each planning application.	++	++	++	++	0	0	0	++
Objective WM 9	Ensure that existing watercourses remain open and are incorporated into amenity/SuDs proposals. Culverting of streams is generally not acceptable and should be avoided.	++	++	++	++	0	++	++	++
Objective WM10	Ensure that no development, including clearance and storage of materials, takes place within a minimum distance of 10-15 metres measured from each bank of any river, stream or watercourse.	++	++	++	++	0	++	++	++
Objective WM 11	Require a settlement pond to allow for treatment of all surface water discharges from the development site during the construction phase. Prior consultation with the Council's Water Services Department and Biodiversity Officer is required regarding the most appropriate location for this pond.	+/-	0	+/-	++	0	0	0	0

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Flood Risk Management									
Objective FRM 1	Implement the provisions of the DoEHLG/OPW publication *'The Planning System and Flood Risk Management: Guidelines for Planning Authorities' 2009* or any superseding document in relation to flooding and flood risk management and facilitate flood management measures, as appropriate.	++	++	++	++	0	0	0	0
Objective FRM 2	Require all proposed developments within areas at risk of flooding to carry out a detailed Flood Risk Assessment in accordance with the DoECLG Guidelines on Flood Risk Management.	0	++	++	++	0	0	++	++
Objective FRM 3	Implement the recommendations of the FEMFRAMS Study.	++	++	++	++	0	++	++	++
Water Quality									
Objective WQ 1	Ensure that the EU Water Framework Directive is implemented.	++	++	++	++	++	++	0	++
Objective WQ 2	Implement the relevant recommendations and measures as outlined in the Eastern River Basin Management Plan 2009-2015 or any other plan that may supersede same during the lifetime of this Local Area Plan. Development shall only be permitted where it can be clearly demonstrated that	++	++	++	++	++	++	++	++

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
	the proposal would not have an unacceptable impact on the water environment, including surface water, groundwater quality and quantity, river corridors and associated wetlands.								
Objective WQ 3	Seek the maintenance of the Sluice River and rehabilitation of the Mayne River to good water status, it's restoration as a natural amenity and protection of the riparian corridor through the LAP area.	++	++	++	++	++	++	++	0
Objective WQ 4	Implement the SuDS Strategy for the LAP lands.	0	++	0	0	++	++	0	++
Objective WQ 5	Implement the measures drawn up in the Pollution Reduction Programme for the Malahide Shellfish Area.	++	++	++	++	0	0	0	++
Groundwater Vulnerability									
Objective GW 1	Protect existing ground water sources from pollution during construction/development works.	++	++	++	++	0	0	0	0
Utilities									
Objective U 1	Seek the provision of high quality telecommunications including fibre optic, broadband links and utilities (gas and electricity) infrastructure in the plan lands.	-	++	-	0	0	--	--	++

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Waste Management									
Objective WM 1	Prevent and minimise the generation of waste in accordance with the *Waste Management Plan for the Dublin Region.*	++	++	++	++	++	++	++	++
Objective WM 2	Ensure that residential developments have adequate waste storage space designated for 3 waste streams-residual waste (grey bin), dry recyclables (green bin), and organic waste (brown bin) and shall comply with Fingal County Council's Guidelines on the Provision of Waste and Recycling Bins for Residential Developments.	0	++	0	0	0	0	0	++
Objective WM 3	Ensure that careful consideration is given to the storage of bins and waste receptacles at the design stage and that all future residential schemes include appropriate and innovative design measures for refuse bins, within convenient distance of all units. Adequate covered bin storage areas shall be provided adjacent to dwellings/ within the curtilage rather than at the front of houses, details of which should be clearly shown at planning application stage.	0	++	0	0	0	0	0	++
Objective WM 4	Ensure that all non-residential developments have suitable and adequate internal and external storage space for segregated waste and comply with the Waste and Recycling Storage Requirements for Residential and Non-Residential Developments in Fingal.	0	++	0	0	0	0	0	++

Section 9 Infrastructure and Services cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective WM 5	Require that developers/applicants submit a construction and demolition waste management plan setting out a planned programme for the management/recovery/disposal of construction/demolition waste material generated at the site during the excavation and construction phases of development, in accordance with the relevant national waste management legislation. Prior consultation with the Council's Biodiversity Officer is required regarding re-distribution of construction surplus fill on the plan lands.	++	++	++	++	++	++	++	++
Objective WM 6	Require that where development does not occur within one year of granting of permission, a revised construction and demolition waste management programme shall be submitted for approval three months prior to the submission of the first commencement notice.	++	++	++	++	0	0	++	0
Objective WM 7	Ensure that developers/applicants remove all waste by approved waste disposal contractors to approved waste disposal facilities. A methodology statement for such measures shall be submitted at planning application stage and developers shall employ best practice as applicable at the time of construction.	++	++	++	++	++	++	0	++
Objective WM 8	Developers shall take adequate measures to minimise the impacts of traffic, noise and dust during construction phases. A methodology	++	++	++	++	++	++	++	++

Section 9 Infrastructure and Services cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
statement for such measures shall be submitted at planning application stage and developers shall employ best practice as applicable at the time of construction.								

Section 10 Sustainable Development Framework		Strategic Environmental Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective SU 1	Support the National Climate Change Strategy by facilitating measures to reduce emissions of greenhouse gases.	++	++	++	++	++	++	++	++
Objective SU 2	Ensure that development proposals demonstrate reduced energy consumption in their design and construction. Applicant's/Developers shall demonstrate how proposed development meets or preferably exceeds the requirements of Part L of the Building Regulations.	++	++	++	++	++	++	++	++
Objective SU 3	Seek best practice in sustainable design and incorporation of green technology in all development proposals.	++	++	++	++	++	++	++	++
Objective SU 4	Promote and facilitate the development of renewable sources of energy and associated infrastructure within the LAP area and encourage the integration of micro-renewable energy sources into the design and construction of new developments.	++	++	++	++	++	+/-	+/-	++

Section 10 Sustainable Development Framework		Strategic Environmental Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective SU 5	Incorporate environmentally sustainable design principles in the design and construction of all buildings in the plan area. New buildings shall strive to reduce the energy and water demand through: ▪ Careful consideration of building orientation, form, massing and ▪ Fenestration to make the most of passive solar gain for space heating. ▪ Use of insulation to reduce heat loss from draughts and uncontrolled ventilation. ▪ Reduced water use through rainwater harvesting and recycling of rainwater and in-building grey water treatment systems. ▪ Use of materials with low embodied energy and consider incorporating environmentally 'smart' materials that can minimise energy use by responding to changing external conditions	++	++	++	++	++	++	+/-	++
Objective SU 6	New development shall seek to maximise opportunities to capture energy and water. This may include: ▪ Maximisation of natural daylight; ▪ Maximisation of passive solar gain for solar thermal water heating and electricity production; ▪ Use of building roofs as solar collectors and rainwater harvesters; (green roofs can be used	++	+++	++	++	++	0	+/-	++

Section 10 Sustainable Development Framework cont'd		BFF	PHH	S	W	AQ/C	CH	L	MA
	▪ as amenity spaces that also support biodiversity and rainwater attenuation.) ▪ Intelligent and energy efficient heating, cooling and ventilation systems.								
Objective SU7	Seek the priority completion of movement infrastructure and open spaces.	--	++	--	--	--	--	--	++

Section 11 Sequencing and Phasing of Development		Strategic Environmental Objectives							
		BFF	PHH	S	W	AQ/C	CH	L	MA
Objective SP 1	Ensure that those areas of the plan lands that are not under construction are kept free from risings or other materials associated with development unless otherwise agreed with the Planning Authority.	+	+	+	+	0	0	+	0
Objective SP 2	Ensure that the larger undeveloped areas of the residentially zoned lands are maintained in agricultural use or are managed in such a way as to support the roosting and feeding habitat requirements of the qualifying interest species of Baldoyle Bay. Where smaller parcels of land between developments are created, they should be kept open in nature with connectivity provided between other residential areas and the railway station and local centre.	+	+	+	0	0	0	+	+
Objective SP 3	Submit full details of the treatment and management of any undeveloped residential lands, including boundary treatment, with each planning application as part of the requirements under *Objective UD 1*.	+	+	+	+	0	+	+	+

Section 8 Mitigation

8.1 Introduction

Mitigation measures are required to eliminate/remediate/reduce significant negative environmental impacts. Based on the source/pathway/receptor concept where an environmental burden (e.g. water pollution, air pollution) can impact on a receptor e.g. human, water, biodiversity or landscape via particular pathways these significant impacts can be mitigated either at:

• Source e.g. avoid the impacts at source
• Pathway e.g. reduce the magnitude of the impact
• Receptor e.g. compensate for the impact by providing an alternative

A number of the International and National environmental policies, for example, the Habitats Directive and the Water Framework Directive, have listed appropriate mitigation measures to minimise impacts on the environment. Many of the mitigation measures, particularly for water, will be driven by the Water Framework Directive and the requirement to meet good quality status by 2015. To negate or minimise these impacts, mitigation measures are set out in Section 8.2.

8.2 Mitigation Measures

During the development of the LAP, the SEA process has identified several additional measures needed to be included in the LAP. These measures have come about through scoping consultation and responses received from the EPA, the NTA, the Appropriate Assessment process and through assessment of the proposed objectives and policies by the SEA team. Mitigation measures identified through the AA process are indicated within the Natura Impact Report.

8.2.1 Water Quality

The River Mayne is a reportable river under the Water Framework Directive and is currently identified as being of “poor status” while the catchment of the River Sluice to the north is identified as being of “good status” with both rivers having a Risk Status of 1a – At Risk. In this context, it was important to incorporate the Eastern River Basin Management Plan and associated Programme of Measures into the Plan to ensure the protection and improvement of water quality.

Measures to improve and to ensure that there was no worsening of the water quality of the Mayne River and the protection of the water quality of the River Sluice were incorporated into the Plan through several water services and green infrastructure objectives; namely:

- Implement the relevant recommendations and measures as outlined in the Eastern River Basin Management Plan 2009-2015 or any other plan that may supersede same during the lifetime of this Local Area Plan. Development shall only be permitted where it can be clearly demonstrated that the proposal would not have an unacceptable impact on the water environment, including surface water, groundwater quality and quantity, river corridors and associated wetlands.
- Seek the maintenance of the Sluice River and rehabilitation of the Mayne River to good water status, it's restoration as a natural amenity and protection of the riparian corridor through the LAP area.
- Require that where SuDS features are connected to the Mayne or Sluice Rivers best practice will apply and consultation with the relevant national bodies such as the National Parks and Wildlife Service and Inland Fisheries Ireland will take place to agree on the methodology for such works.

These objectives are sufficient together with the biodiversity objectives to protect the surface water quality and the Rivers Mayne and Sluice. There are no further recommended mitigation measures.

8.2.2 Flooding

In accordance with the 'Planning Systems and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009), the preparation of this plan was the subject of a Strategic Flood Risk Assessment (SFRA). Based on findings of this assessment it has been found that it is unlikely that there will be tidal or fluvial flooding will occur on the RA zoned lands. However, the lowest existing site levels are within 0.5-1.0 m of the 0.1% tidal flood level. Furthermore, specific areas within the LAP boundary have been identified as being at risk, and also as having previously flooded. The four areas are as follows:

- The North east corner of site
- Existing housing at Portmarnock Bridge
- Proposed foul water pumping station site
- Exiting housing at southeastern corner of LAP lands

Recommendations arising from that report have been incorporated into the LAP objectives as follows:

- Implement the EU Flood Risk Directive and have regard to the relevant Flood Risk Management Plan and any recommendations arising from it.
- Implement the Flood Risk Management Guidelines 2009 (OPW/DoECLG)
- Require all planning applications for residential or commercial floorspace on sites in areas at risk of flooding to be accompanied by a Flood Risk Assessment in accordance with the Flood Risk Management Guidelines.
- Ensure that any proposals for basements are included in a site specific flood risk assessment.
- Require all planning applications to submit details of compliance with the SuDS Strategy for the LAP including runoff rates from sites, protecting the water quality and flow regime of the River Mayne

These objectives are sufficient together with the SuDS objectives to protect limit the risk of flooding in areas zoned for development. In the main areas prone to flooding in the LAP lands are within the regional park which is to be managed to protect the qualifying habitat and associated species of Baldoyle Bay SAC and SPA. This will allow natural flooding to continue to occur on the existing floodplain. There are no further recommended mitigation measures.

8.2.3 Protection of Designated Sites

The LAP is immediately adjacent to Baldoyle Bay. Baldoyle Bay is a Natura 2000 site and is designated as a Special Protection Area and a Candidate Special Area of Conservation under the Birds and Habitats Directives respectively. The Murrough Spit which at the eastern edge of the Plan lands lies within the SAC and SPA.

Baldoyle Bay/Estuary is also a Ramsar site recognised as being a wetland of international importance. Nationally it is a proposed Natural Heritage Area. It is also a statutory Nature Reserve.

In formulating policies and objectives for the LAP, EU Habitats and Birds Directives and national environmental legislation were key influencers in deriving policy. An Appropriate Assessment (AA) was carried out in tandem with the preparation of the LAP for Baldoyle-Stapolin and influenced the required mitigation measures.

The Fingal Development Plan identifies Racecourse Park as an Ecological Buffer Zone to protect the ecological integrity of the nationally and internationally designated sites by providing suitable habitat for key species such as birds and by providing for compatible land-uses around the

designated sites. The LAP seeks to strike a balance to allow for Racecourse Park to provide for recreational uses while protecting the important role of the area in providing flood protection and protecting biodiversity in this environmentally sensitive area. A Landscape Masterplan has been prepared as part of the LAP to guide the management of the sensitive landscape and associated designations. Relevant mitigation objectives include:

- Ensure that the integrity of the Natura 2000 site of Baldoyle Bay and the nationally important Sluice River Marsh are sufficiently protected by the provisions of the LAP.

- Ensure the protection and enhancement of the designated 'Ecological Buffer Zone' adjacent to and ecologically connected to Baldoyle Bay, through appropriate conservation/recreational uses and management.

- Ensure adequate feeding/roosting options are available to migratory bird species associated with Baldoyle Bay through a series of habitat protection measures within the plan area.

- Protect and improve where possible the water quality of the receiving waters of Baldoyle Bay and ground water quality through appropriate sustainable water management within the plan lands.

- Protect and conserve, in co-operation with the relevant statutory authorities and other groups, the natural habitats and protected status of Baldoyle Bay, Mayne Marsh Conservation Area and the Sluice River Marsh and ensure that the plan lands continue to provide supporting function for the Qualifying Interest species.

- Protect and enhance the function of the ecological buffer zone through appropriate mitigation and management measures as set out in the Green Infrastructure and Landscape Strategy.

- Ensure that sufficient information is provided as part of development, plan or project proposals to enable Appropriate Assessment screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.

These objectives are in addition to objectives for SuDS features in the form of attenuation ponds to be designed in such a way as to include appropriate planting to encourage biodiversity, the planting of non-invasive species only, green links to include measures to shield pedestrians/cyclists from qualifying interest species of birds where applicable and surface water measures to ensure protection of water quality. In combination, these objectives should ensure sufficient mitigation measures are implemented and no further measures are recommended.

8.2.4 Green Infrastructure and Green Links

The inclusion of a green infrastructure strategy recognises the need for sustainable development across the Plan lands and in particular the often competing requirements of expanding populations with the natural and sensitive surrounding environment. The strategy included in the LAP focuses on the following key areas: the conservation and enhancement of biodiversity; the provision of accessible parks, open spaces and recreational facilities; the sustainable management of water; and the maintenance of sensitive landscapes. The green infrastructure strategy includes a number of objectives which seek to protect the natural environment and allow managed human interaction and recreation within and adjacent to it. An example of some of these includes:

- The open space network within the plan lands and the Baldoyle-Stapolin LAP lands has been designed as a series of interconnected zones to manage the natural character and resources of the area and to provide for the needs of biodiversity and the new community.

- A Linear park along the alignment of the townland boundary hedgerows. The linear park will incorporate pedestrian routes, SuDS features and informal play spaces.
- Pocket parks to ensure all dwellings are within a short (100m) walk of usable open space.
- Urban agriculture as a feature of the open space to the southern part of the plan area.
- A well integrated network of green routes that promotes walking and cycling for everyday needs and recreation.
- Low intervention landscape approach to the ecological buffer zone lands in order to retain the supporting ecological functions this landscape provides to the estuary habitats including a 'quiet zone' for migratory birds and arable crop areas for native bird species.
- A 3 metre wide footpath/cycle way, which forms part of the Fingal Coastal Way (walking and cycling) on the eastern edge of the plan linking to Portmarnock and Baldoyle.
- Central green route linking to Racecourse Regional Park and Station Road.
- Recorded Monuments retained in open space and linked visually and physically along a green axis.
- A small public space within the local centre.

There is a strong green infrastructure strategy included in the Plan which takes as its base the GI policies of the Fingal Development Plan. The objectives strive to provide a balance between the need to protect the sensitive surrounding environment and the needs of the growing population. No further mitigation measures are recommended.

8.2.5 Sustainable Development – Land Use and Transportation

The location of the LAP lands, alongside an existing railway station at Portmarnock and part of Portmarnock urban consolidation area within the Metropolitan area of Dublin indicates that higher-density, mixed used development is appropriate, in accordance with the Sustainable Residential Development in Urban Areas Guidelines 2009, to make most use of existing infrastructure and the provision of future infrastructure and opportunities for walking and cycling to locally provided services, commercial and retail facilities. Notwithstanding this however, the density achievable on this site is somewhat constrained by the fact that the majority of the plan lands are within the outer public safety zone and the outer noise zones for Dublin Airport as detailed in the Development Plan where density, land-use and noise restrictions apply. Densities are limited by the outer public safety zone requirement that 'no single half hectare plot should accommodate more than 60 persons'. [Environmental Resources Management (ERM) report, *Proposed Public Safety Zones for Dublin Airport* dated February 2005 refers].

The Local Area Plan residential [RA] zoned lands will facilitate approx. 1200 residential units based on a net development area of c. 28.2 hectares at a density of c.42 units per hectare which accords with airport safety zone criteria. The anticipated new population is c. 3360 persons. The population will be supported by a range of open spaces, recreational amenities and local retail facilities which will be developed in tandem with residential growth.

Sequencing and phasing of development is set out in Section 11 of the LAP and requires the delivery of open space and connections to the village centre and station as a key prerequisite of any development. No part of the residential area of the LAP is more than 600m from Portmarnock station. The Plan gives high priority to cycle and pedestrian routes and the importance of permeability both within the Plan lands and from the lands to the surrounding areas, see paragraph above detailing green infrastructure objectives. Relevant objectives for land use and transportation and the achievement of sustainable densities and appropriate sequencing of development and delivery of infrastructure include the following:

- Promote the development of an integrated movement and transport network.

- Encourage the use of sustainable means of travel including walking, cycling and public transport.

- Maximise public transport use and accessibility to Portmarnock Station and the wider public transport network.

- Promote and facilitate improvements to existing bus/rail services and train station car-parking thereby maximising the opportunities for increased use of public transport by local residents and visitors.

- Promote connectivity and the integration of new and established communities through a hierarchy of spaces linked through a network of green permeable walking and cycling routes at a local and strategic level.

- Promote the development of a pedestrian and cycle network of routes that incorporate existing natural features on the lands, connects with local amenities, parks, retail/community facilities and public transport facilities throughout the plan area and that is coherent, direct, safe and convenient.

Sustainable development through the means of cycling, walking and public transport and through mixed dwelling type has been a central tenet of the LAP policy. No further mitigation measures are considered necessary.

8.2.6 Appropriate Assessment

An appropriate assessment process was undertaken as part of the development of the draft LAP and the draft plan will be accompanied by a Natura Impact Report in addition to this Environmental Report. The recommendations of, and learning from, the appropriate assessment process fed into the mitigation measures and resultant LAP objectives. Those objectives within the designated sites paragraphs of the Green Infrastructure strategy were particularly influenced by AA recommendations but all of the LAP objectives were assessed as part of the process. An overarching appropriate assessment objective has been included in the LAP and where considered applicable, objectives included a protection that AA would be required for certain works, plans or projects. Examples of such objectives are as follows:

- Ensure that sufficient information is provided as part of development, plan or project proposals to enable Appropriate Assessment screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.

- Protect and conserve the natural habitats and protected status of Baldoyle Bay, Mayne Marsh Conservation Area and the Sluice River Marsh and ensure that the plan lands continue to provide supporting function for the Qualifying Interest species.

- Protect existing trees, hedgerows, townland boundaries and watercourses which are of amenity, historic or biodiversity value and ensure that proper provision is made for their protection and management in future development proposals in accordance with the Green Infrastructure and Landscape Strategy.

- Require Appropriate Assessment (AA) Screening for any development, including changes to the landscape, within Racecourse Park. This will include any changes to existing or future layout, materials or surfaces of pitches.

8.2.7 Summary

The LAP has put green infrastructure and sustainable development at the core of its policies and objectives. These have been informed by the SEA and AA processes and by the responses to the scoping report sent to the prescribed bodies. Objectives have been revised in the drafting of the LAP accordingly. No further mitigation measures are recommended subject to any further input which may be required as a response of the display of the Draft Local Area Plan and submissions made.

Table 8.1 Mitigation by Addition of Objectives

Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from Draft Local Area Plan
Loss of locally rare and distinctive species	GI 1, GI 2, GI 3, GI 4, CI 2, GI 7, GI 8, GI 9, GI 10, GI 11, GI 12, GI 13, GI 18, GI 19, GI 20, GI 21, GI 31, GI 33, GI 39, TM 15, UD O1, WM 9. WM 8, SP 1, SP 2
Loss of biodiversity with regard to Natura 2000 Sites	GI 1, GI 2, GI 4, CI 1, CI 2, GI 6, GI 7, GI 8, GI 9, GI 10, GI 11, GI 12, GI 18. GI 31, GI 33. TM 15, UD O1, TI 7, WW 1, WM 2, WM 3, WM4, WM 7, WM 10, WM 11, WQ 1, WQ 2, WQ 3, WQ 4, WQ 5, GW 1, WM 8, SP 1, SP 2
Loss of biodiversity with regard to ecological connectivity	GI 1, GI 2, GI 4, GI 7, GI 8, GI 9, GI 10, GI 11, GI 12, GI 18, GI 19, GI 20, GI 21, GI 27, GI 29, GI 30, GI 31, GI 32, GI 33, GI 34, GI 35, GI 39, GI 40, GI 41, GI 42, GI 43, TM 15, UD O1, TI 5, WM 4, WM 7, WM 9, WM 8, SU 7, SP 1, SP 2
No provision of community facilities	GI 1, GI 34, GI 35, GI 37, UD O1, CF 1, CF 2, CF 3, CF 4, CF5, CF 6, CF 7, CF 8, CE 1, CE 2, SU 7
Poor mix and quality of housing	UD O1
No local employment opportunities	CE 5, CE 6, CE 7, CE 8, CE 9
Failure to provide sustainable transport	GI 2, GI 33, TM 1, TM 2, TM 3 TM 4, TM 5, Tm 6, TM 7, TM 8, TM 13, TM 14, CF 1, TI 5, TI 8, SU 1, SU 7
Damage to the hydrogeological and ecological function of the soil resource	GI 1, GI 4, GI 2, GI 3, GI 9, GI 11, GI 18, GI 19, GI 39, UD O1, WW 1, WM 2, WM 3, WM4, WM 7, WM 10, WM 11. WM 5, WM 8, SP 1, SP 2
Adverse impacts upon the status of water bodies	GI 1, GI 3, GI 4, CI 2, GI 10, GI 12, GI 13, GI 30, GI 39, GI 40, GI 41, GI 42, GI 43, UD O1, WW 1, WW 2, WW 4, WM 5, WM 6, WM 7, WM 8, WM 9, WM 10, WM 11, WQ 1, WQ 2, WQ 3, WQ 4, WQ 5, GW 1
Failure to achieve the sustainable use of water and water conservation	WS 4, WS 4
Increase in the risk of flooding	GI 1, GI 3, GI 4, GI 30, GI 39, GI 40, GI 41, GI 42. GI 43, UDO1, WM 1, WM 2, WM 3, WM4, WM 5, WM 6, WM 7, WM 8, WM 9, WM 10, WM 11, FRM 1. FRM 2, FRM 3
Failure to maximise the sustainability of buildings thus minimising resource use	UD 1, CF 5, SU 1, SU 2, SU 3, SU 4, SU 5, SU 6
Adverse impacts on cultural and archaeological heritage of the area	GI 1, GI 9, GI 14, GI 15, GI 16, GI 17, GI 22, GI 24, GI 25. GI 26, GI 27, GI 28, TM 1, UD 1, CE 9, TI 4, TI 6
Occurrence of adverse visual impacts	GI 14, GI 15, GI 16, GI 17, GI 22, UD1
Failure to make the best use of existing infrastructure and to promote sustainable development	GI 2, GI 33, TM 1, TM 2, TM 3 TM 4, TM 5, Tm 6, TM 7, TM 8, TM 13, TM 14, UD 1, WM 2, SU 1, SU 2, SU 3, SU 4, SU 7

Section 9 Monitoring

9.1 Introduction

Under Article 10 and Section (i) of Schedule 2B of the SEA Regulations, monitoring is required in order to identify at an early stage any unforeseen adverse effects caused by the Plan. This allows remedial action to be taken. Monitoring allows the actual impacts of the Plan to be measured against those that were predicted. It allows major problems to be identified and dealt with in a timely fashion, and environmental baseline information to be gathered for future Plan reviews. It also ensures that proposed mitigation measures are carried out and that no unforeseen impacts occur (Therivel, 2004). The methodology used in the development of the monitoring programme for the Baldoyle-Stapolin Local Area Plan is based on the use of indicators and targets and the assignment of responsibilities. Monitoring is carried out by reporting on the set of indicators and targets drawn up for the various environmental objectives and used to describe future trends in the baseline, which enable positive and negative impacts on the environment to be measured. The indicators that are used show changes that would be attributable to implementation of the Plan. In particular, the indicators can also in certain circumstances act as an early warning system should unforeseen impacts occur or conditions deteriorate further or faster than anticipated. For example, water quality indicators will allow for the identification of improvements or deterioration in water quality. If quality targets are not being reached and water is seen to be unexpectedly deteriorating immediate investigation will be required to assess the source of such deterioration.

9.2 Monitoring Programme

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the Plan. Indicators and targets have been identified for the main environmental issues in the study area, namely population and human health, water, biodiversity, climatic factors and landscape. Much of the indicator information required is already being actively collected and reported at a level sufficient to meet the needs of this Plan. The frequency of monitoring is set by relevant legislation.

9.3 Responsibilities

Fingal County Council is responsible for the implementation of the monitoring programme in relation to the Plan.

9.4 Sources of information

The indicators chosen are at a level, which is relevant to the Plan, and are collated and reported on by a variety of Government Agencies, such as EPA, OPW, National Parks and Wildlife Services, CSO and different sections within Fingal County Council. Table 5.4 *Strategic Environmental Objectives, Targets and Indicators* in Section 5 of this report sets out the format for the monitoring programme for this Plan, detailed in relation to relevant indicators and targets. To avoid repetition, the table is not repeated in this section. Based on the information above it can be seen that most of the indicator information required is already being actively collected and reported at a level sufficient to meet the needs of this Plan.

9.5 Frequency of Reporting

It is recommended that Fingal County Council carry out a mid-term review of performance against SEA Objectives. This would occur in 2016 and would use information in the most recent information from the EPA State of the Environment Report updated environmental data available

on the EPA website as well as data collated as part of the SEA Scoping for the Plan.. It is further recommended that reporting on the overall monitoring of the Plan is made to the EPA SEA Section.

Appendix I

NON TECHNICAL SUMMARY
ENVIRONMENTAL REPORT
OF THE
DRAFT Portmarnock South LOCAL AREA PLAN
2013-2019

STRATEGIC ENVIRONMENTAL ASSESSMENT

Fingal County Council
County Hall,
Main Street,
Swords,
Co. Dublin

Non Technical Summary

Table of Contents

1 Introduction and Background

This is the Non Technical Summary of the Environmental Report of the Draft Portmarnock South Local Area Plan 2011-2017.

The purpose of the SEA is to set out the likely significant environmental effects of the adopted Local Area Plan (LAP) on Portmarnock South over its lifetime. This report presents the findings from the Environmental Report of the LAP in a non-technical format and details the following;

- The assessment of the likely significant environmental effects from the implementation of the Baldoyle-Stapolin LAP.
- The mitigation measures proposed to reduce identified significant impacts of the LAP and
- The monitoring procedures to assess the impact of the LAP over its lifetime.

1.1 SEA Definition and Role

Strategic environmental assessment is a systematic process for predicting, evaluating and mitigating, at the earliest appropriate stage, the environmental effects of plans or programmes and their alternatives before they are adopted. It gives the public and other interested parties an 'early and effective' opportunity to comment and to be kept informed of decisions and how they were made in the plan/ programme. In subjecting the preparation of the plan/ programme to an SEA, development is directed to where it is sustainable and compatible with land uses and to robust receiving environments.

This 'assessment' process is a key mechanism in promoting sustainable development; in raising awareness of significant environmental issues in the Local Area Plans area and in ensuring that such issues are properly addressed within the capacity of the planning system. It has the potential to bring considerable added value to the implementation of the Local Area Plans over the next six years.

The Environmental Report which follows has guided the preparation of objectives, policies and development scenarios for the Local Area Plans with an ultimate goal of achieving sustainable development in Portmarnock South that can be absorbed into the landscape without causing adverse harm to the environment.

The SEA has been carried out in order to comply with the provisions of the European SEA Directive and national SEA Regulations and in order to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Fingal County Council. This report should be read in conjunction with the Portmarnock South Local Area Plan.

1.1.1 Legislation and Guidelines

The European Community Strategic Environmental Assessment (SEA) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment was issued in July 2001. This introduced the requirement that SEA be carried out on plans and programmes, including those of land use planning.

Article 1 of the SEA Directive states:
'*The objective of this directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment'*.

The SEA Directive was transposed into Irish Law in 2004 coming into effect on the 21st July 2004, through the following Regulations:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004, and the
- Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 of 2004.

DoCELG SEA Circular PSSP/6 2011 gave notice that these were amended by:

- European Communities (Environmental Assessment of Certain Plans and Programmes)(Amendment) Regulations, 2011, S.I. No. 200 of 2011; and
- European Communities (Strategic Environmental Assessment) Regulations, 2001, S.I. No. 201 of 2011.

The SEA of the Draft Portmarnock South Local Area Plan 2013-2019 will also have regard to other relevant SEA documentation such as;

- *Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities,* published by the Department of the Environment, Heritage and Local Government (2004) and,
- *Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report,* published by the EPA (2003).

It should also be noted that the EPA *SEA Process Draft Checklist* (2008) and EPA *SEA Pack* (2012) have been considered in the preparation of this Report.

These documents together with the above legislation have been used to guide this environmental assessment process.

1.1.2 SEA Process

In the context of the production of a LAP, the SEA process comprises the following principal stages:

- **Screening**: to determine which plans and programmes are likely to have a significant impact on the environment.
- **Scoping**: to liaise with statutory consultees to identify key issues of concern that should be addressed in the environmental assessment of the LAP.
- **Assessment**: contains the findings of the assessment on the likely significant effects to the environment of implementing the LAP and describes the monitoring measures for the key effects that were identified
- **Consultation**: to allow for submission from the public and interested bodies of the draft LAP and associated Environmental Report
- **An SEA Statement**: to identify how environmental considerations and consultations have been integrated into the final LAP.

The development of the LAP, SEA and Natura Impact Assessment required under the Habitats Directive are conducted concurrently and each process contributes to the development of each document at each stage.

2 Portmarnock South Local Area Plan 2013-2019

2.1 LAP Area

The Portmarnock South LAP lands (86 ha) are elevated coastal lands located just south of the village of Portmarnock, approximately 15 km north of the city centre, c. 7 km from Swords between Malahide and Baldoyle and are strategically positioned along the DART commuter service and the Dublin-Belfast railway line. Portmarnock train station immediately adjoins the plan lands to the northwest with Clongriffin train station further to the south adjoining the Baldoyle-Stapolin LAP lands. The entire plan lands are within 1km of Portmarnock train station and the high quality public rail service. The lands are in close proximity to the many coastal towns of Fingal, the M50 and Dublin Airport. Dublin City Council administrative boundary is located further to the southwest of the plan area across the Dublin Belfast railway line at Clongriffin.

The R106 Coast Road runs through Portmarnock village and along the eastern boundary of the LAP connecting the plan lands to the coastal towns and villages of Fingal. Station Road located on the northern boundary of the plan lands connecting to the Drumnigh Road (R124) to the west which connects to the Moyne Road to the south of the plan lands. The Moyne Road (R123) connects to the Malahide Road (R107), the Hole in the Wall Road and Clare Hall Avenue/R139 and onwards to the M50 and M1 to the west.

The lands are predominately agricultural in nature consisting of arable and grassland. There are a number of established hedgerows and trees within the plan lands, the majority of which mark the historic townland boundaries between Portmarnock, Drumnigh and Portmarnock. The Dublin-Belfast railway line for the most part is defined by mature hedgerows and trees and there are a number of notable tree clusters and established field boundaries in the vicinity of Moyne Lodge, located in the south-western section of the lands. The c.1837 map shows this dwelling in existence at that time. This dwelling appears to have been modified in recent years. Small clusters of detached housing have been developed in the vicinity of the Station Road junction and the Mayne Bridge in recent times.

The natural amenities of the area including Baldoyle Bay, the Sluice River Marsh, Velvet Strand beach, a number of golf courses including the well known Portmarnock Golf Links, contribute to the high amenity value of this coastal area.

2.2 Zoning History

The Fingal Development Plan 2011-2017 is the statutory land-use framework for the county. For the purposes of the LAP, land use zonings and objectives are detailed for the plan area.

Objective RA [40 ha] 'Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure'.

The remaining lands, adjoining the 'RA' zoned area and within the LAP boundary, are governed by the following zoning objectives:

Objective OS [32ha] 'Preserve and provide for open space and recreational amenities'.

Objective HA [12 ha] 'Protect and enhance high amenity areas'.

Objective RC [1 ha] 'Provide for small scale infill development serving local needs while maintaining the rural nature of the cluster'.

Objective RS [0.4ha] 'Provide for residential development and protect and improve residential amenity'.

2.2.1 Local Objectives relating to the Plan Lands

The following Development Plan map based local objectives relate to the plan lands:

- 402: Promote an enhanced rail station and improved rail service, together with the provision of a local feeder bus service.
- 406: The visual impact on the Green Belt of this new housing in Baldoyle will be minimised by its siting, design and by planting.
- 408: Density shall be in accordance with (draft) public safety zones recommended by the Government.
- 410: Develop an estuary walkway and cycleways from Mayne Bridge, Baldoyle Road to Strand Road, Portmarnock together with an adequate system of public lighting for the entire route from Baldoyle to Portmarnock.
- 422: Create a full pathway from Howth to Malahide through the construction of a pathway from the River Mayne Bridge to the Portmarnock Roundabout.
- 427: Place signage and information boards along this coastal pathway at pivotal locations.
- 429: Only development relating to recreational activities to be permitted in the OS zoning between Portmarnock and Baldoyle.
- 435: Facilitate extra housing on Station Road, Drimnigh Road and Old Portmarnock to link into the main drainage scheme.
- 460: In co-operation with relevant national agencies, to draw up a plan for improving the water quality of Baldoyle Estuary in conjunction with the Eastern River Basin Management System.

2.2.2 Development Objectives for Portmarnock

The six development objectives set out for Portmarnock in the current Fingal Development Plan are as follows:

Objective PORTMARNOCK 1
Develop Portmarnock as a centre providing services for both the residential population and for tourists.

Objective PORTMARNOCK 2
Implement the Portmarnock Urban Centre Strategy including the design guidelines for Portmarnock's urban centre.

Objective PORTMARNOCK 3
Preserve the identity of the town by securing its physical separation from Malahide by Greenbelts.

Objective PORTMARNOCK 4
Improve the physical character and environment of the area so that it can act as a service, social, recreational and tourist centre.

Objective PORTMARNOCK 5
Carry out an environmental improvement scheme in the village.

Objective PORTMARNOCK 6
Protect and manage the flood plain of the Sluice River to the south of Portmarnock and ensure that its integrity as a natural habitat is maintained.

2.2.3 Development Strategy for Portmarnock

The Development Strategy for Portmarnock as set out in the Fingal Development Plan is to consolidate, define and enhance the existing urban form and retain amenities in line with the Urban Centre Strategy for Portmarnock (2009). The long-term development area for Portmarnock is based on the existing development area. It is intended to encourage more intensive

commercial development, to provide good linkages to lands at Portmarnock South adjacent to the rail line, and to rejuvenate the existing village core.

The Urban Centre Strategy [UCS] for Portmarnock 2009 specifically aims to provide guidance on the development of the key urban spaces in the village core of Portmarnock, to promote change and rejuvenation, and to ultimately provide a vital and viable village centre that can support and nurture the social life in Portmarnock. The design strategy for this LAP shall have regard to the UCS for Portmarnock and specifically to the proposals for enhanced pedestrian/cycle connections to the Portmarnock train station via Station Road.

2.2.4 Strategic Objectives relating to the Plan Lands

The Fingal Development Plan includes a number of objectives of a strategic nature which are applicable to the plan lands.

Fingal Coastal Way

A coastal walk is a long standing objective of the Council. The Fingal Development Plan 2011-2017 fully supports the development of a Fingal Coastal Way, a strategic walking and cycling route from Howth to north of Balbriggan. This LAP will seek the provision of a section of this strategic route on the eastern edge of the plan lands.

Additional Rail Tracks

It is an objective of the Development Plan that lands shall be reserved to provide for additional rail tracks along public transport corridors. This LAP shall provide for a reservation along the Dublin-Belfast rail-line to accommodate future rail infrastructure where required.

Greater Dublin Drainage Scheme and Proposed Outfall Pipeline Corridor

The Fingal Development Plan 2011-2017 is fully committed to the development of a Regional Wastewater Treatment Facility to serve the Greater Dublin Area. The Alternative Sites Assessment (ASA) report of May 2012 identifies three emerging preferred sites at i) Annsbrook, ii) Clonshaugh and iii) Newtowncorduff for the location of the proposed Regional Wastewater Treatment facility in north county Dublin. As part of the ASA report, a potential pipeline corridor has been identified in the vicinity of Portmarnock and Baldoyle to serve the Clonshaugh site and the proposed corridor traverses the open space lands within the plan area. See www.greaterdublindrainage.ie for more information. The preferred site, route and outfall location will be identified through further investigative work, an evaluation of all submissions made and by carrying out an assessment of costs. It is likely to be mid 2013 before this is completed. This LAP shall have regard to the ASA report recommendations regarding the provision of strategic drainage infrastructure.

Airport Safety and Noise Zones

The majority of the plan lands are within the outer public safety zone and the outer noise zones for Dublin Airport as detailed in the Development Plan where density, land-use and noise restrictions apply. Densities are limited by the outer public safety zone requirement that 'no single half hectare plot should accommodate more than 60 persons'. [Environmental Resources Management (ERM) report, *Proposed Public Safety Zones for Dublin Airport* dated February 2005 refers]. The lands are also within the Outer Airport Noise Zone where noise insulation is required. An active airport communications beacon is located within the open space lands on the south/eastern section of the plan lands adjoining the coast road.

2.2.5 Fingal Development Plan Core Strategy

The 2010 Planning and Development Act requires all County Development Plans to set out a Core Strategy indicating how the County's population allocation is consistent with the Regional Planning Guidelines [RPG's]. The core strategy within the Fingal Development Plan provides information on housing/settlement allocations based on the settlement strategy and targets set out in the Regional Planning Guidelines and the National Spatial Strategy. It also provides a policy framework for Local Area Plans. The total number of units allocated for the Portmarnock

South LAP area c.1200 units is fully consistent with the Core Strategy of the Fingal Development Plan and the RPGs 2010-2022.

2.3 Portmarnock South Local Area Plan - Vision and Strategic Aims

The Local Area Plan residential [RA] zoned lands will facilitate approx. 1200 residential units based on a net development area c. 28.2 hectares at a density of c.42 units per hectare which accords with airport safety zone criteria. The anticipated new population is c. 3360 persons which will be supported by a range of community services, open space and physical infrastructure, which will be developed in tandem with the growth of the area.

2.3.1 Vision

The vision for Portmarnock South LAP is to develop a high quality urban extension with a unique sense of place, maximising upon the areas natural assets and coastal location adjoining Baldoyle Bay and its high level of accessibility adjoining Portmarnock DART station. The LAP will facilitate residential development in this area in a coordinated and sustainable manner, focusing on the development of sustainable communities, and a quality environment, connected to the existing urban context of Portmarnock town centre to the north and Baldoyle-Stapolin urban area to the south with connectivity to green infrastructure networks along the coast.'

The LAP promotes a sustainable strategy through the protection of the natural environment through a green infrastructure network, delivery of green routes, linear corridors, open spaces, high quality sustainable forms of design incorporating green design techniques, energy efficient buildings and life long adaptable homes, optimum use of public transport and walking and cycling and an integrated movement and transport strategy. Sustainability is an overarching theme that connects each strategy in the LAP towards the achievement of high quality sustainable neighbourhoods in the local area set within an attractive well designed living environment for the new residential community.

2.3.2 Strategic Aims of the LAP:

Environment

- Ensure that the integrity of the Natura 2000 site of Baldoyle Bay and the nationally important Sluice River Marsh are protected and not compromised by the provisions of the LAP.

- Ensure the protection and enhancement of the designated 'Ecological Buffer Zone' which is ecologically connected to Baldoyle Bay through appropriate conservation/recreational uses and management.

- Ensure adequate feeding/roosting options are available to migratory bird species associated with Baldoyle Bay through a series of habitat protection measures within the plan area.

- Protect and improve the water quality of the receiving waters of Baldoyle Bay and ground water quality through appropriate sustainable water management within the plan lands.

- Promote and develop opportunities for biodiversity, open space, natural biodiversity assets (trees/hedgerows/streams), green routes/corridors and key views as defining characteristics of the developing area including their priority in phasing proposals.

- Develop a Green Infrastructure and Landscape Strategy in the context of the green infrastructure strategy as set out in the current Fingal Development Plan.

- Promote and facilitate the development of carefully managed access to ecologically sensitive areas and prevent disturbance to migratory birds.

- Promote the implementation of best practice SuDS design within the plan lands and use natural amenity features to complement the surface water drainage and landscape proposals in the developing lands.

Heritage

- Protect the archaeological and natural heritage of the plan lands.

- Promote the conservation, enhancement, public access and enjoyment of the archaeological, natural and built heritage as important elements in the long-term sustainability of the area.

Movement and Transportation

- Promote the development of an integrated movement and transport network.

- Encourage the use of sustainable means of travel including walking and cycling and public transport.

- Maximise public transport use and accessibility to Portmarnock Station and the wider public transport network.

- Promote and facilitate improvements to existing bus/rail services and train station car-parking thereby maximising the opportunities for increased use of public transport by local residents and visitors.

- Promote connectivity and the integration of new and established communities through a hierarchy of spaces linked through a network of green permeable walking and cycling routes at a local and strategic level.

Urban Design

- Incorporate a strong set of design guidelines and objectives for Portmarnock South LAP lands.

- Develop a sense of place through incorporation of natural environmental features in future layouts and high quality urban design.

- Ensure that new development is physically, visually and functionally integrated with the landscape character of the plan area.

- Ensure that all new development is subject to strict development standards to ensure the protection of existing residential and public amenities and the enhancement of the plan area.

- Promote and facilitate the development of an Urban Design Masterplan in co-operation with landowners.

Housing

- Promote the provision of a wide choice of dwelling types with a strong emphasis on family orientated, high quality, adaptable, life long homes.

- Promote the integration and provision of a mix of residential tenure.

- Promote high quality design with innovative sustainability solutions incorporating green design techniques, energy efficient buildings and life long adaptable homes.

Community and Social Infrastructure

- Promote and encourage a socially inclusive community that caters for all age groups, that accords with the principles of universal design and that offers quality of opportunity and good services to all.

Commercial, Retail and Other Services

- Promote the provision of a mix of retail, service, healthcare, recreational and community facilities at appropriate specified locations and at a level commensurate with local need.

Recreational Facilities, Amenity and Public Open Space

- Protect and enhance existing recreational facilities and amenities.

- Provide for an integrated network of open space areas to meet the recreational needs of residents through the Green Infrastructure and Landscape Strategy.

- Provide passive supervision to open space and recreational amenities.

Employment /Tourism Opportunities

- Promote and facilitate employment and tourism opportunities appropriate to this area.

- Develop and maximise the tourism potential of the area by the promotion of appropriate environmentally sustainable tourism products and co-operation with the relevant bodies in the marketing and promotion of tourism in the area.

Infrastructure and Services

- Ensure timely and adequate provision of infrastructure to serve new development within the plan lands.

- Protect existing and future infrastructure though the protection of wayleaves/corridors.

Phasing of Development

- Provide the necessary infrastructure in conjunction with phased development.

2.3 Relationship of the Plan with other Relevant Plans and Programmes

The Draft Portmarnock South Local Area Plan and accompanying Environmental Report fit into a hierarchy of strategic legislation, plans and policy documents. A number of higher-level strategic plans such as the National Spatial Plan and the Regional Planning Guidelines for the Greater Dublin Area and the County Development Plan set the context for the Portmarnock South Local Area Plan.

3 Environmental Baseline

The environmental baseline assessment was conducted in line with the SEA Directive and national legislation and focuses on biodiversity (flora and fauna), population and human health, geology and soils, water, air and climate, material assets, cultural heritage, landscape and interrelationships between topics.

3.1 Biodiversity

There are a number of pieces of European and national legislation, which make provision for the protection of important ecological habitats. These pieces of legislation categorise these habitats into European sites, Natura 2000 sites, (Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's) and nationally important sites, Natural Heritage Areas (NHA's). There are a variety of valuable habitats and species adjacent to and within the LAP lands which support a wide range of flora and fauna species. Some of these habitats and species are of International or National importance and others are locally important.

The Draft Portmarnock South Local Area Plan area is located adjacent to, and includes a portion, of a number of significant natural heritage area including Natura 2000 sites, proposed Natural Heritage Areas, extensive green infrastructure, and wildlife corridors, however, sites and species benefiting from statutory protection do not alone represent the full extent of the natural heritage of the Plan area. Additional biodiversity occurs in the ordinary landscapes, including woodlands, hedgerows, earthbanks, grassy verges, ditches, rivers, streams, drains, lakes, bogs, fens, heaths, unimproved grasslands and wetlands, as well as the plant and animal species that occur in these wild spaces.

Baldoyle Bay is the closest Natura 2000 site to the proposed Portmarnock LAP area, located adjoining and partially within the plan lands. Due to the important habitats, species of birds, animals and plants that occur within the site Baldoyle Bay is designated as a Special Area of Conservation (SAC) for habitats and a Special Protection Area (SPA) for birds. A portion of the LAP lands, the 'Murrough Spit', zoned High Amenity (HA) and located east of Coast Road, is within Baldoyle SAC and SPA.

3.1.1 Baldoyle Bay SPA

In terms of the Baldoyle Bay SPA, the main reason for the designation is the presence of internationally important numbers of Pale-bellied Brent Geese (*Branta bernicla hrota*). In addition to hosting several Annex I bird species, Baldoyle Bay is also an important coastal site for wintering waterfowl. The estuary complex provides good habitat for a range of species. A number of migratory bird species attain nationally important status including Bar-tailed Godwit (*Limosa lapponica*) and Golden Plover (*Pluvialis apricaria*) (both Annex I species under the E.U. Directive); Shelduck (*Tadorna tadorna*), Pintail (*Anas acuta*), Ringed Plover (*Charadrius hiaticula*) and Grey Plover (*Pluvialis squatarola*). Additional species such as Dunlin (*Calidris alpina*), Oystercatcher (*Haematopus ostralegus*), Black-tailed Godwit (*Limosa limosa*) and Redshank (*Tringa totanus*) attained nationally important status for some of this period.

The NPWS website database and Status of EU Protected Habitats and Species in Ireland (NPWS, 2007) set out the Conservation Management Objectives and the conditions underpins the site integrity for Baldoyle Bay SPA.

3.1.2 Baldoyle Bay SAC

Conservation objectives for Baldoyle Bay SAC were published by the NPWS in November 2012 and the qualifying interests for the site are set out in Tables 4.4 and 4.5 below. Extensive mudflats occupy 79% of the site; these can support diverse invertebrate and algal communities and are important feeding grounds for wintering wildfowl and waders. The overall conservation status of the mudflat habitat in Baldoyle Bay is good, according to the Natura 2000 data form, and the relative area of mudflats in Baldoyle Bay is categorised as representing 2-15% of the national reserve of mudflat habitat (class B in the Natura 2000 data form). The saltmarsh habitats

represent different native plant communities that develop naturally under varying conditions of substrate, shelter and degree of inundation by the sea. Saltmarsh occupies 7% of the site in the inner estuary (*Spartina* swards), near Portmarnock Bridge, at Portmarnock Point and where the Mayne River joins the estuary.

3.1.3 Other Natura Sites in the Vicinity
Other Natura 2000 sites in the vicinity include Irelands Eye SAC/SPA, Howth Head SAC, Howth Head Coast SPA, North Dublin Bay SAC, North Bull Island (SPA). The estuaries are important bird sites, providing both feeding and roosting areas for a range of wintering wildfowl. The estuaries hold internationally important numbers of light-bellied Brent Geese and Black-tailed Godwit and nationally important populations of at least another twelve species. Many of the wetland birds of the Baldoyle Bay commute between these four estuaries. This shows that birds can move to an alternative estuarine site if there is disturbance in one of the above sites. However, the habitat quality and carrying capacity of each estuary must be protected to maintain the overall population of bird species that rely on these sites for feeding, roosting and breeding.

The approach and focus of the accompanying Habitats Directive Assessment has been to influence the Draft Portmarnock South Local Area Plan settlement statements in order to adequately protect the Natura 2000 site network within the surrounding area. The requirements of the Habitats Directive Assessment must be incorporated into the Draft Portmarnock South Local Area Plan 2013 – 2019.

3.1.4 Natural Heritage Areas (NHAs), proposed Natural Heritage Areas (pNHAs) and other sites of National and International Importance
In addition to Baldoyle Bay, the Sluice River Marsh is the closet pNHA to the LAP lands. This site is of importance as a relatively intact freshwater marsh, a habitat that is now rare in County Dublin. Some waterfowl from Baldoyle Estuary may use the marsh on occasions.

Statutory Nature Reserves and Refuges for Fauna and Flora, established under the Wildlife Acts 1976 and 2000 are sites where nature conservation is the primary objective and takes precedence over all other activities. Baldoyle Bay is designated as both a Statutory Nature Reserve and a Refuge for Fauna and Flora.

3.1.5 Baldoyle Bay Ramsar Wetland
The Convention on Wetlands of International Importance, especially as waterfowl habitat was adopted at Ramsar, Iran in 1971, and is commonly referred to as the Ramsar Convention. The Convention provides a worldwide framework for the conservation and wise use of wetlands. Baldoyle Bay, Bull Island, Malahide Esturary and Rogerstown Estuary are Ramsar sites.

Baldoyle Bay is classified as a tidal embayment separated from the sea by a major sand dune system. Vast mudflats are exposed at low tide and there are extensive beds of *Spartina*. The site is internationally important for the wintering goose *Branta bernicla hrota*, and nationally important numbers of various species of waterbirds use the site. While Ireland ratified the Ramsar Convention in 1985 there is no legal backing for Ramsar sites unless they are also Nature Reserves or SPAs and as such are protected by the Wildlife Acts 1976 and 2000 or the Birds or Habitats Directives.

3.1.6 Primary Ecological Corridors
Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for the movement of wildlife. Migration, movement and the long term genetic health of species is assisted through creating linked networks for biodiversity purposes.

The County has a number of undeveloped or protected corridors of land, which act as links from the surrounding countryside, through the County and into the denser urban core of Dublin City such as the Liffey Valley and the Royal Canal. While the majority of the River Mayne, with the exception of the Mayne River Marsh, is not subject to environmental designation, it is none-the-

less an important biodiversity corridor and particularly so as it flows into the designated estuary at Baldoyle Bay. The Sluice River Marsh, a proposed Natural Heritage Area [pNHA], is located to the north of the plan lands and is also identified as an important ecological corridor within the county. This wetlands support a diverse range of wetland plants and animals.

3.1.7 Ecological Buffer Zone

The open space and high amenity lands within the Plan area form an ecological buffer zone as designated in the Fingal Development Plan. This buffer zone also extends into Racecourse Park to the south of the plan lands within the Baldoyle-Stapolin LAP area. The purpose of the buffer-zone is to protect the integrity of the nationally and internationally designated sites, [Baldoyle Bay in this case] by providing suitable habitat for key species such as birds and providing for compatible land-uses around the designated sites. The Fingal Biodiversity Action Plan 2010-2015 recognises the importance of the buffer zone around the estuaries. These areas will be developed as multi-functional landscapes where agricultural land-use is maintained and, where appropriate, combined with nature conservation targets and low intensity recreational use.

3.1.8 Local Area Plan Lands

The LAP lands are all in agricultural use except for the few gardens along the coast road. The fields are used for growing cereals or occasionally vegetables. Some of the hedgerows marked on the O.S map have been removed but that marking the townland boundaries between Portmarnock, Drumnigh and Maynetown persists, as well as parts of those in the south-eastern quarter. The townland boundaries are considerably taller, better-grown examples of hedgerows with lines of ash, hawthorn, elm, grey willow, blackthorn, elder, bramble and wild rose as the dominant species. The railway is also bordered by a treeline, as is Station Road. In both places ash, sycamore and elm are important and both elms occur *Ulmus procera* and *U.glabra*. The ground flora under these hedges is richest along the townland boundary where there is a bank and ditch.

Other hedges have a poorer flora often with ivy *Hedera helix*, goosegrass *Galium aparine* and hogweed *Heracleum sphondylium* predominating. At the northern end of the site several introduced species occur, e.g. winter heliotrope *Petasites fragrans*, alexanders *Smyrnium olusatrum* and giant hogweed *Heracleum mantegazzianum*. The last is an allergenic plant inducing a skin rash in most people.

The most interesting adjoining habitat is in the railway cutting north of the small farm bridge. Here a grassland based on upright brome *Bromus erectus* occurs along with rest harrow *Ononis repens*, wild carrot *Daucus carota*, fairy flax *Linum catharticum*, quaking grass *Briza media*, glaucous sedge *Carex flacca*, hoary ragwort *Senecio erucifolius* and the St John's wort *Hypericum perforatum*. This mirrors grassland along Strand Road south of Mayne Road and will be a seed source for the development of natural grassland communities in the parkland on site.
The only mammal species regularly on site are thought to be rabbit, fox, brown rat, field mouse and pygmy shrew. Rabbits occur in many of the field boundaries but are most numerous along the railway cutting and adjoining hedge. They have some grazing effect on the edges of crop fields. Foxes may only visit the area as no regular earth was found. The railway line would again seem a likely base though temporary holes may be used in some of the hedgebanks through the year. The smaller species are associated with hedgerows since the ditch along most of the hedges is dry. There may be occasional hedgehogs in this habitat also though no evidence of them was seen.

Sufficient trees occur in the area around Portmarnock Station for a few bats to occur. These would roost in nearby houses and feed in treebelts along the railway line and Station Road. Numbers would be small and only pipistrelles would be expected. The townland boundary hedge is the only one on site with potential for bats.

There was no evidence of badgers in the area but since the animals are widespread, individuals may sometimes be seen. The same goes for the otter as this species is likely to be in the Sluice

River on a regular basis. Otters follow watercourses in overland travel but so little water reaches the Sluice from the LAP lands that it is most unlikely for the species to occur.

The birds that live in the area are predominantly those associated with cereal growing land, for example pheasant, woodpigeon, rook, jackdaw, magpie, meadow pipit (mainly winter), skylark, goldfinch, linnet, yellowhammer and chaffinch. In the hedges are some more 'garden' species such as blackbird, robin, dunnock, wren, blue tit and goldcrest. Bullfinches were seen along the railway.

The skylark and yellowhammer are both declining species of some interest locally. Skylarks have limited nesting grounds in the LAP lands as they depend on the sowing stage of the tillage crops – which is nowadays often too early. Greater numbers occur south of Mayne Road and on the estuary side of Strand Road where there are better nesting and feeding territories. The yellowhammer requires cereal fields for feeding with nesting and singing places in the peripheral hedges. It does not persist as a breeding bird if grain-growing ceases but may continue to occur in roving flocks of finches in autumn and winter.

3.1.9 Aquatic Biodiversity- Flora and Fauna

EU Shellfish Waters Directive (2006/113/EC)

The Malahide Shellfish Waters are located c.2km to the north-east of the plan lands is 36.3 km^2 in area and extends from Lambay Island to Portmarnock. Balbriggan/Skerries shellfish area is situated in adjacent tidal waters. While these areas are outside the functional area of the Plan lands the contributing catchment is 376.66 km^2 in area and drains a number of rivers including the Sluice and Mayne which are adjacent to the LAP lands. These waters were designated under the European Communities (Quality of Shellfish Waters) Regulation 2006 (as amended) S. I. No. 268 of 2006 to protect or improve shellfish waters in order to support shellfish life and growth.

Local Aquatic Systems

The Sluice which runs to the north and drains into Baldoyle Bay represents a regionally important salmonid system. The Sluice supports a resident population of Brown trout and a migratory population of Sea trout (both Salmo trutta) among other fish species.

The Mayne River, which runs to the south of the site, within the adjoining Baldoyle-Stapolin LAP lands, is a non-salmonid river; however Inland Fisheries Ireland has indicated that it is currently assessing the viability of a salmonid reintroduction programme. The system is non-salmonid as a result of blockages to fish passage in the lower reaches in combination with local water quality issues. An impassable feature at the coast (non-return tidal flap) is a key issue impacting on fish transition in this system.

3.1.10 Invasive Species

A number of invasive are present in Portmarnock including Japanese Knotweed and Giant Hogweed. Fingal County Council is aware of their distribution within the area and is actively controlling the Giant Hogweed. Japanese knotweed has not been tackled yet due to lack of funding. It is an action of the Fingal Biodiversity Plan to control these species on a river catchment basis (Action 41).

3.1.11 Habitats Directive Assessment

As per Article 6 (3) and (4) of the Habitats Directive 92/43/EEC, an Article 6 assessment for the LAP using "Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC" was prepared due to the potential for impact on the downstream designated Baldoyle Bay and other Designated Site within a 15km radius of the LAP lands. This assessment is presented in Appendix B of the SEA Environmental report.

3.1.12 Biodiversity Issues: Existing Problems / Environmental Considerations

- The threat of pollution is a potential threat to flora and fauna within the LAP lands and the surrounding area. Baldoyle Bay is an estuarine system.
- Any changes in local water catchments leading to changes in water quality could affect condition of the habitats.
- Loss and/or alteration of habitat due to development pressures along the Mayne and Sluice Rivers.
- Disturbance to wildlife and habitats, and particularly birds due to increased recreational pressure. Increased development pressures and an increase in population associated with the Portmarnock South and Baldoyle-Stapolin LAPs may impact upon the designated sites.
-
- Need to establish a Biodiversity Network, along the hedgerows (in particular along historic hedgerows) streams, springs and ditches. Include, at a minimum all hedgerows or stream sections of moderate value
- The spread of invasive alien species is a particularly important threat to local biodiversity as they compete for space and food.
- The Site Synopsis for Baldoyle Bay SPA identified the main threat to the birds as disturbance and dumping, as it is located in a densely populated area. In particular, the dumping of spoil onto then foreshore presents a threat to the value of the site.

3.2 Population and Health

This section covers the population of the plan area and the impacts on human health. The main population issues in Fingal are the depopulation in older established areas and of population growth in Greenfield areas at the periphery of the urban fringe. The Portmarnock South Plan lands are located just inside the periphery of the urban fringe and have a good public transport network and considerable community infrastructure. On analysis of existing housing in the area, it is evident that a wider variety of dwelling type and mix of tenure are needed to reflect the needs of the population.

3.2.1 Population and Human Heath: Existing Problems / Environmental Considerations

The main threats in terms of human health and population include increased amounts of traffic and the effect of emissions and traffic noise on human quality of life. Associated with the quality of life issue is the need to maintain areas of urban green space.

3.3 Landscape

Landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Landscape Convention, 2002). It is this definition that is incorporated into Section 4(c) of the Planning and Development (Amendment) Act 2010. The Heritage Act (1995) defines landscape as including 'areas, sites, vistas and features of significant scenic, archaeological, geological, historical, ecological or other scientific interest'.

3.3.2 Landscape Character Assessment

The Landscape Character Assessment for Fingal identifies Baldoyle Bay as being of an Estuary and Coastal Character Types which are categorised as having an exceptional value recognised by the EU designations (candidate Special Areas of Conservation and Special Protection Areas) that apply to each in additional to national designations such as proposed Natural Heritage Areas and Ramsar. Both the Coastal and Estuary Character Types are highly sensitive to development due to the exposed nature of many of the coastal and estuarine areas making them particularly vulnerable to intrusive development. The LAP lands are a designated 'sensitive landscape' in the Fingal County Development Plan.

3.3.3 Views and Prospects

A protected view is the requirement within the Fingal Development Plan to preserve the view of a specific place or historic building from another location. In terms of the LAP there are protected

views along the Coast Road affording attractive views of the Baldoyle Bay and Portmarnock peninsula to the east.

The quality of views from within the subject lands is variable. The relative lack of visual enclosure and the topography combine to afford extensive views from the subject lands over the Baldoyle Bay, Irelands Eye and Howth beyond.

3.3.4 Topography of the LAP Lands and Visual Sensitivity
In terms of topography the western and middle portion of the site forms an elevated plateau which slopes away towards Strand Road to the east and Mayne Road on the southern boundary. The site generally falls from a high point of 15m AOD along the mid-western boundary adjoining the rail line and 12m in the centre of the site. The lands are approx 10m in the north west by the railway station, 4.5m in the north east adjoining Station Road, falling to 2m toward the estuary and 2.0m in the south east along Mayne Road (see figure 5 'Existing Topography & Vegetation'). The contours are more compressed on the southern side with a distinctive ridgeline running east - west and a more steeply sided slope running towards Mayne Road.

The eastern half of the plan area is highly visible when viewed form the shoreline of Baldoyle Bay and the Portmarnock Peninsula and enjoys panoramic views of the coast and it's islands notably Lambay Island, Howth Head and Ireland's Eye. The east-west ridge just south of the residential development area is highly visible from Clongriffin and Stapolin development areas, Clongriffin Railway Station and the mound in Father Collins Park. St. Doolagh's is a notable built feature when looking westward from the plan lands. From the southern slopes of the plan lands, there are open panoramic views towards Baldoyle, Clongriffin and Howth to the southeast. Beyond the silhouette of Baldoyle and Clongriffin, the backdrop of the Dublin Mountains is visible from this location.

3.3.5 Present Use of the Subject Lands
The subject lands are predominantly agricultural in use consisting of arable and grassland divided by hedgerows and drainage ditches. Along the boundary with the Coast Road and Moyne Road there is a discontinuous corridor of development on the landwards side comprising primarily of a number of houses and a monitoring station associated with Dublin Airport. Moyne Lodge, located in the south/western section of the lands, which appear on the c.1837 map appears to have been modified in recent years.

3.3.6 Boundaries and Vegetation of the Subject Lands
The fields in the Portmarnock South area are large and irregularly shaped, there are a number of established hedgerows and trees within the plan lands, the majority of which mark the historic townland boundaries between Portmarnock, Drumnigh and Portmarnock. The Dublin- Belfast railway line for the most part is defined by mature hedgerows and trees and there are a number of notable tree clusters and established field boundaries in the vicinity of Moyne Lodge, located in the south/western section of the lands. The c.1837 map shows this dwelling in existence at that time. This dwelling appears to have been modified in recent years. Small clusters of detached housing have been developed in the vicinity of the Station Road junction and the Mayne Bridge in recent times.

3.3.7 Landscape Issues: Existing Problems / Environmental Considerations
Going forward, potential issues with regard to the landscape in Portmarnock South include; developments which do not reflect local landscape character, and the relationship of the coastal landscape of the area with the surrounding area. Panoramic view of the edge of the urban fringe at this location meeting the coastal landscape could be damaged by inappropriate and uncoordinated expansion resulting in declining landscape quality. In addition, the elevated nature of a significant portion of the LAP lands increase overall visual sensitivity to large residential developments.

Some particular aspects of the landscape that need to be given consideration:

- The need to resist the removal of hedgerows and field boundaries where still in place.
- The need to ensure that no further culverting of streams occurs within the plan lands.
- The need to protect important features of the wider landscape such as views for example views towards Howth, the rural area in Fingal with hedgerows and the railway embankment
- The need to ensure the natural environment and open space amenities are connected and integrated as main features of the area's identity and character
- The need to diversify the existing landscape character through the creation of new open spaces including urban squares, wetland parks etc
- The need to ensure that new developments not reflect the local landscape character

3.4 Soils and Geology

Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen.

Geology encompasses the understanding and study of the solid and liquid matter that constitutes the earth and the processes by which they are formed, moved and changed. Its understanding is necessary to fully appreciate the geological factors that shape and influence the world and its particular structure.

3.4.1 Soil

The most common soil type in the LAP area is identified as Till derived chiefly from limestone with a narrow band of Alluvium soil running through the southernmost section of the Plan lands. The eastern fringes of the land, including the Morrow Spit area Marine/estuarine silts and clays.

3.4.2 Geology

The geology of the area consists of a thick Tournasian argillaceous (muddy) bioclastic (contains fossils) limestone comprising medium to dark grey calcarenites interbedded within thin calcareous shales locally containing oolitic (small round fossil) beds. The glacial overburden is generally relatively thin and is greater than 3 metres in depth.

The Geological Survey of Ireland classifies the hydrogeology as LI – Locally Important aquifer. This equates to bedrock which is moderately productive in localised zones. The impure nature of the argillaceous bioclastic limestone means that it is not as brittle as pure limestone and therefore will deform more readily. Deformation of the rock tends to seal fractures and inhibit water movement.

Maps produced by the Radiological Protection Institute of Ireland indicate that 1-5% of the houses in the Portmarnock South Area area are predicted to have radon levels in excess of the 200 Bq/m^3 reference level. This is the second lowest range of radon levels.

3.4.3 Soils and Geology: Existing Problems / Environmental Considerations

Soil and geology is closely linked to biodiversity and landscape thus loss, fragmentation and/or deterioration of soils and geology would have a direct negative impact on biodiversity and the landscape. Increase volumes of surface water run-off due to conversion of permeable landscapes to impermeable causes increased flooding, erosion and alteration of soils and their associated habitat. Other threats include pressures that recreational uses can place on soils and their habitats, including erosion. Finally, the lack of protection and mitigation of impacts of construction on soils can cause soil structural degradation and compaction.

3.5 Water Quality and Flooding

3.5.1 Introduction

This section assesses the baseline water quality in the LAP lands for ecological and human health requirements. For the purposes of this section, water in the study area is categorised as surface water and groundwater. Groundwater and surface water quality are critical for the protection of designated and important ecological areas. River water quality and groundwater quality are critical for potable water supply. These waterbodies are discussed in the following sections.

3.5.2 Legislative Context

The European Communities (Water Policy) Regulations, 2003 (SI No. 722 of 2003) transposed the Water Framework Directive (2000/60/EC) into Irish Law. The Water Framework Directive (WFD) sets an objective of achieving at least 'good status' for all water bodies - surface, ground, estuarine and coastal - and protect, enhance restore all waters with the aim of achieving "good status" by 2015. Good status for surface water is a combination of the chemical quality, biological quality and microbiological quality that must be achieved. For groundwater, good status refers to chemical water quality and quantity.

3.5.3 River Basin Districts and Water Bodies

For the purpose of implementing the WFD, Ireland has been divided into eight river basin districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine/coastal areas. The management of water resources will be on these river basin districts. The Portmarnock South area falls within the Eastern River Basin District (ERBD).

The Local Authorities located in the ERBD - including Fingal County Council - have prepared a River Basin Management Plan and Programme of Measures. This Eastern River Basin Management Plan (ERBMP) (2009-2015) identifies the status of water bodies within the RBD and provide objectives in order to implement the requirements of the WFD.

3.5.4 Water Quality of Rivers

3.5.4.1 Q Values

While there are no significant watercourses running through the LAP lands the Mayne River runs to the south of the site and the Sluice River runs to the north. Both of these rivers discharge discharge to Baldoyle Bay with the Mayne discharging at the junction of Mayne Road and Strand Road (R106) and the Sluice discharging via a culvert at Portmarnock Bridge.

Biological water quality is measured for the EPA at recorded sampling locations throughout the county. Biological indicators are probably the best indicators in a water body as they represent long-term water quality. The data gathered for the biological sampling (kick sampling) is used to determine the EPA biotic index for the water body.

The EPA water quality monitoring station on the Mayne River located at hydrometric station 08006 (Hole-in-the-wall) shows the water quality of the Mayne River in the year 2010 as Q1 (poor status). The EPA website does not show any water quality monitoring data for the Sluice River.

3.5.4.2 Water Framework Directive Surface Water Status

The WFD defines '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. Thus, to achieve 'good surface water status' both the ecological status and the chemical status of a surface water body need to be at least 'good'.

The River Mayne is a reportable river under the Water Framework Directive and is currently identified as being of "poor status" while the catchment of the River Sluice to the north is identified as being of "good status".

The Mayne River along with the Sluice River, which runs to the south and north of the Portmarnock South LAP lands respectively, are part of the Santry-Mayne-Sluice Water

Management Unit. In Santry-Mayne-Sluice Management Unit the problems which are preventing the achievement of 'Good Status' can be attributed to:

- High Nutrients (Phosphorus)
- Oxygen Demand
- Low Ecological Rating
- Inferior Habitat

The principal pressures identified are wastewater and industrial discharges and in Dublin misconnected foul sewers from houses and businesses, combined sewer overflows (wastewater discharges) and urban area pollution are principal pressures. A Programme of Measures (POM) is set out to address these issues and must be implemented before 2015. The POM is made up of key priority actions drawn from legislative laws and additional required actions. Notwithstanding this the WFD recognises that in some cases it may not be possible to achieve all core objectives by 2015.

Full implementation of the measures is expected to correct this; however recovery time will mean that the Mayne River will not achieve Good Status before 2015. Consequently a derogation to achieve good ecological status by 2027 has been obtained for the River Mayne however, the water body into which the River Mayne discharges is an SPA which has a priority status of 2015.

3.5.5 Transitional Waters

The transitional water bodies to be rated within 15km of the LAP lands are North Dublin Bay, Rogerstown Estuary and Malahide Estuary. North Dublin Bay has been classified as being "Unpolluted" and Rogerstown Estuary has been classified as "Eutrophic". The Broadmeadow Water side of the Malahide Estuary has been described as "Eutrophic", while the Malahide Bay side has been classified as "Intermediate". In terms of achieving the WFD objectives by 2015, the entire coastal region of Fingal has been classified as (1a) at significant risk of failing to achieve WFD objectives by 2015.

3.5.6 Ground Water

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD.

The WFD sets out a series of criteria that must be met for a body to be classed as good chemical and quantitative status. Groundwater underlying the LAP area is classified as being of "Good Status".

The Geological Survey of Ireland (GSI) rates aquifers based on their hydrogeological characteristics as well as on the value of the groundwater resource. Groundwater vulnerability indicates how vulnerable the aquifers are to contamination through assessment of the subsoil thickness and the aquifer classification. Groundwater vulnerability in the LAP area is mainly classified as being low with only the southwestern sections of the land, to the north of Moyne Road classified as having moderate vulnerability.

3.5.7 Flooding

The statutory Planning Guidelines on "The Planning System and Flood Management – Guideline for Planning Authorities" (2009) focus on providing comprehensive consideration of flood risk in the preparing of Regional Plans, Development Plans and Local Area Plans, and in determining applications for planning permission.

3.5.7.1 Floodmaps.ie

The OPW maintain a flooding database at floodmaps.ie. From examination of the database there are records of previous tidal or fluvial flooding in this immediate area of the indicated on the OPW

Flood maps, but none within the site, or in particular, within the RA zoned section of the site. The floodmaps.ie generated report identifies all flooding within 2.5 km of the site. Of the 13 flooding instances listed within 2.5 km of the site, the Baldoyle Coastal recurring (12) and Sluice River Strand Road Portmarnock Recurring (13) are unlikely to directly impact on the Objective RA zoned lands *provide for new residential communities in accordance with approved local area plan and subject to the provision of the necessary social and physical infrastructure.*

3.5.7.2 FEMFRAMS

The Fingal East Meath Flood Risk Assessment Management Study (FEM FRAMS) was one of four pilot CFRAM studies for the new Flood Risk Assessment and Management Programme. The FEMFRAM Flood Extent Maps show that the extent of the flooding is outside the residential zoned lands.

However, the northwest corner of the RA lands is adjacent to the flood zone area. The housing at Portmarnock Bridge is within/immediately adjacent the flood zone area, as is the site for the proposed foul water pumping station within the LAP lands. The existing housing at the southeastern corner of the LAP lands are also with the flood zone.

The FEMFRAMS Draft Flood Risk Management Plan states that "Portmarnock is affected by both fluvial and tidal flooding. The most significant flood risk is at Strand Road where a large number of properties are at risk of flooding from both the Sluice River and the Baldoyle Estuary".

3.5.7.3 Flood Risk Assessment of LAP lands

In accordance with the 'Planning Systems and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009), the preparation of this plan was the subject of a Strategic Flood Risk Assessment (SFRA). The SFRA includes the identification of a number of measures necessary to ensure flood risk is incorporated into the planning of this area and recommendation that development proposals for a number of areas within the plan boundary be the subject of site-specific flood risk assessment appropriate to the nature and scale of the development being proposed.

3.5.8 Water Issues: Existing Problems / Environmental Considerations

Based on available water quality data, the water quality in the Mayne River and its wider catchment will need significant improvement in order to comply with the objectives of the WFD. According to the Santry-Mayne-Sluice Water Management Unit Report (2009) the principal pressures on the Santry-Mayne-Sluice are misconnected foul sewers from houses and businesses, combined sewer overflows (wastewater discharges) and urban area pollution. This Draft LAP will not likely be in a position to prevent such pollution with the more strategic County Development Plan in a better position to enforce water body protection from agricultural sources.

The ERBD Management Plan and associated Programme of Measures include provisions to help ensure that these water bodies meet the objectives of the WFD. The Draft LAP, through the incorporation of objectives relating specifically to areas such as SuDS and appropriate construction management techniques, will help to management pollutants arising from the site that may affect water quality in Baldoyle Bay and the River Mayne thus aiding compliance with targets set out in the ERBD Management Plan.

The LAP will need to ensure that adequate wastewater treatment is available for the proposed increase to population resulting from the development of the LAP lands. The SUDS design proposed with the Plan will also be implemented to reduce the increase in surface water run-off from the developed lands and ensure that the run-off from the SUDS mitigation measures is unpolluted and fit to enter Baldoyle Bay.

Malahide Shellfish Area is located c.2km to the northeast and extends from Lambay Island to Portmarnock. Balbriggan/Skerries Shellfish Area is situated in adjacent tidal waters. Any pollution

or output from the River Mayne or the LAP lands to the estuary has potential to impact on the quality of sea water and on the health of the Shellfish Area off the Irish coast.

The plan area is at risk from several sources of flooding including fluvial and tidal flooding. A number of areas of potential flood risk are identified within or adjacent to the Portmarnock South LAP land zoned for development. In addition, a number of other hotspots of flooding potential have been noted. The requirements of the "The Planning System and Flood Risk Management – Guidelines for Planning Authorities" (2009), need to be taken into account in order to ensure that flooding in these areas does not impact on human health, property, or the ability to meet the requirements of the WFD or need to protect biodiversity.

Development in locations suitable for flood water retention areas would be likely to increase the potential of flooding in the Portmarnock South LAP area.

3.6 Air Quality and Noise

3.6.1 Ambient Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards for Member States for a wide variety of pollutants. The principles for this European approach are set out under Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) as transposed into Irish law under Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). These Regulations replaces the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), the Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004) and S.I. No. 33 of 1999.

At a national level the National Climate Change Strategy 2007-2011 provides for the protection of air quality. At a regional level, Fingal County Council has adopted 'The Air Quality Management Plan for the Dublin Region, 2008-2012' under the provisions of the Air Pollution Act 1987.

For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (S.I. 271 of 2002).
The main areas defined in each zone are:

- Zone A: Dublin Conurbation;
- Zone B: Cork Conurbation;
- Zone C: Other cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Dún Laoghaire-Rathdown, Naas, Carlow, Tralee and Dundalk; and
- Zone D: Rural Ireland, i.e. the remainder of the State - small towns and rural areas of the country - excluding Zones A, B and C.

The LAP lands are located within Zone A for the Dublin Conurbation. The index is calculated based on the latest available measurements of PM10, sulphur dioxide, nitrogen dioxide and ozone. In October 2010, air quality in Zones A was reported as 'Good'. Fingal County Council does not conduct any ambient air quality monitoring in the county. However, ambient air quality monitoring is undertaken by the EPA with the closest monitoring sites to the LAP lands being located at Swords and Marino. Continuous monitoring is completed for ozone and nitrogen oxides snapshot of the period between 14 February to the 20th of February 2012 shows that both ozone and nitrogen oxide levels are well within the limits of 180 Tg/ m3 and 200 Tg/ m3 respectively and considered good levels by the EPA.

3.6.2 Noise

3.6.2.1 The Environmental Noise Directive

Noise is unwanted sound. It can seriously harm human health and interfere with daily activities at school, at work, at home and during leisure time. Traffic noise alone is today harming the health of almost every third European. The main health risks of noise identified by the WHO include:

pain and hearing fatigue; hearing impairment; annoyance; interferences with social behaviour; interference with speech communication; sleep disturbance and all its consequences; and performance at work and school.

The main Dublin to Belfast rails passes to the western edge of this area. The Rail Maps have been revised for the 2012 base year. It has been estimated that there has been no significant change in sound emissions from this source over the 2007 base year. From the noise mapping carried out it is evident that the undesirable noise levels in the LAP lands are focused around Grange Road where daytime levels of 65-70dB are approached with night-time levels of 50-55dB. These levels decrease when moving away from the road thus confirming the main findings from the Fingal noise mapping where traffic noise is considered the dominant source in Fingal.

Of particular relevance to Draft Portmarnock LAP is the control of noise from Dublin Airport. Fingal County Council has recognised that there is a need to minimise the adverse impact of noise without placing unreasonable restrictions on development and to avoid future conflicts between the community and the operation of the airport. Two noise zones are shown in the Fingal Development Plan maps, an Outer Zone, within which the Portmarnock South LAP lands are located and, within which the Council will continue to restrict inappropriate development, and an Inner Zone within which new provisions for residential development and other noise sensitive uses will be resisted.

3.6.3 Air Quality and Noise Pollution Issues

The Draft LAP requires that new housing and building developments comply with the energy regulations. Compliance with these regulations will minimise energy use and the subsequent production of greenhouse gases.

In the absence of proper planning and development, building construction materials may not comply with the energy regulations requirements. Greenhouse gas emissions would increase which would be contrary to the policies of the National Climate Change Strategy (2007).

The Noise levels in the LAP area are likely to increase short-term during the construction period but also in the longer term due to increased vehicular movement following development of the area. Therefore, there is a need to ensure that new residential development is designed and constructed in such a way as to minimise noise disturbances, particularly from traffic. This can be realised by encouraging a greater modal split towards public transport as well as walking and cycling. In addition there is a need to manage potential noise from other proposed uses such as shops, offices etc (e.g. air conditioning units) and from possible night time entertainment uses.

3.7Climate Change and Sustainability

3.7.1 Introduction

Climate change is becoming the greatest challenge facing society today, an issue which affects all citizens at a local, national and international level. It is important that the Council, and its residents, act responsibly at a local level in order to assist in the reduction of greenhouse gas emissions - which are created primarily by the use of non-renewable fossil fuels. Holistically reducing these emissions will require implementing an overarching strategy affecting many aspects of the development of the County.

3.7.2 Potential Effects of Changed Climate and Rising Sea Levels

At the regional scale, the major effects of a sea level rise are loss of land as a consequence of increased erosion (due to changes in coastal currents and sedimentation rates) and inundation and increased risk of flooding (both at the coast and inland along major river networks during storm surge events).

A critical impact of climate change will be the likely changes to habitats and the flow conditions in rivers and lakes. The ERBD has been undertaking research work on the effects of abstractions on river and lake ecology to develop an understanding of the relationship between hydrology, flow, depth and habitats for key species.

Salt marshes and sand dunes are ecological strongholds providing a variety of habitats for a range of different species. Many of the marsh systems in Ireland provide over-wintering feeding grounds for many species of migratory birds. The loss of these habitats could present major problems for species numbers and diversity; aspects dealt with in a previous section (see Section 4.2 on Biodiversity, Flora and Fauna).

Rising sea levels could lead to the covering of some of the County's habitats which are important to bird populations, in particular Baldoyle Bay and the Malahide Estuary. As much of the County's coastal areas are developed, the potential for habitats to migrate inland is limited. This could impact in certain areas on waterfowl roosting as well as feeding areas, by reducing or eliminating roosting areas, or making them more liable to human disturbance. In addition, temperature changes might give invasive alien species a competitive advantage in waters, thus affecting biodiversity.

3.7.3 Climate Change Issues: Existing Problems/Environmental Consideration

The main issues facing Fingal in relation to the development of the Portmarnock South LAP lands are climate change related to increased amounts of greenhouse gases, including CO^2 emissions, from transport movements, and the danger posed by flooding events, which will occur as a result of the former. Solutions require reductions in unsustainable transport movements, and the amelioration of potential flooding events. In this regard, prioritising the development of LAP areas adjoining the rail line, the carrying out of a Flood Risk Assessment and the use of Sustainable Urban Drainage Systems (SUDS) in the LAP lands will be primary strategies in the plan.

The manner in which transport movements can be reduced is tied into the provision of high quality public transport between key locations in Fingal and into the surrounding counties, particularly Dublin City Council. At the neighbourhood level, the design and incorporation of walkable and cycle friendly urban developments is to be accommodated. The preservation, or creation of walking links within the Portmarnock and Baldoyle area and the developing area of Clongriffin/Belmayne, specifically to shops, workplaces, schools and public transport links, along the most direct routes must be given high priority, otherwise trips by car will continue to grow. Reducing car movement at the neighbourhood level through increasing ease of pedestrian movement must be the foundation stone for an overall decrease in emissions.

3.8 Material and Cultural Assets

3.8.1 Introduction

The Cultural and Material Assets of Portmarnock South LAP area may be broken down into a number of relevant categories. These are:-

Material Assets

- Waste Water;
- Drinking Water;
- Waste Management;
- Transport Infrastructure.

Cultural Assets

- Architectural Heritage;
- Archaeological Heritage.

3.8.2 Material Assets

3.8.2.1 Wastewater

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment.

In addition, the treatment of wastewater is relevant to the Water Framework Directive which requires all public bodies to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2015.

Development of Wastewater Treatment Works (WwTw) within the Greater Dublin Area has not kept pace with construction or the amount of zoned lands. The WwTw in Ringsend currently operates at a Population Equivalent (PE) of 1.9 million. All of the sludge products generated are either recycled as a useful fertiliser, or used as a green energy source. Sampling and analysis of Ringsend Wastewater Treatment Plant effluent is carried out daily in fulfilment of the requirements of the Urban Wastewater Treatment Regulations 2001 (S.I. 254 of 2001). Dublin City Council is currently finalising proposals to increase the capacity of the plant from 1.7 million PE (population equivalent) to 2.1 million PE, with a target completion date of 2015.

The North Fringe Interceptor Sewer, which is a major trunk sewer constructed in 2004, will be the receiving environment for any future development within the Portmarnock South LAP lands. The North Fringe Interceptor Sewer runs along the southern boundary of the lands. The sewer in this area is a 1600mm GRP pressure pipe and is connected to the Sutton Pumping Station. It generally flows under gravity except for specific flow and overflow conditions that could arise if the Sutton Pumping Station is out of commission. From the Sutton Pumping Station the wastewater will be discharged to the Waste Water Treatment Plant at Ringsend. The lands within the Draft LAP area are all part of the original design catchment for the North Fringe Sewer, and hence, at a strategic level, there is adequate capacity to facilitate development within this area.

The provision of a new main sewer from the LAP lands to the North Fringe Sewer and a new foul water pumping station is required to facilitate development within the plan area. An existing foul water pumping station is located outside of the plan lands on the edge of the Sluice River marsh to the north and serves the surrounding area. This is currently operating at capacity and site size does not allow for expansion of this facility. The most suitable location for a new pumping station identified is within the north/eastern section of the plan lands within designated open space lands.

An outfall and overflow is required for the pumping station. The overflow from the pump station is required in the case of pump failure. This overflow is proposed to connect to the proposed surface water outfall into Baldoyle Bay. This outfall and overflow network is dependent on acquisition of a Foreshore License before it can proceed.

3.8.3 Drinking Water

3.8.3.1 Existing and Future Water Supply

Fingal County Council Water Services Department is responsible for the delivery of a high quality drinking water supply to approximately 90,000 households and non-domestic properties in the County. In addition the Council provides drinking water to the same number of premises in Dublin City, South Dublin, Meath and Kildare

Treated water is distributed throughout Fingal using a combination of pumped mains, gravity mains and reservoirs. Presently, the water supply serving Portmarnock comes from the Liffey at its abstraction point at Leixlip and is fed by the North Fringe Water Supply Scheme via the Ballycoolin Reservoir.

3.8.3.2 Drinking Water Quality

The Environmental Protection Agency (EPA) Provision and Quality of Drinking Water in Ireland Report 2006-2007 is the first assessment on the quality of drinking water in Ireland since new Regulations, the European Communities (Drinking Water) Regulations (No.2), 2007, came into force in March 2007. The EPA is now the supervisory authority over public water supplies and has new powers of enforcement over local authorities in this regard.

The EPA Provision and Quality of Drinking Water in Ireland Report 2010 indicates that Fingal County has exceeded the monitoring requirements as required by the European Communities (Drinking Water) Regulations (No.2), 2007. Microbiological compliane in Fingal Public Water Supplies stood at 100% in 2010 whilst chemical compliance levels stood at 99.8%. The overall rate of compliance with water standards in Fingal at 98.5%, was above the national average and the quality of water in Fingal was in general good.

The County Council continually monitor of all known waste depository sites in the County in order to preserve sources of drinking water from contamination. Compliance with the EPA requirements to actively manage risks identified in relevant catchments and continually assess the quality of the source water is required in order to ensure that treatment at plants is optimised.

3.8.4 Waste Management

Fingal County Council, Dublin City Council, South Dublin County Council, and Dún Laoghaire-Rathdown County Council jointly developed the Waste Management Plan for the Dublin Region. The current Waste Management Plan for the Dublin Region 2005-2010 sets out a regional policy framework for the sustainable management of waste arising in the region. It is based on the priority of prevention and minimisation of waste, maximising recycling and minimising landfill bulk through thermal treatment. This Waste Management Plan is currently under review and will be accompanied by a Strategic Environmental Assessment.

Waste collection within the County is currently carried out by a number of third party companies and disposed of under licence. Recycling remains central to the Waste Plan with a new Regional Materials Recovery Facility at Ballymount in South Dublin for the processing of all green bin recyclables. Regional Materials Recovery facility at Ballymount, Dublin 12 became operational in 2009. The Council has four recycling centres which are located at Balleally Landfill; Estuary Recycling Centre, Swords; Coolmine Recycling Centre and Balbriggan Recycling Centre, and 80 bring banks around the County with the closest being located at Portmarnock, Golf Links Rd Car Park, Portmarnock, Portmarnock Sports & Leisure Club and Portmarnock, Beach Car Park. Fingal County Council have reported increases in the volume of material being recycled at the bring bank facilities.

3.8.5 Transport

3.8.5.1 Roads

Portmarnock South is well situated in close proximity to the strategic national road network. The R106 Coast Road runs through Portmarnock village and along the eastern boundary of the LAP connecting the plan lands to the coastal towns and villages of Fingal. Station Road located on the northern boundary of the plan lands connecting to the Drumnigh Road (R124) to the west which connects to the Moyne Road to the south of the plan lands. The Moyne Road (R123) connects to the Malahide Road (R107), the Hole in the Wall Road and Clare Hall Avenue/R139 and onwards to the M50 and M1 to the west. Coast Road links the northern villages of Portmarnock and Malahide, via Baldoyle, with Sutton Cross and the Dublin Road (Howth – Clontarf) and onwards to the city centre.

The County Development Plan includes an indicative map based objective for an upgrade of the Moyne Road. This road proposal traverses the open space lands of the plan area and would link the plan lands to the Coast Road and the Hole in the Wall Road to the south-west.

3.8.5.2 Public Transport
The main Dublin-Belfast railway line lies immediately to the west of the site and provides DART and suburban rail services to Malahide (and further north) and to the City Centre from the existing train station located at the northwestern corner of the LAP lands. The lands are also served by public buses which take a route along Coast Road to the east of the site.

3.8.5.3 Pedestrian and Cycle Route Network
At present there are no pedestrian and cycle routes within the Plan lands. Outside the Plan lands, while there is a dedicated pedestrian and cycle track along Baldoyle Road from the Dublin Road in Sutton to Baldoyle Village, the Coast Road is not an attractive environment for cyclists and pedestrians due to its narrowness coupled with the speed and volume of the traffic. There is an objective for a dedicated cycle/pedestrian route along the Coast Road linking through the Main Street of Portmarnock town centre to the north and to the Dublin Road, Sutton to the south. This will form part of the proposed Fingal Coastal Way which, when fully operational will link Balbriggan with Howth and at Sutton will connect in with the proposed Sutton to Sandycove route (S2S route).

3.8.6 Material Assets Issues. Existing Problems/Environmental Considerations
In the short term there is the potential for a waste water treatment shortfall in the area if the proposed upgrade of the pumping station to serve Portmarnock and the LAP lands and the upgrade of the Waste Water Treatment Plant at Ringsend do not keep pace with development. The overloading of waste water treatment plants, low levels of treatment and discharge of outflow to water bodies at risk has significant potential to harm human health - through contamination and pollution of drinking water – and biodiversity and contribute to failing Water Framework Directive(WFD) objectives if unmitigated.

Long-term water supplies for the County should be resolved through the Water Supply Project – Dublin Region. This project aims to supply water to the Dublin region up to 2031 and beyond. Improvements in the existing water infrastructure as well as more efficient use of the water resource, including payment for usage, are considered sufficient to accommodate development within the County for the period of the LAP. To this end the need to conserve water will be highlighted in the LAP. Fingal County Council currently ensures the provision of excellent quality drinking water. These high standards will not be affected by improvements to the network.

The management of waste and promoting better waste management both in developments and altering people's behaviour around waste management and recycling also remains an ongoing issue. The Council through the planning process will ensure that new residential and commercial developments will include facilities for the collection of separate waste streams. The LAP should also ensure the provision of sufficient quantity and high quality recycling facilities for waste sorting located conveniently for collection as well ensuring that standards for the storage, segregation and removal of waste at individual development/site level are taken into account at the planning stage.

In terms of transport provision, there is a need to prioritise development where alternative and sustainable modes of public transport are available or planned, to make provision for improved cycle and walking routes within the LAP land, and to improve accessibility to and maximise the use of sustainable forms of transport. Notwithstanding this, the maintenance and upgrade of the existing road network and, where necessary, the provision of new road networks or realignments of existing roads are essential to ensure that the road network and its carrying capacity are maintained to a high standard as well as recognising the importance of a safe and efficient road network for all users.

While transportation is one of the cornerstones of the Irish economy and will continue to be promoted as an essential component to the further sustainable development of Fingal and the LAP lands, the function of the Local Authority can be somewhat limited in that the National Roads

Authority are directly responsible for the national roads network, funding for all Regional and Local roads comes principally from the Department of Transport, Iarnród Éireann are directly responsible for the rail network and Bus Éireann and other private operators are responsible for public bus services

3.8.9 Cultural Assets

3.8.9.1 Introduction

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes physical buildings, structures and objects, complete or in part, which have been left on the landscape by previous and indeed current generations.

3.8.9.2 Architectural and Archaeological Heritage

The Record of Protected Structures (RPS) is legislated for under the Planning and Development Acts 2000-2010. Protected Structures are defined as structures, or parts of structures that are of special archaeological, artistic, cultural, scientific, social or technical point of view.

Located within the northern and southern extremities of plan lands are archaeologically important National Monuments, the Portmarnock Burial Mound [DU15:014] and Protected Structure Ref No. 475 and the Maynestown Enclosure site [DU015:055. The Portmarnock Mound (DU015-014) is a medieval burial mound and consists of an oblong shaped knoll 27m NS x 14mEW x3m high. These archaeological sites have been the subject of a sequence of progressive desk studies, surveys and on-site investigations as part of the previous application for the lands. Agreement was reached with the National Monuments Division of the DoEHLG to preserve these monuments in situ. A 20 metre reservation is required around both these monuments.

3.8.9.3 Townland Boundaries

There are hedgerows on the Portmarnock South LAP lands which mark the boundary of the historic townland, and are of cultural-historic value.

3.8.10 Cultural Assets Issues

Among the key issues facing cultural assets in the area are:

- The protection of archaeological sites within a changing environment and the development of the LAP lands so they have a meaningful expression and reason to be within the present landscape
- Making these remains into an accessible historic landscape that individuals can relate to
- Provision of signage that can be adopted throughout Fingal so it becomes a recognisable brand

4 Strategic Environmental Objectives

4.1 Strategic Environmental Objectives

In order to achieve the aim of assessing and improving the environmental performance of the Draft Local Area Plan, a number of Strategic Environmental Objectives (SEO's), specific to each environmental topic have been formulated. These Environmental Objectives are a fundamental part of the SEA process. The Objectives are derived through consultation between the planning authority, the report authors (guided by SEA guidelines, incorporating where relevant international, national and regional policies which govern environmental protection/conservation) and are based on the overall strategy of the planning authority to safeguard the environmental integrity of the LAP area and to develop its functional area in a sustainable manner.

Environmental Objectives are distinct from the objectives and policies contained in the Plan, though the process of preparing the Draft LAP in conjunction with the SEA allows for the incorporation of environmental themes at an early stage of the process. The Environmental Objectives are used to assess the proposed development strategies of the Draft Local Area Plan, its policies and objectives, in order to evaluate and identify where conflicts may occur.

Examples of Strategic Environmental Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States – and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. The strategy and objectives in the Portmarnock South Local Area Plan must be consistent with these objectives and the Plan must be capable of implementing these objectives at the local level.

Strategic Environmental Objective and SEA Topic Area	Detailed Assessment Criteria
Objective 1 **Biodiversity Flora and Fauna (BFF)** Protect and where appropriate, enhance biodiversity, particularly protected areas and protected species	• Provide effective protection of international, national and local "protected areas" and "rare and distinctive species" • Provide effective protection of biodiversity in the wider landscape including species and habitats protected by law • Contribute to the Fingal Biodiversity Action Plan objectives
Objective 2 **Population, Human Health (PHH)** Provide high-quality residential, working and recreational environments and sustainable transport	• Reduce population exposure to high levels of noise, vibration and air pollution • Increase modal shift to public transport • Contribute to the co-ordination of land use and transportation • Improve access to recreation opportunities • Contribute to the mitigation of floods and droughts

Objective 3 **Soil (S)** Protect the function and quality of the soil resource in Fingal	• Re-use of brownfield lands, rather than developing Greenfield lands • Safeguard soil and geological quality, quantity and function
Strategic Environmental Objective and SEA Topic Area (cont'd)	**Detailed Assessment Criteria (cont'd)**
Objective 4 **Water (W)** Protect and where necessary improve water quality and the management of watercourses and groundwater to comply with the standards of the Water Framework Directive objectives and measures and all water, habitat and fisheries based legislation including the Urban Wastewater Treatment Directive, the Freshwater Fish Directive, the Shellfish Waters Directive, etc.	• Improve water quality in rivers, lakes, estuaries and groundwater • Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for biodiversity • Reduce the impacts from point source pollution, diffuse source pollution, abstraction and flow regulation and morphological alterations • Ensure flow regulation is appropriate • Prevent deterioration of water bodies from morphological alterations • Promote sustainable use of water and water conservation
Objective 5 **Air Quality and Climatic Factors (AQ/C)** Contribute to mitigation of, and adaptation to, climate change and air quality issues	• Reduce levels of air pollution • Minimise emissions of greenhouse gases • Reduce waste of energy, and maximise use of renewable energy sources • Ensure that all new housing is energy efficient • Ensure flood protection and management • Restrict development in flood plains • Reduce vulnerability to the effects of climate change
Objective 6 **Cultural Heritage (CH)** Protect and, where appropriate, enhance the character, diversity and special qualities of cultural, architectural and archaeological, heritage	• Improve protection for areas of archaeological potential and for undiscovered archaeology • Promote a better understanding of sensitive environments and human interaction with those environments
Objective 7 **Landscape (LH)** Protect and, where appropriate, enhance the character, diversity and special qualities of landscapes in Fingal	• Improve protection for landscapes and seascapes of recognised quality • Ensure that landscape character is considered in the development process • Maintain clear urban/rural distinctions • Enhance provision of, and access to, green space in urban areas
Objective 8	• Improve availability and accessibility of commercially provided facilities and public

Material Assets (MA) Make best use of existing infrastructure and promote the sustainable development of new infrastructure	services • Protect Greenfield land and promote the use of brownfield sites • Increase local employment opportunities • Improve efficiencies of transport, energy and communication infrastructure • Ensure sufficient waste water treatment infrastructure • Provide drinking water supply and water conservation measures • Reduce the generation of waste and adopt a sustainable approach to waste management

5 Description and Evaluation of Alternative Plan Scenarios

5.1 Introduction

The preparation of the Local Area Plan and the associated policies and objectives affecting Baldoyle presents an opportunity to affect the way physical change and development occurs, how it happens and the character of that process. The SEA process seeks to document the development process where key decisions are reached, and consider the environmental impacts of the policy path chosen. One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative scenarios for accommodating future growth at the Portmarnock South LAP lands. This section identifies and describes different alternative scenarios, taking into account higher level strategic actions as well as the geographical scope of the LAP lands and the significant environmental effects of the alternatives selected.

These alternative scenarios are realistic – development and implementation of each could be undertaken in compliance with environmental legislation although the resources required for mitigation would vary between scenarios – and capable of implementation.

The scenarios are evaluated resulting in the identification of potential effects and informing the selection of a preferred alternative for the LAP. The policies and objectives which are required to realise the preferred alternative will be evaluated on an ongoing basis and in the SEA Environmental Report.

5.2 Excluding the Do-Nothing Scenario

The consideration of plan alternatives is a real-world exercise that recognises the plan must work within the existing context of national and regional policy and plans, climate change, and an Irish and European legislative framework that has sustainable development at its core. It is not an open-book exercise, where every conceivable option is examined. Therefore, in selecting realistic alternatives that could be evaluated, 'no development' was considered an unreasonable alternative, as it would not reflect the statutory and operational requirements of the Plan.

5.3 Legislative Context

The consideration of Alternatives is a requirement of the SEA Directive (2001/42/EC). It states under Article 5(1) that;

> *Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I.*

Annex 1 (h) of the Directive clarifies that the information to be provided on alternatives under Article 5(1), is *inter alia* 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.

Article 9 of the Directive requires that a statement shall be prepared providing information on the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with.

Annex 1 (f) details the environmental topics to be considered in the evaluation of the alternatives, which is the same as that addressed in the assessment of the plan itself:

> *biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors*.

Therefore, the Directive emphasises that the SEA process must consider alternatives that are 'reasonable', and take into account 'the objectives' of the plan, and 'the geographical scope of the plan'. The term 'reasonable' is not defined in the legislation. Good practice points to the analysis of 'Alternatives' as being a constructive and informative exercise for the policy makers, and that only 'possible' options for policy are examined. Plan scenarios that run counter to European environmental directives, the National Spatial Strategy, Ministerial Guidelines or Regional Planning Guidelines would not be considered reasonable.

Alternatives are required to take into account the objectives of the plan. The alternatives study therefore must operate within the vision set out for the LAP, which itself conforms to Development Plan policy, and provide an examination of alternative means of implementing the plan. For the purposes of this Alternatives Study, it is the Strategic Aims contained within the Vision of the LAP and listed previously in Section 5, Paragraph 5.2.2, which form the basis of the Alternatives analysis.

Finally, the consideration of reasonable alternatives must take into account 'the geographical scope of the plan'. The plan comprises areas of contrasting character, taking in the built form of the urban areas of Portmarnock, the Natura 2000 sites at Baldoyle Bay and the rural lands between the Coast Road and the railway line. The alternatives study must take account of this contrasting landscape and context, and only consider policies appropriate for the nature and extent of the plan area.

5.4 Consideration of Alternatives

The Vision outlined in Section 4 of the LAP seeks to develop Portmarnock South as a high quality urban extension with a unique sense of place, maximising the area's natural assets and coastal location adjoining Baldoyle Bay and its high level of accessibility adjoining Portmarnock DART station. However, as with all land use plans, policy must address a balancing act between economic growth and urbanisation on the one hand with obligations to protect the environment and heritage of the local and wider area on the other. The LAP sits within a wider planning framework which also seeks to balance the need for development with the need to protect the natural and cultural heritage. The Main Aims of the Development Plan, set out in Section 1.2 of that Plan, reflect this challenge, stating it is the aim to provide for the future well being of the residents of the County by:

- promoting the growth of economic activity and increasing employment opportunities;
- protecting and improving the quality of the built and natural environments; and
- ensuring the provision of necessary infrastructure and community facilities.

In line with the Development Plan and national and regional policy, the LAP seeks to consolidate development thus supporting sustainable transport and the identification of settlements and helping to protect, maintain and enhance the natural heritage of the local area and County.

The zoning context of the LAP is set by the Development Plan and alternatives cannot reasonably suggest a different zoning. Therefore, the alternatives all accept that residential

zoning makes up the main built element of the Plan lands with a significant area of Open Space zoning to the north and east.

Alternatives also need to consider the local context. In the original Local Area Plan drawn up for the lands in 2006 the lands were to provide for approximately 1,449 homes and a population in excess of 4,200 persons. To date permission has been granted for some 647 residential units and a limited quantum of retail floor area however no development has commenced. The form of development is medium density, compact urban form comprising a mix of apartment, terraced, semi-detached and large detached houses all with on-street car parking. This scale of development was predicated on the provision of the necessary infrastructure. In particular, the construction of a new pumping station was required to serve the lands.

The consideration of alternatives has taken account of the uncertain economic environment within which the Plan is being prepared. However, it is also recognised that the lifetime of the Plan may go beyond the current uncertainty and the Plan seeks to provide a robust framework that meets with the requirement for proper planning and sustainable development.

Concurrent to a context of uncertain national/international economy, is an increasingly stringent environmental regime. Advancements in legislation from the EU, which include Habitats, SEA, Water Framework and Environmental Liability Directives, place an increasing responsibility on local authorities and state agencies such as the EPA and NPWS to protect and conserve the natural environment. A failure to incorporate and address measures arising out of such primary legislative context would place the parties involved liable to severe penalties.
Three alternatives have been considered within the context of 'reasonable' set out in paragraphs 6.2, 6.3 and 6.4.1 above and in the local and planning context set out above.

Each alternative development scenario has been assessed against the SEA objectives to identify any potential effect or impact on different aspects or components of the environment. The assessment is presented in matrix form. The potential impacts for each alternative are determined as; having a positive or negative impact; as being likely to have both positive and negative impacts but in the absence of further detail the impact is unclear or; having a neutral or no impact. The assessment of the impacts is both qualitative and quantitative, and is based on experience to date and consultation with relevant professionals within the Planning Authority and in relevant agencies.

The key for the potential effects used in the matrices is as follows:

+ Potential positive impact
- Potential negative impact
+/- Both positive and negative impacts likely or that in the absence of further detail the impact is unclear
O Neutral or no impact

Following the environmental assessment of the three alternative development scenarios, the preferred alternative will be selected and described in greater detail. Then a further assessment of the chosen alternative including the identification of any significant impacts of implementing this alternative on the different components of the environment will be outlined in Section 7.

5.5 Description and Analysis of Alternatives

6.5.1 Alternative 1: Retain the layout of the 2006/2007 LAP and Masterplan with minor amendments to incorporate SuDS measures

6.5.1.1 Description

This option would allow for minor amendments to the existing LAP to incorporate, insofar as is possible, new policies in relation to SuDS. The 2006 LAP and associated Masterplan provides for

approximately 4,200 persons which equates with approximately 1013 (average household size 3.5 persons) houses and 436 apartments (average household size 1.5 persons). The Plan provides for a local distributor route that runs in an arc form through the eastern section of the LAP and incorporates a series of roundabouts, off this is a secondary distributor road and series of access road that will assist in the dispersal of traffic through the residential areas with the LAP lands. Pedestrian and cycle routes are mainly along the distributor and access roads through the development. The residential areas are divided into architectural character zones. The Masterplan provides for a more geometrical or formal layout cover in the central and western portions of the site and more informal areas along the eastern and southern edges of the site. Varying forms of open space are proposed within the residential area ranging from squares, crescents, circuses, lozenges and a village green. A local centre, incorporating a residential element, is located close to the train station in the northwestern corner of the site.

Current guidelines and policies suggest that the incorporation of SuDS measures should be frontloaded into the planning and design process. However, in acknowledging the work put into the existing LAP and Masterplan consideration was given to making relatively minor amendments to the original proposals to retrofit, insofar as is possible, new policies in relation to SuDS. This would involve retrofitting SuDS into the existing layout for example by trying to incorporate SuDS features into existing areas of open space where possible and including the use of tree pits, permeable paving, waterbutts, swales along roadside margins and attenuation areas where applicable. Similarly, it may be necessary to now leave watercourses, that were previously proposed to be culverted, open. These elements may, after detailed study, necessitate significant alterations to the layout of both the residential and open space within the development as provided for in the LAP and Masterplan. Given that there may need to be significant alterations to the existing layout it is likely that a complete reassessment of the layout of the overall development will be necessary. Importantly, it must be considered that, even if retrofitting can be undertaken within the existing and altered layout, it is unlikely that best practice standards could be attained.

6.5.1.2 Planning and Environmental Impact.

- This Alternative may compromise the design/function of some/all of the open space and residential areas within the development and current layout as proposed.
- With the exception of SuDS measures, there would be little or no opportunities for improving biodiversity or incorporating other Green Infrastructure measures on the site. The previous landscaping proposed as part of the 2006 LAP and 2007 Masterplan would detract from the open nature and character of the LAP lands overlooking the estuary and would seriously alter the ecology of this important habitat which supports estuarine birdlife. This proposal is not consistent with the protection of this important habitat and objective BD19 of the County Development Plan. These proposals are also inconsistent with the vision and strategy for buffer zones set out in Section 8.2 of the Fingal Biodiversity Action Plan 2010-2015. Based on the bird surveys carried out within the Plan lands and available historic data it is clear that the Plan lands form an important feeding/roosting habitat for birdlife associated with Baldoyle Bay SPA. In this regard the Appropriate Assessment process has identified aseries of measures to mitigate against the loss of a valuable feeding and roosting habitat within the southern and eastern section of the lands for birdlife associated with the Baldoyle Estuary involving the retention of the open space lands as open as possible in tandem with the implementation of appropriate conservations measures and low intensity recreational uses. As stated above, the existing landscaping proposed as part of the 2006 LAP and Masterplan are not compatible with these mitigation measures.
- The Fingal Development Plan is underpinned by a key environmental principle based on providing a Green Infrastructure network. The key themes which encompass green infrastructure are Landscape Character, Biodiversity, Open Space and Recreation, Archaeological and Built Heritage, Sustainable Water Management. This Alternative would make little attempt to avoid impacting the natural amenity features of trees,

hedgerows and watercourses and incorporating them into the proposed development. Rather, it is intended to remove these features, almost in their entirety.

- This Alternative would provide limited opportunities to reassess the overall layout of the scheme in order to ensure that the distinct character areas, points of visual interest, natural assets for biodiversity, recreational opportunities, maximising on principle views and providing high quality pocket parks and green routes/corridors are promoted.
- In terms of a layout and design solution this alternative does not encourage the investigation of the best 'fit' or design solution in terms of recognising the undulating, designated sensitive, coastal landscape. The Urban Design Manual – A Best Practice Guide (2009) clearly states that the context of the site should be the starting point when designing a new scheme.
- This Alternative reduces opportunities to incorporate flood risk management and water quality in a holistic way as envisaged in the Government, Regional and Local Guidelines and policies.

In terms of positive elements that would arise on foot of this alternative:

- This Alternative would represent an improvement in SuDS principles on the previous LAP/Masterplan and there would be greater control of run-off. However, the potential for a complete SuDS solution would not be reached.
- It may obviate the need to undertake a complete redesign although retrofitting in itself may require significant alterations to the layout.

6.5.1.3 Comparison of Alternative 1 against SEA Objectives

The predominantly suburban form of development is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.1.

Table 6.1: Assessment of SEA Objectives against Alternative 1

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	-
B02	Avoid loss of designated sites (SACs/SPAs/NHAs)	+
B03	Enhance Green linkages	-
B04	Facilitate the actions set out within the Fingal Biodiversity Action Plan	-
Population and Human Health		
P01	Ensure that all new developments granted permission are adequately served with community facilities	+
P02	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	+
P03	Ensure that local employment opportunities are promoted	-

P04	Ensure that sustainable transport modes are readily accessible	**-**
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	**+/-**
WO2	Promote sustainable use of water and water conservation	**-**
Climate Factors and Air Quality		
C01	Implement the Planning System and Flood Risk Management Guidelines	**+/-**
C02	Incorporate the objectives of the Floods Directive into sustainable planning and development	**+/-**
C03	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	**+/-**
C04	Ensure that all new housing is energy efficient	**+/-**
Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**-**
Material Assets		
M01	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
M02	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
M03	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.5.2 Alternative 2: Retain the layout of the 2006/2007 LAP and Masterplan while trying to incorporate SuDS and Green Infrastructure measures

6.5.2.1 Description

This option would be a mix of Alternatives 1 and 3 and would review the existing LAP in an attempt to make it better reflect the existing policies and guidelines in relation to Green

Infrastructure, SuDs, Flood Risk Management and the objectives of the Fingal Development Plan 2011-2017. This would involve the removal of part of the existing vegetation and natural features of the site to accommodate sections of the development as provided for under the 2006 LAP and accompanying Masterplan 2007 while still attempting to retain key features on site.

The implementation of Green Infrastructure would for more sustainable modes of transport i.e. stronger cycle and pedestrian linkages while also opening up opportunities for open space along green corridors and maintaining the biodiversity of the site. This Alternative recognises that it will be necessary to make significant changes to the original layout and pattern of movement envisaged within the site while still attempting to retain as much of the original urban design principles and layout of the 2006/2007 LAP and Masterplan. Until this is undertaken in detailed design terms it would be difficult to determine the scale of the changes that would be required.

6.5.2.2 Planning and Environmental Impact

This Alternative would:

- attempt to mitigate against the loss of the natural amenity features of trees, hedgerows and watercourses and incorporate them into the proposed development.
- increase opportunities for biodiversity within the site and the incorporation of some measures to mitigate against the loss of a valuable feeding and roosting habitat within the southern and eastern section of the lands for birdlife associated with the Baldoyle Estuary involving the retention of the open space lands as open as possible in tandem with the implementation of appropriate conservations measures and low intensity recreational uses.
- improve opportunities for achieving more sustainable movement patterns and linkages across the site.
- compromise the design/function of some/all of the open space areas within the development and current layout as proposed.
- would provide limited opportunities to reassess the overall layout of the scheme in a holistic way in order to ensure that the distinct character areas, points of visual interest, natural assets for biodiversity, recreational opportunities, maximising on principle views and providing high quality pocket parks and green routes/corridors.
- would not represent the best 'fit' or design solution in terms of recognising the undulating, designated sensitive, coastal landscape. The Urban Design Manual – A Best Practice Guide (2009) clearly state that the context of the site should be the starting point when designing a new scheme.
- This Alternative reduces opportunities to incorporate flood risk management and water quality in a holistic way as envisaged in the Government, Regional and Local Guidelines and policies.
- not provide opportunities to maximise the visual interest of the area.
- not be consistent with the vision and strategy for buffer zones set out in Section 8.2 of the Fingal Biodiversity Action Plan 2010-2015. Based on the acknowledged feeding/roosting habitat within the plan lands and consultation within the Council's Biodiversity Officer, these open space lands must remain as open as possible and combined with appropriate conservations measures and low intensity recreational uses, all subject to Appropriate Assessment and National Parks and Wildlife Service approval.

6.5.2.3 Comparison of Alternative 2 against SEA Objectives

The mix of Alternatives 2 and 3 is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.2.

Table 6.2: Assessment of SEA Objectives against Alternative 2

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	**+/-**
B02	Avoid loss of designated sites (SACs/SPAs/NHAs)	**+**
B03	Enhance Green linkages	**+/-**
B04	Facilitate the actions set out within the Fingal Biodiversity Action Plan	**-**
Population and Human Health		
P01	Ensure that all new developments granted permission are adequately served with community facilities	**+**
P02	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	**+**
P03	Ensure that local employment opportunities are promoted	**0**
P04	Ensure that sustainable transport modes are readily accessible	**+/-**
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	**+/-**
WO2	Promote sustainable use of water and water conservation	**-**
Climate Factors and Air Quality		
C01	Implement the Planning System and Flood Risk Management Guidelines	**+/-**
C02	Incorporate the objectives of the Floods Directive into sustainable planning and development	**+/-**
C03	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	**+/-**
C04	Ensure that all new housing is energy efficient	**+/-**

Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**-**
Material Assets		
M01	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
M02	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
M03	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.5.3 Alternative 3: Complete review of the LAP with a strong emphasis on Green Infrastructure

6.5.3.1 Description

This option would involve a complete review of the underlying premises of the original LAP and would involve the development of the Portmarnock South LAP lands using the concept of Green Infrastructure as a guiding theme for development in line with Fingal Development Plan policy. It would also provide a means of integrating adjoining development outside the LAP area with new development into a coherent urban fabric. The theme Green Infrastructure would be implemented under the five key headings set out in the Fingal Development Plan 2011-2017 namely Biodiversity, Parks, Open Space and Recreation, Sustainable Water Management, Archaeological and Architectural Heritage and Landscape. This scenario seeks to focus on the multi-functionality of Green Infrastructure, which when planned in a coherent manner provides significant social and economic benefits for the surrounding communities. It provides a holistic approach to developing the landscape inclusive of other influences such as ecological development, improving air, water and soil quality, flood protection access provision and linkages, climate change/amelioration, pollution control and quality of life issues. It can be recognised as a significant element within sustainable communities, contributing directly or indirectly to economic development and delivering real benefits to people's quality of life.

Reflecting the proximity of the LAP lands to environmentally sensitive European Sites and the unique setting and typography of the area this option would seek to retain existing landscape features on the site such as townland boundaries, to create green corridors through the site and to create sensitively designed recreational lands that would serve the needs of the future population of the lands while also providing feeding/roosting habitat for estuarine birdlife within a designated ecological buffer zone through appropriate habitat protection measures and management would be major priorities for this LAP. The important archaeological heritage of the site would also be a key determinant in shaping the layout of development.

This scenario would, insofar as is possible, safeguard the distinctive character and openness of the area and would conserve the natural and cultural heritage. The existing streams and hedgerows which traverse the plan lands would be safeguarded, enhanced and maintained with

cycle/pedestrian routes provided in strategic locations throughout the plan lands, enabling recreation whilst providing a pleasant environment for the existing and future populations. All surface water run-off within the newly developed plan lands would be managed within the site.

The Urban Design Framework would guide the layout and form of development on the site would be moulded to take account of the landscape, important green infrastructure element set out above, cultural heritage and movement patterns. Detail will be included as to appropriate heights and forms of development reflecting the different level of visual and environmental sensitivities across the site while also maximising important view lines out of the site. Increased emphasis would be placed on the development of extensive pedestrian and cycle links and connections through the residential area linking to the local centre, train station and surrounding areas thereby minimising the need the private car.

Overall allowance is made in this scenario for as great a balance as possible between the needs of built development and environmental protection with mitigation measures ameliorating any negative environmental impacts. This option would improve the status of habitats, species, ecological connectivity and water quality protection as well as facilitating flood risk management. This Alternative would also contribute towards the minimisation of impacts upon visual sensitivities and archaeological heritage and would provide a strong sense of place and high quality living environment for all residents.

This scenario is based on the principles of sustainable development which means that the Plan is promoted in accordance with International, National, Regional and County guidelines and legislation and the entire Plan area is also covered by the objectives and policies of the Fingal Development Plan 2011-2017 and the mitigation measures proposed in such.

6.5.3.2 Planning and Environmental Impact

This Alternative would:

- significantly go towards maximising the potential for land use-transport integration (*Smarter Travel*) and sustainable travel.
- through the use of Green Infrastructure contribute towards the minimisation of impacts upon visual sensitivities and archaeological heritage. The plan would be informed by the natural and man made heritage, topography, views, flooding issues, groundwater status, the protection of soil functions and this is combined with an appropriate open space network, appropriate buffering of sensitive areas to form a plan for a sustainable urban extension.
- minimises conflicts with the status of habitats, species, ecological connectivity, water quality protection, groundwater status and soil function as well as flood risk management and visual and cultural sensitivities and maximise the potential for the inclusion of appropriate mitigation measures where there is any potential for negative impacts to occur.
- allows for explicit recognition of the 12 urban design principles set out in the Urban Design Manual – A Best Practice Guide (2009) and as reiterated in the Fingal Development Plan 2011-2017.
- allows for a comprehensive review of unit types and sizes.
- facilitates the development of strong pedestrian and cycle linkages with adjacent lands to the south at Baldoyle.
- provides opportunities to minimise the visual impact of the development.

6.5.3.3 Comparison of Alternative 3 against SEA Objectives

The ‘Complete review of the LAP with a strong emphasis on Green Infrastructure’ is assessed against the most relevant SEA Objectives and sub-objectives to the Local Area Plan in Table 6.3.

Table 6.3: Assessment of SEA Objectives against Alternative 3

SEA Objectives		Impacts
Biodiversity, Flora and Fauna		
BO1	Avoid loss of locally rare and distinctive species	+
B02	Avoid loss of designated sites (SACs/SPAs/NHAs)	+
B03	Enhance Green linkages	+
B04	Facilitate the actions set out within the Fingal Biodiversity Action Plan	+
Population and Human Health		
P01	Ensure that all new developments granted permission are adequately served with community facilities	+
P02	Ensure that the LAP lands are provided with a good mix and quality of house type facilitating mixed tenure	+
P03	Ensure that local employment opportunities are promoted	+
P04	Ensure that sustainable transport modes are readily accessible	+
Water		
WO1	Improve water quality in rivers, estuaries and groundwater	+
WO2	Promote sustainable use of water and water conservation	+
Climate Factors and Air Quality		
C01	Implement the Planning System and Flood Risk Management Guidelines	+
C02	Incorporate the objectives of the Floods Directive into sustainable planning and development	+
C03	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	+
C04	Ensure that all new housing is energy efficient	+

Landscape		
LO1	Avoid the loss of designated views	**0**
LO2	Protect and enhance the designated coastal landscape having particular regard to its designations under the Habitats Directive and the Birds Directive	**+**
Material Assets		
M01	Ensure higher densities are achieved on zoned residential lands in close proximity to public transport	**0**
M02	Protect and promote the coastline of Fingal as an asset now and in the future.	**-**
M03	Discharge to waste water treatment plants that comply with the Water Framework Directive and the Urban Waste Water Directive	**+**

6.6 Selection of Preferred Alternative

A summary of the scoring/ rating of each of the development alternatives against the SEA objectives is provided in Table 6.4 below. Each development alternative was totalled and the scores were compared against each other, from this it is clear that Alternative 3, which is a complete review of the existing LAP to incorporate all current Government, regional and local policies including the objectives of the Fingal Development Plan 2011-2017 is the preferred Alternative.

Alternative 3 offers sustainable levels of population growth which can be matched by social and physical infrastructure provision. It would have beneficial effects on the provision of community facilities, housing mix, amenities and best use of existing infrastructure as well as providing for opportunities to enhance the biodiversity value of the lands within the vicinity of the designated European sites at Baldoyle Bay.
This Alternative contributes towards the protection of the environment and conforms to high level planning objectives. By complying with appropriate mitigation measures potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Table 6.4 Scoring of Development Alternatives against SEA Objectives

Alternative Development Scenario	+ Potential Positive Impact	- Potential Negative Impact	+/- Both positive & negative or unclear	0 Neutral or no impact	Total Positive
Alternative 1	4	7	5	3	**4**
Alternative 2	4	4	8	3	**4**
Alternative 3	16	1	0	2	**16**

NOTE: The Draft Local Area Plan option that has emerged from the Plan preparation process has a close correlation to Alternative 3 in terms of the inclusion of the element and benefits of the Green Infrastructure, SuDS and the 12 principles of Urban Design. However, in acknowledging current economic realities, the chosen approach also includes elements of Alternative 2 insofar

as attempts have been made to retain some of the key elements of the 2006/2007 Local Area Plan and Masterplan.

A combination of the Alternatives 2 and 3 has been developed by the Planning Team having regard to:

- The environmental effects which were identified by the Strategic Environmental Assessment and are detailed under previous subsections above; and
- Planning - including social - effects which are identified alongside environmental effects above.
- Economic conditions pertaining at the time of preparation of the Draft LAP.

6 Mitigation Measures

6.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Local Area Plan. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration is given in the first instance to preventing such effects or, where this is not possible for stated reasons, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: avoid effects; reduce the magnitude or extent, probability and/or severity of effects; repair effects after they have occurred, and compensate for effects, balancing out negative impacts with other positive ones. The mitigation measures may be incorporated into the briefing of design teams as well as the subsequent design, specification and development management of the landuses to be accommodated within the Plan area.

6.2 Mitigation Measures

During the development of the LAP, the SEA process has identified several additional measures needed to be included in the LAP. These measures have come about through scoping consultation and responses received from the EPA, the NTA, the Appropriate Assessment process and through assessment of the proposed objectives and policies by the SEA team. Mitigation measures identified through the AA process are indicated within the Natura Impact Report.

6.2.1 Water Quality

The River Mayne is a reportable river under the Water Framework Directive and is currently identified as being of “poor status” while the catchment of the River Sluice to the north is identified as being of “good status” with both rivers having a Risk Status of 1a – At Risk. In this context, it was important to incorporate the Eastern River Basin Management Plan and associated Programme of Measures into the Plan to ensure the protection and improvement of water quality.

Measures to improve and to ensure that there was no worsening of the water quality of the Mayne River and the protection of the water quality of the River Sluice were incorporated into the Plan through several water services and green infrastructure objectives; namely:

- Implement the relevant recommendations and measures as outlined in the Eastern River Basin Management Plan 2009-2015 or any other plan that may supersede same during the lifetime of this Local Area Plan. Development shall only be permitted where it can be clearly demonstrated that the proposal would not have an unacceptable impact on the water environment, including surface water, groundwater quality and quantity, river corridors and associated wetlands.
- Seek the maintenance of the Sluice River and rehabilitation of the Mayne River to good water status, it's restoration as a natural amenity and protection of the riparian corridor through the LAP area.
- Require that where SuDS features are connected to the Mayne or Sluice Rivers best practice will apply and consultation with the relevant national bodies such as the National Parks and Wildlife Service and Inland Fisheries Ireland will take place to agree on the methodology for such works.

These objectives are sufficient together with the biodiversity objectives to protect the surface water quality and the Rivers Mayne and Sluice. There are no further recommended mitigation measures.

6.2.2 Flooding

In accordance with the 'Planning Systems and Flood Risk Management Guidelines for Planning Authorities' (DoEHLG, 2009), the preparation of this plan was the subject of a Strategic Flood Risk Assessment (SFRA). Based on findings of this assessment it has been found that it is unlikely that there will be tidal or fluvial flooding will occur on the RA zoned lands. However, the lowest existing site levels are within 0.5-1.0 m of the 0.1% tidal flood level. Furthermore, specific areas within the LAP boundary have been identified as being at risk, and also as having previously flooded. The four areas are as follows:

- The North east corner of site
- Existing housing at Portmarnock Bridge
- Proposed foul water pumping station site
- Exiting housing at southeastern corner of LAP lands

Recommendations arising from that report have been incorporated into the LAP objectives as follows:

- Implement the EU Flood Risk Directive and have regard to the relevant Flood Risk Management Plan and any recommendations arising from it.
- Implement the Flood Risk Management Guidelines 2009 (OPW/DoECLG)
- Require all planning applications for residential or commercial floorspace on sites in areas at risk of flooding to be accompanied by a Flood Risk Assessment in accordance with the Flood Risk Management Guidelines.
- Ensure that any proposals for basements are included in a site specific flood risk assessment.
- Require all planning applications to submit details of compliance with the SuDS Strategy for the LAP including runoff rates from sites, protecting the water quality and flow regime of the River Mayne

These objectives are sufficient together with the SuDS objectives to protect limit the risk of flooding in areas zoned for development. In the main areas prone to flooding in the LAP lands are within the regional park which is to be managed to protect the qualifying habitat and associated species of Baldoyle Bay SAC and SPA. This will allow natural flooding to continue to occur on the existing floodplain. There are no further recommended mitigation measures.

6.2.3 Protection of Designated Sites

The LAP is immediately adjacent to Baldoyle Bay. Baldoyle Bay is a Natura 2000 site and is designated as a Special Protection Area and a Candidate Special Area of Conservation under the Birds and Habitats Directives respectively. The Murrough Spit which at the eastern edge of the Plan lands lies within the SAC and SPA.

Baldoyle Bay/Estuary is also a Ramsar site recognised as being a wetland of international importance. Nationally it is a proposed Natural Heritage Area. It is also a statutory Nature Reserve.

In formulating policies and objectives for the LAP, EU Habitats and Birds Directives and national environmental legislation were key influencers in deriving policy. An Appropriate Assessment (AA) was carried out in tandem with the preparation of the LAP for Baldoyle-Stapolin and influenced the required mitigation measures.

The Fingal Development Plan identifies Racecourse Park as an Ecological Buffer Zone to protect the ecological integrity of the nationally and internationally designated sites by providing suitable habitat for key species such as birds and by providing for compatible land-uses around the designated sites. The LAP seeks to strike a balance to allow for Racecourse Park to provide for recreational uses while protecting the important role of the area in providing flood protection and protecting biodiversity in this environmentally sensitive area. A Landscape Masterplan has been

prepared as part of the LAP to guide the management of the sensitive landscape and associated designations. Relevant mitigation objectives include:

- Ensure that the integrity of the Natura 2000 site of Baldoyle Bay and the nationally important Sluice River Marsh are sufficiently protected by the provisions of the LAP.

- Ensure the protection and enhancement of the designated 'Ecological Buffer Zone' adjacent to and ecologically connected to Baldoyle Bay, through appropriate conservation/recreational uses and management.

- Ensure adequate feeding/roosting options are available to migratory bird species associated with Baldoyle Bay through a series of habitat protection measures within the plan area.

- Protect and improve where possible the water quality of the receiving waters of Baldoyle Bay and ground water quality through appropriate sustainable water management within the plan lands.

- Protect and conserve, in co-operation with the relevant statutory authorities and other groups, the natural habitats and protected status of Baldoyle Bay, Mayne Marsh Conservation Area and the Sluice River Marsh and ensure that the plan lands continue to provide supporting function for the Qualifying Interest species.

- Protect and enhance the function of the ecological buffer zone through appropriate mitigation and management measures as set out in the Green Infrastructure and Landscape Strategy.

- Ensure that sufficient information is provided as part of development, plan or project proposals to enable Appropriate Assessment screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.

These objectives are in addition to objectives for SuDS features in the form of attenuation ponds to be designed in such a way as to include appropriate planting to encourage biodiversity, the planting of non-invasive species only, green links to include measures to shield pedestrians/cyclists from qualifying interest species of birds where applicable and surface water measures to ensure protection of water quality. In combination, these objectives should ensure sufficient mitigation measures are implemented and no further measures are recommended.

6.2.4 Green Infrastructure and Green Links

The inclusion of a green infrastructure strategy recognises the need for sustainable development across the Plan lands and in particular the often competing requirements of expanding populations with the natural and sensitive surrounding environment. The strategy included in the LAP focuses on the following key areas: the conservation and enhancement of biodiversity; the provision of accessible parks, open spaces and recreational facilities; the sustainable management of water; and the maintenance of sensitive landscapes. The green infrastructure strategy includes a number of objectives which seek to protect the natural environment and allow managed human interaction and recreation within and adjacent to it. An example of some of these includes:

- The open space network within the plan lands and the Baldoyle-Stapolin LAP lands has been designed as a series of interconnected zones to manage the natural character and resources of the area and to provide for the needs of biodiversity and the new community.
- A Linear park along the alignment of the townland boundary hedgerows. The linear park will incorporate pedestrian routes, SuDS features and informal play spaces.
- Pocket parks to ensure all dwellings are within a short (100m) walk of usable open space.

- Urban agriculture as a feature of the open space to the southern part of the plan area.
- A well integrated network of green routes that promotes walking and cycling for everyday needs and recreation.
- Low intervention landscape approach to the ecological buffer zone lands in order to retain the supporting ecological functions this landscape provides to the estuary habitats including a 'quiet zone' for migratory birds and arable crop areas for native bird species.
- A 3 metre wide footpath/cycle way, which forms part of the Fingal Coastal Way (walking and cycling) on the eastern edge of the plan linking to Portmarnock and Baldoyle.
- Central green route linking to Racecourse Regional Park and Station Road.
- Recorded Monuments retained in open space and linked visually and physically along a green axis.
- A small public space within the local centre.

There is a strong green infrastructure strategy included in the Plan which takes as its base the GI policies of the Fingal Development Plan. The objectives strive to provide a balance between the need to protect the sensitive surrounding environment and the needs of the growing population. No further mitigation measures are recommended.

6.2.5 Sustainable Development – Land Use and Transportation

The location of the LAP lands, alongside an existing railway station at Portmarnock and part of Portmarnock urban consolidation area within the Metropolitan area of Dublin indicates that higher-density, mixed used development is appropriate, in accordance with the Sustainable Residential Development in Urban Areas Guidelines 2009, to make most use of existing infrastructure and the provision of future infrastructure and opportunities for walking and cycling to locally provided services, commercial and retail facilities. Notwithstanding this however, the density achievable on this site is somewhat constrained by the fact that the majority of the plan lands are within the outer public safety zone and the outer noise zones for Dublin Airport as detailed in the Development Plan where density, land-use and noise restrictions apply. Densities are limited by the outer public safety zone requirement that 'no single half hectare plot should accommodate more than 60 persons'. [Environmental Resources Management (ERM) report, *Proposed Public Safety Zones for Dublin Airport* dated February 2005 refers].

The Local Area Plan residential [RA] zoned lands will facilitate approx. 1200 residential units based on a net development area of c. 28.2 hectares at a density of c.42 units per hectare which accords with airport safety zone criteria. The anticipated new population is c. 3360 persons. The population will be supported by a range of open spaces, recreational amenities and local retail facilities which will be developed in tandem with residential growth.

Sequencing and phasing of development is set out in Section 11 of the LAP and requires the delivery of open space and connections to the village centre and station as a key prerequisite of any development. No part of the residential area of the LAP is more than 600m from Portmarnock station. The Plan gives high priority to cycle and pedestrian routes and the importance of permeability both within the Plan lands and from the lands to the surrounding areas, see paragraph above detailing green infrastructure objectives. Relevant objectives for land use and transportation and the achievement of sustainable densities and appropriate sequencing of development and delivery of infrastructure include the following:

- Promote the development of an integrated movement and transport network.

- Encourage the use of sustainable means of travel including walking, cycling and public transport.

- Maximise public transport use and accessibility to Portmarnock Station and the wider public transport network.

- Promote and facilitate improvements to existing bus/rail services and train station car-parking thereby maximising the opportunities for increased use of public transport by local residents and visitors.

- Promote connectivity and the integration of new and established communities through a hierarchy of spaces linked through a network of green permeable walking and cycling routes at a local and strategic level.

- Promote the development of a pedestrian and cycle network of routes that incorporate existing natural features on the lands, connects with local amenities, parks, retail/community facilities and public transport facilities throughout the plan area and that is coherent, direct, safe and convenient.

Sustainable development through the means of cycling, walking and public transport and through mixed dwelling type has been a central tenet of the LAP policy. No further mitigation measures are considered necessary.

6.2.6 Appropriate Assessment

An appropriate assessment process was undertaken as part of the development of the draft LAP and the draft plan will be accompanied by a Natura Impact Report in addition to this Environmental Report. The recommendations of, and learning from, the appropriate assessment process fed into the mitigation measures and resultant LAP objectives. Those objectives within the designated sites paragraphs of the Green Infrastructure strategy were particularly influenced by AA recommendations but all of the LAP objectives were assessed as part of the process. An overarching appropriate assessment objective has been included in the LAP and where considered applicable, objectives included a protection that AA would be required for certain works, plans or projects. Examples of such objectives are as follows:

- Ensure that sufficient information is provided as part of development, plan or project proposals to enable Appropriate Assessment screening to be undertaken and to enable a fully informed assessment of impacts on biodiversity to be made.

- Protect and conserve the natural habitats and protected status of Baldoyle Bay, Mayne Marsh Conservation Area and the Sluice River Marsh and ensure that the plan lands continue to provide supporting function for the Qualifying Interest species.

- Protect existing trees, hedgerows, townland boundaries and watercourses which are of amenity, historic or biodiversity value and ensure that proper provision is made for their protection and management in future development proposals in accordance with the Green Infrastructure and Landscape Strategy.

- Require Appropriate Assessment (AA) Screening for any development, including changes to the landscape, within Racecourse Park. This will include any changes to existing or future layout, materials or surfaces of pitches.

6.2.7 Summary

The LAP has put green infrastructure and sustainable development at the core of its policies and objectives. These have been informed by the SEA and AA processes and by the responses to the scoping report sent to the prescribed bodies. Objectives have been revised in the drafting of the LAP accordingly. No further mitigation measures are recommended subject to any further input which may be required as a response of the display of the Draft Local Area Plan and submissions made.

7 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The Environmental Report puts forward proposals for monitoring the Plan which are adopted alongside the Plan. Monitoring enables, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. In addition to this, monitoring can also play an important role in assessing whether the Local Area Plan is achieving its environmental objectives and targets - measures which the Local Area Plan can help work towards - whether these need to be re-examined and whether the proposed mitigation measures are being implemented.

The Environmental Report identifies indicators - which allow quantitative measures of trends and progress in the environment over time. Measurements for indicators come from a range of existing monitoring sources and from a series of meaningful indicators that can be derived from the Development Management system. A preliminary monitoring evaluation report on the effects of implementing the Local Area Plan will be prepared within two years of the making of the plan. The Council is responsible for collating existing relevant monitored data, the preparation of a monitoring report, the publication of this report and, if necessary, the carrying out of corrective action.

8 Conclusion

The Draft Local Area Plan for Portmarnock South and its objectives as set out by the Local Authority are key to the future sustainable development of the area. The Plan aims to balance the needs of the future population with the preservation and conservation of environment as prescribed in the Fingal Development Plan. The Plan in conjunction with the County Development Plan therefore has a strong focus towards the concept of sustainability and the development of a robust Green Infrastructure Network.

The assessment process which is carried out in conjunction with the preparation of the Plan, allows for an early indication of the potential environmental effects. The changes or alterations to the Plan are made throughout the course of its preparation. Through this process of assessment and re-assessment, it was identified that particular objectives or policies could potentially have a negative environmental impact on any of the individual environmental themes or indeed on a number of them simultaneously. The benefit therefore of preparing the two together, the Plan and the Environment Report ensures that these issues are highlighted at an early stage in the process. This allows the potential negative aspects of the Plan to be addressed early on and effectively eliminated from the Draft and Final Plans. The chosen development philosophy as set out in the Plan has been assessed in terms of its overall sustainability and its potential to impact on the environment.

The objectives of the Plan were assessed against the strategic environmental objectives and the results indicate that the full implementation of the Plan will not result in a significant negative or adverse impact on the environmental resources within the local plan area. It has been shown that almost all of the Plans objectives are consistent with this summary and that in general the Plan will have a neutral to positive impact on the environment as a whole. Where there is the potential for negative impacts, mitigation as well as enhancement measures have been identified. The implementation of these measures, coupled with the monitoring procedures will ensure the proposed Local Area Plan is acceptable from an environmental perspective. At the outset of the assessment process, a number of environmental issues were identified, principally impact on Biodiversity, Flooding, Water supplies and water quality in general and Landscape and Visual Amenity. While these are and remain the key environmental challenges facing the Council over the lifetime of the plan, they also have complex interrelationships with other environmental receptors. Therefore the imperative is to promote a holistic, all inclusive response towards the protection of the natural assets within the Plan area. The potential synergies at play, if appropriately addressed, will lead to an improvement in the quality of life for the residents of the plan area, therefore becoming sustainable.

In summary, each of the Plan's objectives were found to be acceptable for the Portmarnock South area. 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 the environmental protection and conservation policies and objectives prescribed in the County Development Plan. Thus the Draft Plan can deliver a sustainable future for the inhabitants of the area.

Appendix II

Fingal County Council

Scoping Report for Draft Portmarnock South Local Area Plan 2012-2018

TABLE OF CONTENTS

1 Introduction

1.1 Background to Report

This is a Scoping Report for a Local Area Plan being prepared for lands extending to approximately 86 hectares at Portmarnock South, Co. Dublin.

As part of the LAP process the Council is required to undertake two specific types of environmental assessment:
- A Strategic Environmental Assessment as required under the SEA Directive
- An Appropriate Assessment (HDA) screening, as required under the Habitats Directive

The draft Environmental Report of the SEA and the draft Local Area Plan will be produced as part of an iterative process in which the SEA and the AA inform the drafting of the LAP. The draft Environmental Report will indicate the likely significant effects on the environment of implementing the plan. This report will, in addition to other regulatory requirements, take account of the submissions and observations received from the environmental authorities. An Appropriate Assessment of the draft LAP will also be prepared as part of the iterative process.

Fingal County Council is undertaking a review of the existing Portmarnock Local Area Plan (LAP) 2006-2012. The new LAP will provide a 6 year statutory framework (2012-2018) which will inform and guide development. The LAP must be consistent with the objectives of the Fingal Development Plan 2011-2017.

The LAP lands (86 hectares) comprise a mix of residential, open space and high amenity zoned lands (see figure 1 'LAP Context Map' and figure 2 'Development Plan Extract Portmarnock South'). The LAP is being prepared in accordance with the relevant zoning objectives on the Plan lands. The main area for development is zoned RA (40 ha), the objective for which is to:

- Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.

The remaining LAP lands, adjoining the RA zoned area, are governed by the following zoning objectives:

- OS (32ha): Preserve and provide for open space and recreational amenities.
- HA (12 ha): Protect and enhance high amenity areas.
- RC (1 ha): Provide for small scale infill development serving local needs while maintaining the rural nature of the cluster.
- RS (0.4ha): Provide for residential development and protect and improve residential amenity.

While the Portmarnock LAP (2006) focused on the residentially zoned lands only, this new Portmarnock South LAP (2012) looks at a wider context. The LAP will focus in particular on the policies and mechanisms required to deliver necessary physical, social and environmental infrastructure for the proper planning and sustainable development of the local area.

The LAP will consider in particular:

- Integration of proposed development at Portmarnock South with the established residential community of Portmarnock
- Community and recreational infrastructure

- Layout, design and type of housing including densities
- Conservation and use of Baldoyle Bay (Natura 2000 site)
- Support and acknowledgment of airport restrictions in the future development of Portmarnock South
- Support for public investment in the existing public transport services and maximising the opportunities associated with the LAP's location on a well served rail line

1.2 Purpose and Format of Report

The purpose of this Scoping Report is to assist the planning authority and the environmental authorities in identifying key environmental issues that may be affected by the proposed Local Area Plan and that should be addressed in detail in the Environmental Report. The Scoping Report will also identify information sources as well as areas that require more information to determine environmental implications.

This report is based upon the criteria set down in the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. No. 201 of 2011), amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004). The following in particular will be considered:

- Current knowledge and methods of assessment
- Contents and level of detail in the plan
- Stage of the plan in the decision making process
- Extent to which certain matters are more appropriately assessed at different levels in the decision making process in order to avoid duplication of the environmental assessment

The EPA's SEA Pack (24th January 2012) was and will continue to be used as a source of information.

This Scoping Report:

- Identifies the study area and the likely scale of development on the lands
- Provides a basis for consultation with environmental authorities
- Identifies plans and programmes which are relevant to the Portmarnock South Local Area Plan
- Assesses the Baseline Environment
- Identifies the key environmental issues arising from the baseline data

The findings of the scoping exercise will inform the preparation of the Environmental Report and the draft Portmarnock South Local Area Plan 2012-2018.

1.3 Consultees

Article 5(4) of the SEA Directive and Article 13M (2) of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, require that the prescribed Environmental Authorities be consulted when deciding on the scope and level of detail to be included in the Environmental Report.

Environmental authorities have been designated under the terms of Article 13A (4) of the Planning and Development Regulations 2001 (as inserted by article 7 of S.I. No. 436 of 2004 and as amended by S.I. 201 of 2011) as follows: -

- Environment Protection Agency (EPA)
- Dept of Environment, Community & Local Government

- Dept. of Arts, Heritage & Gaeltacht Affairs
- Dept. of Communications, Energy & Natural Resources
- Dept. of Agriculture, Food & the Marine
- Adjoining Planning Authorities

1.4 Location of LAP lands

Portmarnock South Local Area Plan (86 ha) is located south of the existing Portmarnock town centre and is bound by the DART/Dublin-Belfast railway line to the west, Station Road to the north, Mayne Road to the south and Baldoyle Bay to the east (see figure 2 'Development Plan Extract Portmarnock South'). The DART station is located in the northwest corner of the LAP lands, and all of the LAP lands are within 1km of this high quality public transport service.

To the north of Station Road and the west of the railway line (outside of the LAP lands) are a number of new residential developments comprising a mix of apartments and housing. The Sluice River Marsh NHA area is located to the north/northeast and separates these areas from the main town of Portmarnock. The open space to the south and east of the residentially zoned part of the LAP lands lends to the predominantly coastal and rural feel to this landscape.

The western and middle portion of the site forms an elevated plateau which slopes away towards Strand Road to the east and Mayne Road on the southern boundary. The site generally falls from a high point of 15m AOD along the mid-western boundary adjoining the rail line and 12m in the center of the site. The lands are approx 10m in the north west by the railway station, 4.5m in the north east adjoining Station Road, falling to 2m toward the estuary and 2.0m in the south east along Mayne Road (see figure 5 'Existing Topography & Vegetation'). The contours are more compressed on the southern side with a distinctive ridgeline running east - west and a more steeply sided slope running towards Mayne Road.

1.5 Potential Capacity of LAP lands

The lands will cater primarily for residential development, with local neighbourhood shopping facilities, and access to coastal recreational amenities.

The existing LAP 2006-2012 provided for approximately 1,400 new residential units on the plan lands which, depending on the occupancy rate, could accommodate up to 4,000 persons. The area zoned for residential development is the same as that considered in the 2006 LAP. The type and quantum of housing will be reviewed as part of the new LAP.

The potential population of this area has been and will continue to be influenced by the location of the lands within the Outer Public Safety Zone for Dublin Airport, where it is recommended that no single half hectare plot should accommodate more than 60 persons. Density in this area will need to accord with this restriction, as well as consider the need to optimise density in proximity to the railway station. Other considerations include the mix of house type required to cater for diverse needs.

2 Compatibility with other Plans and Programmes

The environmental report will provide information on (inter alia): -

"*the relationship (of the plan…) with other relevant plans and programmes"* (Annex 1(a) of the Directive); and

"the environmental protection objectives, established at international, (European) Community or (national) level, which are relevant to the plan… and the way those objectives and any environmental considerations have been taken into account during its preparation" (Annex I (e)).

The scoping stage has a role in identifying the plans and programmes that will be relevant to the Portmarnock South Local Area Plan.

The following National, Environmental, Regional and Local Plans and Guidelines will be assessed as part of the SEA process: -

2.1 National Plans, Policy and Legislation

- National Spatial Strategy, 2002–2020
- Transport 21, 2006-2015
- Delivering Homes, Sustaining Communities, 2007
- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas, and accompanying document Urban Design Manual – A Best Practice Guide, 2009
- Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities, 2007
- Retail Planning Guidelines for Planning Authorities, 2005
- The Planning System and Flood Risk Management, Guidelines for Planning Authorities, November 2009

2.2 Regional Planning Context

- Regional Planning Guidelines for the Greater Dublin Area, 2010-2022
- Retail Strategy for the Greater Dublin Area, 2008-2016
- Dublin Transportation Office - Platform for Change - Strategy, 2000-2016. This Strategy is currently being reviewed by the National Transport Authority for the period 2010 to 2030 and regard will be had to the Draft NTA Strategy 2011-2030
- Greater Dublin Strategic Drainage Study (GDSDS)

2.3 Local Planning Context

- Fingal Development Plan 2011-2017
- Adjacent Local Area Plans

A comprehensive list of policies and objectives from the Fingal Development Plan 2011-2017, which are relevant to the LAP lands, are listed in Appendix A. These policies and objectives are in compliance with higher order plans and the LAP must remain in compliance with the Fingal Development Plan.

2.4 Immediately Adjoining Developments

In addition to the aforementioned Plans and Strategies it is important to note that new LAP's are being prepared for residentially zoned (RA) lands at Baldoyle, which lies c. 800 metres to the south of the subject site (see figure 1 'LAP Context Map') and also for a large mixed use area to the west of the subject site within Dublin City Council's administrative area, which will be named Clongriffin LAP.

The Baldoyle-Stapolin Local Area Plan lands comprise of lands with the following zoning objectives in the Fingal Development Plan:

- c. 35 hectares of land zoned Objective RA – 'Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure'. This area includes the existing residential communities of Myrtle and Red Arches.
- c. 81 hectares of land zoned Objective HA – 'Protect and enhance high amenity areas'.

The plan lands will cater primarily for residential development, a local centre (including retail and commercial facilities) and access to coastal recreational amenities. The 2001 Baldoyle Action Area Plan provided for approximately 2,600 homes on the Plan lands which it was envisaged would equate to a population of 7,600. As of June 2011 c. 540 units are completed and occupied with 94 units completed and vacant and a further 205 units under construction. Planning permission exists for 1,289 residential units which have not yet started. The majority of the permissions which have not started are apartment developments. At this time, only one sector of the original plan lands does not have planning permission. The area zoned for residential development is the same as that considered in the 2001 Action Area Plan however; the type and quantum of housing will be reviewed as part of the new LAP.

The Baldoyle-Stapolin LAP lands adjoin and are functionally related to, the developing mixed use area of Clongriffin within Dublin City Council's wider North Fringe Area, encompassing Northern Cross/Clare Hall to Clongriffin to the west. This area, along with Stapolin, is one of Dublin's larger new development areas and, when completed, will have approximately 10,000 new homes as well as new retail and commercial areas. Dublin City Council is currently preparing a Local Area Plan, 'Clongriffin Local Area Plan', for the North Fringe Area which will replace the North Fringe Action Area Plan 2000. The local authorities, i.e. Fingal and Dublin City, intend, insofar as is possible, to run the Local Area Plan processes for both Baldoyle-Stapolin and the North Fringe area concurrently. As with Portmarnock it is considered essential that the cumulative effect of the development of these lands be assessed in the course of the preparation of an SEA for the area.

3 Preliminary Baseline Data and Key Environmental Issues

There is a large body of research and baseline data available from sources such as statutory agencies, internal departments within Fingal County Council, local publications, planning applications and EIS relating to major developments in the area. The following specific baseline studies have previously been carried out on the plan lands as part of the LAP adopted in 2006 and subsequent planning application, which contained an EIS:

- Archaeological Survey and Assessment
- Water Services Study, including provision for SuDS
- Transportation Network Study
- Bird Survey

In addition, a plan for a coastal walkway/cycleway within the eastern section of the LAP lands was prepared in November 2009 and an Appropriate Assessment carried out on the route in consultation with the National Parks & Wildlife Service. Surveys undertaken for this project will be considered as part of an analysis of the baseline environment in the area.

Environmental Issues to be Considered in the LAP/SEA Process

The broad categories of components in the environment, derived from paragraph (f) of Annex 1 of the Directive, to be assessed as part of the LAP/SEA process are as follows:

- Biodiversity/Flora and Fauna
- Population and Human Health
- Soil
- Water
- Air & Climatic Factors
- Material Assets/Cultural Heritage (including Architecture and Archaeological Heritage)
- Landscape
- Transport

Each component will be investigated in greater detail during the preparation of the Environmental Report, with particular focus on those key issues where there are likely to be significant environmental effects. The key issues represent: -

- Aspects of the environment that will need careful consideration; and/or
- Opportunities to optimise the contribution that the LAP makes to securing sustainable development.

It is anticipated that the **key environmental issues** will relate to:

- Baldoyle Bay and adjoining lands
- Water: Water Quality, SuDS and Flood Risk Assessment
- Transport Network

Baseline information exists and further specific studies will be undertaken in relation to the above issues. In this way the planning authority will ensure no negative direct or indirect environmental impacts on the LAP lands and the wider area, as a result of developing the lands.

The expected key issues and baseline data are examined hereunder.

3.1 Biodiversity/Flora and Fauna

The LAP lands are largely in agricultural use, with a limited number of residential properties with gardens along the eastern and southern boundaries. To the northwest is the DART station and associated 'park n ride' facility. An ecological assessment of the plan lands was carried out in 2006 highlighting a limited number of hedgerows and trees across the site, with the most significant being those hedgerows that mark the townland boundaries between Portmarnock, Drumnigh and Maynetown. As most of the land has been continuously farmed for many years, it has been so modified that it has a much reduced flora, of no importance in heritage terms. Most plants are the common weeds of tillage and the only other types are those that grow in the hedges.

The most notable area is the saltmarsh area on the sea side of the Strand Road. This area is within the cSAC/SPA area.

3.1.1 Main Issue

The issue of biodiversity will be covered in more detail in the LAP and Environmental Report. Retention of existing trees and hedgerows will be supported where feasible and the introduction of new open spaces within the residential element will contribute toward the improvement of biodiversity in the area. Requirements for a landscaping strategy will be included in the LAP.

Birdwatch Ireland has been retained by the Council to undertake surveys in the area over the winter months to ascertain the extent of use of the lands by birds from the estuary.

The Environmental Report and Appropriate Assessment will have particular regard to the proximity of Baldoyle Bay and the Sluice River Marsh Area to ensure no direct or indirect impacts on these very important habitats.

3.2 Baldoyle Bay: Natura 2000 Site

Natura 2000 is the European Union-wide network of protected areas, recognised under the EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora). These sites consist of Special Areas of Conservation (SACs) for habitats and species, Special Protection Areas (SPAs) for birds and Ramsar wetland sites.

The purpose of SEA Assessment and Appropriate Assessment of land use plans is to ensure that protection of the integrity of designated European sites is a part of the planning process at a regional and local level.

The following SAC's, SPA's and Shellfish Waters are located within a 15km zone of influence to the proposed development (see figure 3 'Designated Sites' and figure 4 'Green Infrastructure').

Special Areas of Conservation (SAC's)	**Special Protection Areas (SPA's)**
000199 - Baldoyle Bay SAC	004006 - North Bull Island SPA
000202 - Howth Head SAC	H004015 - Rogerstown Estuary SPA
000204 - Lambay Island SAC	004016 - Baldoyle Bay SPA
000205 - Malahide Estuary SAC	004025 - Broadmeadow/Swords Estuary SPA
000206 - North Dublin Bay SAC	004069 - Lambay Island SPA

000208 - Rogerstown Estuary SAC	004113 – Howth Head Coast SPA
002193 - Ireland's Eye SAC	004117 – Rockabill, Ireland's Eye SPA
	004122 - Skerries Islands SPA (and NHA)
	004024 – Sandymount Strand/Tolka Estuary SPA

Malahide shellfish waters are located off the coast.

Baldoyle Bay is the closest Natura 2000 site to the proposed Portmarnock South LAP area, located adjoining and partially within the plan lands (see Appendix B).

Fingal Biodiversity Action Plan 2010-2015 identifies the following conservation objectives for Baldoyle Bay, which were established by the National Parks and Wildlife Service:

Baldoyle Bay cSAC (candidate Special Area of Conservation)	
Conservation Objectives	**Objective 1:** To maintain the Annex I habitats for which the cSAC has been selected at favourable conservation status: Mudflats and sandflats not covered by seawater at low tide; *Salicornia* and other annuals colonising mud and sand; Atlantic salt meadows (*Glauco- Puccinellietalia maritimae*); Mediterranean salt meadows (*Juncetalia maritimi*). **Objective 2:** To maintain the extent, species richness and biodiversity of the entire site. **Objective 3:** To establish effective liaison and co operation with landowners, legal users and relevant authorities.
Proposed Special Conservation Interests for Baldoyle Bay SPA (4016)	
Bird and plant species listed in this Natura 2000 site (Qualifying interests)	Light-bellied Brent Goose Ringed Plover Bar-tailed Godwit **Additional Special Conservation Interests:** Great Crested Grebe Shelduck Pintail Red-breasted Merganser Oystercatcher Golden Plover Grey Plover Knot Dunlin Bar-tailed Godwit Redshank Wetland & Waterbirds
Main Conservation Objective SPA: To maintain the special conservation interests for this SPA at favourable conservation status: Light-bellied Brent Goose, Ringed Plover, Bar-tailed Godwit, Shelduck, Golden Plover, Grey Plover, Wetland & Waterbirds.	

3.2.1 Main Issue

With regard to the future development of the Portmarnock South lands, an Appropriate Assessment will be undertaken in conjunction with the SEA Environmental Report to ensure that development will not have significant adverse direct, indirect or secondary impacts on the integrity of the Natura 2000 sites. The Habitats Directive will be complied with and the requirements of the recent European Communities (Birds and Natural Habitats) Regulations 2011, (S.I. No. 477 of 2011) will be taken into account. The Characterisation Report for the designated Malahide shellfish waters will also be considered within the plans for the LAP lands. Nationally designated habitats and species will be assessed in addition to the Natura designated sites.

3.3 Water Quality

The Water Framework Directive (WFD) 2000/60/EC establishes a framework for community action in the field of water policy and was transposed into Irish Law in 2003. The Directive aims to maintain and improve the aquatic environment in European Communities. The overall objective of the Directive is to prevent deterioration in the status of any waters and achieve at least 'good status' by 2015.

Portmarnock is located within the Eastern River Basin Management Plan area. Two rivers flow north and south of the LAP lands into the Baldoyle Bay. The river to the north is called the River Sluice and the river to the south is called the River Mayne. These rivers are within the Santry Mayne Sluice Water Management Unit. Under the Water Framework Directive, in terms of chemical status, the River Sluice has a good status and the River Mayne a poor status. Under the EPA quality value system, the River Mayne has a moderate status. The River Sluice is not monitored by the EPA.

The Geological Survey of Ireland has classified groundwater vulnerability in the Plan area as being primarily of '*low vulnerability*'. It should be noted however, that adjacent to the Plan area Groundwater Vulnerability ranges from 'high' to 'extreme'.

3.3.1 Main Issue

Maintaining and improving water quality is a key consideration in development of the lands and will be addressed in detail in the Environmental Report and LAP, as well as in the Appropriate Assessment. The LAP will aim to achieve and maintain required standards for ecological, biological and chemical water quality of existing rivers and streams, particularly those entering the estuaries. It will be important to ensure no pollution and contamination of water sources as a result of ground water run off.

As discussed above under section 3.2 and 3.2.1, an Appropriate Assessment will be undertaken in conjunction with the SEA Environmental Report to ensure that development will not have significant adverse direct, indirect or secondary impacts on the integrity of the Natura 2000 sites.

3.4 Surface Water Drainage & Sustainable Urban Drainage Systems

Surface water from the LAP lands will be naturally drained to the northeast to Baldoyle Bay. The proposed outfall will be the subject of a Foreshore Licence.

3.4.1 Main Issue

The proposed development will result in increased impact on surface water runoff, which could potentially impact on Baldoyle Bay. As discussed above under section 3.2 and 3.2.1, an Appropriate Assessment will be undertaken in conjunction with the SEA Environmental Report to ensure that development will not have significant adverse direct, indirect or secondary impacts on the integrity of the Natura 2000 sites.

The LAP lands will be required to incorporate Sustainable Urban Drainage Systems (SUDS) principles and a SUDS strategy will be undertaken as part of the LAP process, which will include measures to promote the implementation of adequate and appropriate SUDS. This will be addressed in detail in the Environmental Report.

3.5 Wastewater

Wastewater generated from the development of the LAP lands will be directed into the North Fringe Sewer, from where wastewater is transported to and treated in the Ringsend Wastewater Treatment Plant. This will require provision of a new main sewer from the LAP lands to the North Fringe Sewer. An existing foul water pumping station is located within the northeastern section of the plan lands. This is currently operating at capacity, with required for an expanded pumping station to cater for any new development.

3.5.1 Main Issue

The Portmarnock South LAP will examine waste water capacity requirements necessary to develop the lands and development will only be allowed where capacity is available and foul drainage infrastructure is adequate.

All foul infrastructure will be designed and constructed in accordance with the Greater Dublin Regional Code of Practice for Drainage works and should comply with the Greater Dublin Strategic Drainage Study (GDSDS).

An Appropriate Assessment will be undertaken in conjunction with the SEA Environmental Report to ensure that development will not have significant adverse direct, indirect or secondary impacts on the integrity of the Natura 2000 sites.

3.6 Water Supply

In terms of water supply, the area will be served by the North Fringe Water Supply Scheme which is supplied from the Leixlip Water Treatment Plant via the Ballycoolin Reservoir. Plans for a substantial upgrade to the Leixlip plant to increase output are well advanced and are expected to be complete by the end of 2013.

3.6.1 Main Issue

Development of the LAP lands will only be allowed where the water supply network is secure and the LAP will promote sustainable water use based on a long-term protection of available water resources.

3.7 Flood Extent

The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009), which must be implemented by planning authorities, ensure that flood risk is a key consideration in preparing Local Area Plans and in the assessment of planning applications.

The core objectives as they apply to the Portmarnock South Local Area Plan are to: -

- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off;
- Improve the understanding of flood risk among relevant stakeholders;
- Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.

3.7.1 Main Issue

Fingal County Council is currently carrying out the Fingal East Meath Flood Risk Assessment and Management Study (FEM FRAMS), in conjunction with Meath County Council and the Office of Public Works. This is a catchment-based flood risk assessment and management study of rivers and streams within the Fingal and east Meath area. The Mayne and Sluice Rivers form a part of this study and coastal flooding has also been taken into account.

A Strategic Flood Risk Assessment is required as part of the preparation of the LAP and the results of the FEMFRAM study will be fully considered.

3.8 Transportation

- **Existing Road Network**

The road network in the immediate vicinity of the LAP lands includes Station Road along the northern boundary of the site, Strand Road to the east, Drumnigh Road to the west of the site and Mayne Road to the south as. Strand Road and Drumnigh Road provide the main road links south towards the City Centre while Mayne Road and Station Road provides the main route westwards towards the Malahide Road and the M50 Motorway.

- **Proposed Road Improvements: Fingal Development Plan 2011-2017**

There is a local objective within the LAP lands for a realignment/upgrade of the existing Mayne Road – listed in the Fingal Development Plan 2011-2017 as 'R123 Moyne Road Upgrade'. There is also an objective for a cycle/pedestrian route in the vicinity of the lands, along Strand Road, Station Road (as far as the DART station) and linking through the Main Street of Portmarnock town centre, continuing north along the coast.

- **Public Transport**

The main Dublin-Belfast railway line lies immediately to the west of the site and provides DART and suburban rail services to Malahide and the City Centre from Portmarnock Station which is located at the northwest corner of the site.

The area is also served by Dublin Bus scheduled services most of which provide links to Dublin City Centre. These include the following routes:-
- 32/32A/32B Malahide - Portmarnock - City Centre
- 32X Estuary Road - Portmarnock - City Centre - UCD
- 102 - Malahide and Sutton Dart Station via Portmarnock

Two other bus routes serve Portmarnock though they do not go past the LAP lands, serving instead northern Portmarnock:
- 142, Northern Portmarnock to Rathmines, via the City Centre
- 42 Northern Portmarnock - Malahide - City Centre

3.8.1 Main Issue

The Portmarnock South LAP will consider fully as part of the transport assessment for the plan lands, any necessary road network improvements required to support

development as well as improvements to cycle and pedestrian routes linking the lands safely to the existing DART/Commuter Station and Portmarnock Town Centre. The LAP will incorporate the planned walkway/cycleway to the east of the residential portion of the LAP lands, for which an AA has been undertaken. The LAP will include a phased approach to development to ensure that capacity exists in the network to accommodate the development of Portmarnock South.

3.9 Population and Human Health

The 2006 Census indicated that the population of Portmarnock town was 8,979, which was an increase of 7.2% from 2002. It is clear from the Census that this growth has occurred in the southern part of Portmarnock. The population in Portmarnock North Electoral Division (ED), that is, north of Blackberry Lane, dropped by 9.5% between 2002-2006. In contrast, Portmarnock South ED, which includes the remainder of Portmarnock as far south as Mayne Road, grew by 5.5%. However, preliminary results for the 2011 Census indicate that population in both EDs has declined in the inter-censal period. Part of this decline may be accounted for by an aging population, in particular in the northern parts of Portmarnock. The reasons for any population decline in the southern part of Portmarnock will have to be further examined as the details of the Census are released from 2012 onwards.

The existing LAP provided for approximately 1,400 new residential units on the Plan lands which, depending on the occupancy rate, could accommodate up to 4,000 persons. The type and quantum of housing will be reviewed as part of the new LAP. The potential population of this area has been and will continue to be influenced by the location of the lands within the Outer Public Safety Zone for Dublin Airport, where it is recommended that no single half hectare plot should accommodate more than 60 persons.

3.9.1 Main Issue

Density within the LAP area will need to accord with restrictions related to the Outer Public Safety Zone for Dublin Airport, as well as consider the need to optimise density in proximity to the railway station. Other considerations include the mix of house type required to cater for diverse needs.

The LAP process will involve an assessment of the needs of the future population, as well as additional augmentation of services and infrastructure for both the existing and future population.

It will also be important to avoid affects on the existing and new population associated with noise, vibration and emissions to air during both construction and operational phases at Portmarnock South.

3.10 Soil

A site investigation study was carried out by Glover Site Investigations ltd in 2006 as part of an EIS covering the residential portion of the Portmarnock South LAP lands. A ground investigation boreholes and trial pits report was prepared.

The report stated that the subsoil conditions consist of topsoil 0.2/0.4m deep overlying glacial deposits to substantial depth. The geology of the area consists of a thick argillaceous (muddy) bioclastic (contains fossils) limestone with medium to dark calcarenites interbedded with thin calcareous shales locally containing oolitic (small round fossil) beds. The glacial overburden is generally relatively thin and is greater than

3m in depth. The Geological Survey of Ireland classify the hydrogeology as LL – locally important aquifer. This equates to bedrock which is moderately productive in localised zones. The impure nature of the argillaceous bioclastic limestone means that it is not as brittle as pure limestone and will therefore deform more readily. Deformation of the rock tends to seal fractures and inhibit water movement.

3.10.1 Main Issue

Policies in the LAP will ensure that the impacts on soil will be minimal within this urbanised area and ensure the amount of waste is minimised.

3.11 Air/Climatic Factors

The Air Framework Directive deals with each Member State in terms of Zones and Agglomerations. For Ireland, four zones, A, B, C and D are defined in the Air Quality Regulations. Fingal County Council has published a Noise Action Plan, which will be considered in the development of the LAP lands.

The Portmarnock South LAP is located within the outer airport noise zone and outer airport public safety zone.

3.11.1 Main Issue

The layout, quality and density of residential development will be fully considered as part of the LAP, with specific regard to the area's location within the outer airport noise zone and outer airport public safety zone.

A sustainability framework will form a key part of the LAP, with a focus on integrating land use and transportation and promoting modal shift from car to public transport, in particular the DART, which will aid in the reduction of emissions.

The LAP will ensure that there are also objectives in place in relation to air and climatic factors.

3.12 Material Assets/Cultural Heritage (including architectural and archaeological heritage)

The material assets in the area include the road network and piped infrastructure. These issues are addressed in other sections of this report.

The LAP lands contain 2 recorded monuments, one to the north and one to the southeast. They are as follows: -

- The Portmarnock mound (RMP Ref. DU015:014, RPS Ref. No. 475).
- The Maynetown enclosure (RMP Ref. DU015:055).

In addition there is a tidal mill site (SMR Ref. DU015:015) located at Portmarnock Bridge, northeast of the LAP lands.

The archaeological sites have been the subject of a sequence of progressive desk studies, surveys and on-site investigations as part of the previous LAP for the lands and were incorporated within a planning application for development (which has not commenced development) in consultation with the Department of Environment, Heritage & Local Government.

3.12.1 Main Issue

It is important that known archaeology is protected as part of the Plan and that the land's archaeological heritage is recognised and promoted. The LAP and SEA will address the detail of the archaeological requirements of the area.

With regard to archaeological heritage, this will be protected and incorporated within green spaces in accordance with the requirements, as previously established, by the Department of Arts, Heritage & Gaeltacht Affairs.

3.13 Landscape

The Fingal Development Plan, in accordance with its categorisation of Landscape as a key element of Green Infrastructure, identifies the lands as being within a Highly Sensitive Landscape setting, with a local objective to preserve views along Strand Road. Portmarnock South LAP lands are mainly within the 'Estuary Character Type', with a proportion within the 'Coastal Character Type'.

With regard to the Estuary Character Type, there are three large sand spits along the coast of Fingal which have created protected estuarine and saltmarsh habitats of great ornithological and ecological interest at Rogerstown, Swords/Malahide and Baldoyle. The three estuaries are Natura 2000 Sites (Special Protection Areas and Special Areas of Conservation). The Estuary Character Type is categorised as having an exceptional value, recognised by the EU designations (candidate Special Areas of Conservation and Special Protection Areas) that apply to each in additional to national designations such as proposed Natural Heritage Areas and Ramsar.

The Coastal Character Type forms large sections of the eastern boundary of the County and contains a number of important beaches, islands and headlands that together create a landscape of high amenity and landscape value. The Coastal Character Type is categorised as having an exceptional landscape value. This value is arrived at due to the combination of visual, ecological, recreational and historical attributes.

The Fingal coastline is the county's most important wildlife resource with most of the protected sites and protected wildlife species found along the Fingal shores. The coastline of Fingal is characterised by the three large estuaries of Rogerstown, Malahide and Baldoyle. Balydoyle Estuary (see section 3.2 below) is located to the east of the LAP lands and is a designated Natura 2000 site, being a cSAC and SPA. The Sluice River Marsh and the Mayne Marsh are associated with the Baldoyle Bay near Portmarnock, north of the LAP lands.

Portmarnock comprises an important greenbelt zone separating it from Malahide and Baldoyle. To this end, the Fingal Development Plan contains an objective recognising the importance of protecting the greenbelt separation between Portmarnock and Malahide and the visual break afforded by the open space lands between Balydoyle and Portmarnock.

3.13.1 Main Issue

The LAP will ensure any issues in relation to the landscape setting of the LAP lands and views from the site are protected and valued.

4.0 Monitoring

Objectives, targets and indicators will be included as part of the Draft SEA Report for the purposes of monitoring the LAP. The objectives, targets and indicators will broadly

follow those adopted in the Fingal Development Plan 2011-2017 but with local adaptations where appropriate and where local data is available for capture.

5.0 Next Steps: Environmental Report

Comments on this Scoping Paper are now sought. The draft Environmental Report of the SEA and the draft Local Area Plan will be produced as part of an iterative process in which the SEA and the AA inform the drafting of the LAP. The draft Environmental Report will indicate the likely significant effects on the environment of implementing the plan. This report will, in addition to other regulatory requirements, take account of the submissions and observations received from the environmental authorities. An Appropriate Assessment of the draft LAP will also be prepared as part of the iterative process.

APPENDIX A: Fingal Development Plan 2011-2017

1.0 Local Context: Fingal Development Plan 2011-2017

Fingal Development Plan 2011-2017 sets out its strategic policy for the next 6 years. One of the policies, which specifically relates to Portmarnock, is as follows:

> Consolidate the development and protect the unique identities of the settlements of Howth, Sutton, Baldoyle, Portmarnock, Malahide, Donabate, Lusk, Rush and Skerries.

In terms of Fingal's settlement hierarchy (in compliance with Regional Planning Guidelines), Portmarnock is identified as an area within the Metropolitan Area requiring consolidation.

The development plan identifies Portmarnock as a distinct linear coastal suburban town within the Metropolitan Area which developed in the 20th century. It is located just north of Baldoyle Bay which is designated as a Special Area of Conservation (SAC) and a Special Protection Area (SPA). As a centre, it lacks urban structure especially with regard to urban design cohesiveness, permeability and identity. The urban structure and identity of Portmarnock needs to be strengthened and consolidated through definition of the street frontage and upgrading of the streetscape.

1.1 Development Strategy

The Development Strategy identified for the town is as follows:
Consolidate, define and enhance the existing urban form and retain amenities in line with the Urban Centre Strategy for Portmarnock (2009). The long-term development area for Portmarnock is based on the existing development area. It is intended to encourage more intensive commercial development, to provide good linkages to lands at south Portmarnock adjacent to the rail line, and to rejuvenate the existing village core.

The following Objectives are identified for Portmarnock:

Objective PORTMARNOCK 1
Develop Portmarnock as a centre providing services for both the residential population and for tourists.

Objective PORTMARNOCK 2
Implement the Portmarnock Urban Centre Strategy including the design guidelines for Portmarnock's urban centre.

Objective PORTMARNOCK 3
Preserve the identity of the town by securing its physical separation from Malahide by Greenbelts.

Objective PORTMARNOCK 4
Improve the physical character and environment of the area so that it can act as a service, social, recreational and tourist centre.

Objective PORTMARNOCK 5
Carry out an environmental improvement scheme in the village.

Objective PORTMARNOCK 6
Protect and manage the flood plain of the Sluice River to the south of Portmarnock and ensure that its integrity as a natural habitat is maintained.

1.2 Zoning Map and Local Objectives

The LAP is 86 ha in area and is being prepared in accordance with the relevant zoning objectives (see figure 2 'Development Plan Extract Portmarnock South') including zoning objective RA (40 ha):

- Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.

The remaining LAP lands, adjoining the RA zoned area, are governed by the following zoning objectives:

- OS (32ha): Preserve and provide for open space and recreational amenities.
- HA (12 ha): Protect and enhance high amenity areas.
- RC (1 ha): Provide for small scale infill development serving local needs while maintaining the rural nature of the cluster.
- RS (0.4ha): Provide for residential development and protect and improve residential amenity.

The zoning map for this area identifies the lands as being within a Highly Sensitive Landscape setting.

Baldoyle Bay, which bounds the LAP lands to the east, is a Natura 2000 site and is designated as a cSAC (candidate Special Area of Conservation) and SPA (Special Protection Area) under the EU Habitats Directive and Birds Directive respectively. The Estuary is also designated as a Ramsar Conservation Wetland and Statutory Nature Reserve. A portion of the HA zoned lands east of Strand Road is within Baldoyle cSAC and SPA and is part of an Annex I habitat. The area of OS and HA zoning, to the west of Strand Road (adjoining the residentially zoned lands) and north of Mayne Road, is identified on the Green Infrastructure Map as being part of the ecological buffer zone of Baldoyle Bay. The following objective relates to the buffer zones:

> **Objective BD19**
> Protect the functions of the ecological buffer zones and ensure proposals for development have no significant adverse impact on the habitats and species of interest located therein.

The LAP is largely located within the Dublin Airport Outer Public Safety Zone, whereby densities are limited by the requirement that 'no single half hectare plot should accommodate more than 60 persons'. The lands are also within the Outer Airport Noise Zone.

The following **Local Objectives** apply to the zoning map relating to the plan lands:

- 402: Promote an enhanced rail station and improved rail service, together with the provision of a local feeder bus service.
- 406: The visual impact on the Green Belt of this new housing in Baldoyle will be minimised by its siting, design and by planting.
- 408: Density shall be in accordance with (draft) public safety zones recommended by the Government.

- 410: Develop an estuary walkway and cycleways from Mayne Bridge, Baldoyle Road to Strand Road, Portmarnock together with an adequate system of public lighting for the entire route from Baldoyle to Portmarnock.
- 422: Create a full pathway from Howth to Malahide through the construction of a pathway from the River Mayne Bridge to the Portmarnock Roundabout.
- 427: Place signage and information boards along this coastal pathway at pivotal locations.
- 429: Only development relating to recreational activities to be permitted in the OS zoning between Portmarnock and Baldoyle.
- 435: Facilitate extra housing on Station Road, Drimnigh Road and Old Portmarnock to link into the main drainage scheme.

There is a local objective within the LAP lands for a realignment/upgrade of the existing Mayne Road – listed in the Fingal Development Plan 2011-2017 as 'R123 Moyne Road Upgrade'. There is also an objective for a cycle/pedestrian route in the vicinity of the lands, along Strand Road, Station Road (as far as the DART station) and linking through the Main Street of Portmarnock town centre, continuing north along the coast. There is an additional objective to preserve views along Strand Road.

The following objective 1 relating to Baldoyle highlights the importance of the open landscape between Portmarnock South and Baldoyle/South Fringe developments:

Objective Baldoyle 1
Ensure the viability of the visual break on lands between Baldoyle and Portmarnock urban areas by locating appropriate outdoor sport and recreation opportunities which respect the character, sensitivity and natural heritage designations of the existing landscape subject to Appropriate Assessment Screening and full Appropriate Assessment if required.

There are two existing special amenity areas within Fingal, at Howth and Liffey Valley. The development plan includes the potential for a third at Baldoyle and Portmarnock:

Objective SA07
Consider Baldoyle jointly with Portmarnock for a Special Amenity Order.

1.3 Green Infrastructure

The Fingal Development Plan 2011-2017 identifies a number of key themes which the Green Infrastructure Strategy addresses. These are:
_ Biodiversity
_ Parks, Open Space and Recreation
_ Sustainable Water Management
_ Archaeological and Architectural Heritage
_ Landscape

Under each of these headings the Council has identified and mapped the key elements of the County's strategic green infrastructure on the Development Plan maps, under each of the five GI themes.

The following overarching objectives in relation to Green Infrastructure apply to the Portmarnock South LAP:

Objective GI10

Require all Local Area Plans to protect, enhance, provide and manage of green infrastructure in an integrated and coherent manner addressing the five GI themes set out in the Development Plan – Biodiversity, Parks, Open Space and Recreation, Sustainable Water Management, Archaeological and Architectural Heritage, and Landscape.

Objective GI11
Require all new development to contribute to the protection and enhancement of existing green infrastructure and the delivery of new green infrastructure, as appropriate.

Objective GI12
Require all new development to address the protection and provision of green infrastructure for the five GI themes set out in the Development Plan (Biodiversity, Parks, Open Space and Recreation, Sustainable Water Management, Archaeological and Architectural Heritage, and Landscape) in a coherent and integrated manner.

Objective GI13
Require all proposals for major developments to submit a green infrastructure plan as an integral part of a planning application except where green infrastructure is dealt with as part of Objective UD01.

APPENDIX B: Baldoyle Bay, Natura 2000 Site

SITE NAME: BALDOYLE BAY

SITE CODE: 000199

SITE SYNOPSIS

Baldoyle Bay extends from just below Portmarnock village to the west pier at Howth, Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand-dune system. Two small rivers, the Mayne and the Sluice, flow into the bay. The site contains four habitats listed on Annex I of the EU Habitats directive: *Salicornia* mud, Mediterranean salt meadows, Atlantic salt meadows and Tidal mudflats.

Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*).

The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod *Hydrobia ulvae* occurs in the muddy areas, along with the crustacean *Corophium volutator*.

Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here. Portmarnock Spit formerly had a well-developed sand dune system but this has been largely replaced by golf courses and is mostly excluded from the site. A few dune hills are still intact at Portmarnock Point, and there are small dune hills east of Cush Point and below the Claremont Hotel. These are mostly dominated by Marram (*Ammophila arenaria*), though Lyme-grass (*Leymus arenarius*) is also found.

The site includes a brackish marsh along the Mayne River. Soils here have a high organic content and are poorly drained, and some pools occur. Rushes (*Juncus* spp.) and salt tolerant species such as Common Scurvygrass (*Cochleria officinalis*) and Greater Sea-spurrey (*Spergularia media*) are typical of this area. Knotted Hedge-parsley (*Torilis nodosa*), a scarce plant in eastern Ireland, has been recorded here, along with Brackish Water-crowfoot (*Ranunculus baudotti*), a species of brackish pools and ditches which has declined in most places due to habitat loss.

Two plant species, legally protected under the Flora (Protection) Order, 1999, occur in the Mayne marsh: Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*).

Baldoyle Bay is an important bird site for wintering waterfowl and the inner part of the estuary is a Special Protection Area under the EU Birds Directive as well as being a Statutory Nature Reserve. Internationally important numbers of Pale-bellied Brent Geese (418) and nationally important numbers of two Annex I Birds Directive species - Golden Pover (1,900) and Bar-tailed Godwit (283) - have been recorded. Four other species also reached nationally important numbers: Shelduck (147), Pintail (26), Grey Plover (148) and Ringed Plover (218) - all figures are average peaks for four winters 1994/95 to 1997/1998. Breeding wetland birds at the site include Shelduck, Mallard and Ringed Plover. Small numbers of Little Tern, a species listed on Annex I of the EU Birds Directive, have bred on a few occasions at Portmarnock Point but not since 1991.

Because the area surrounding Baldoyle Bay is densely populated, the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.

Baldoyle Bay is a fine example of an estuarine system. It contains four habitats listed on Annex I of the EU Habitats Directive and has two legally protected plant species. The site is also an important bird area and part of it is a Special Protection Area under the EU Birds Directive, as well as being a Statutory Nature Reserve. It supports internationally important numbers of Brent Geese and nationally important numbers of six other species including two Annex I Birds Directive species.

15.2.2000

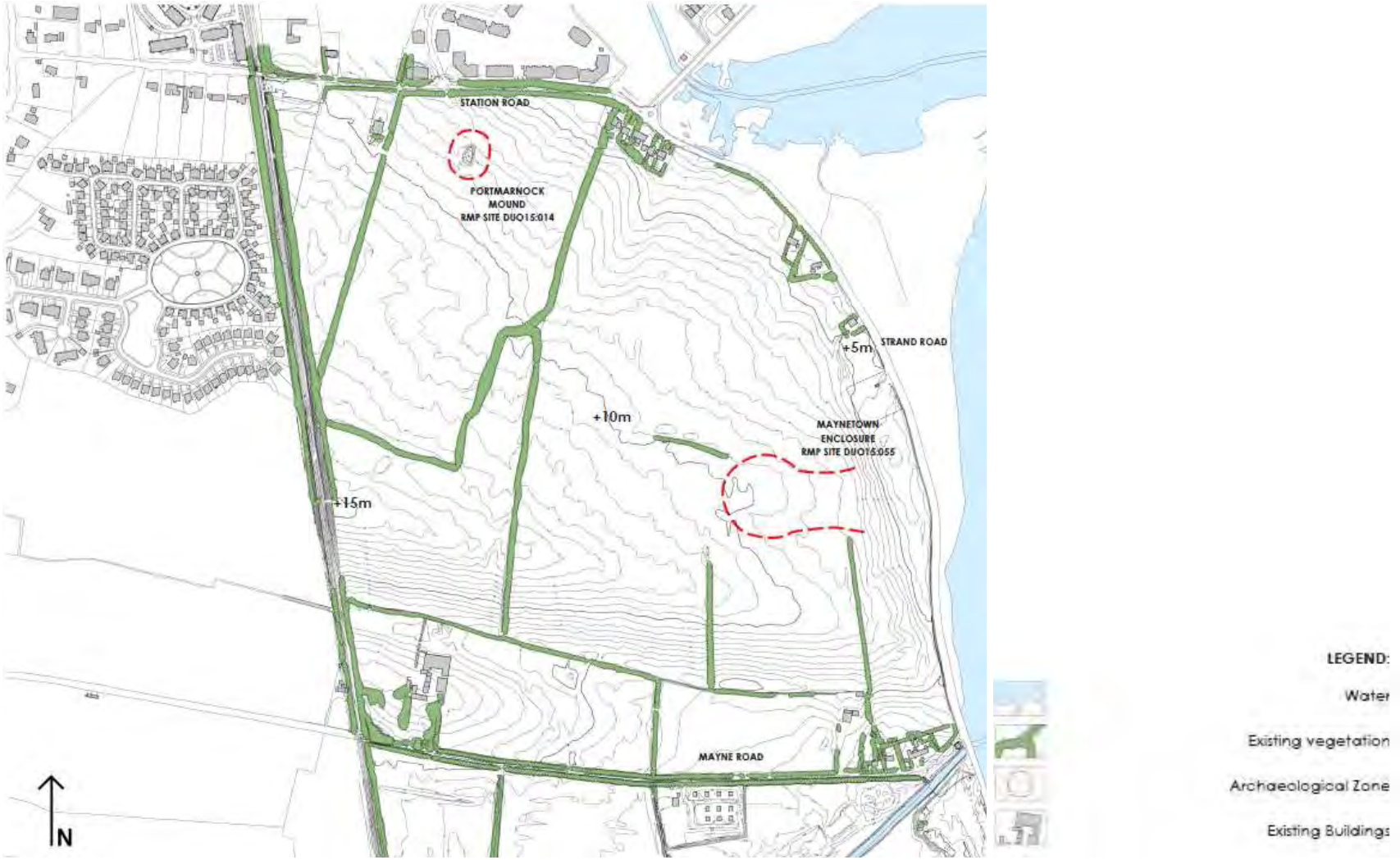
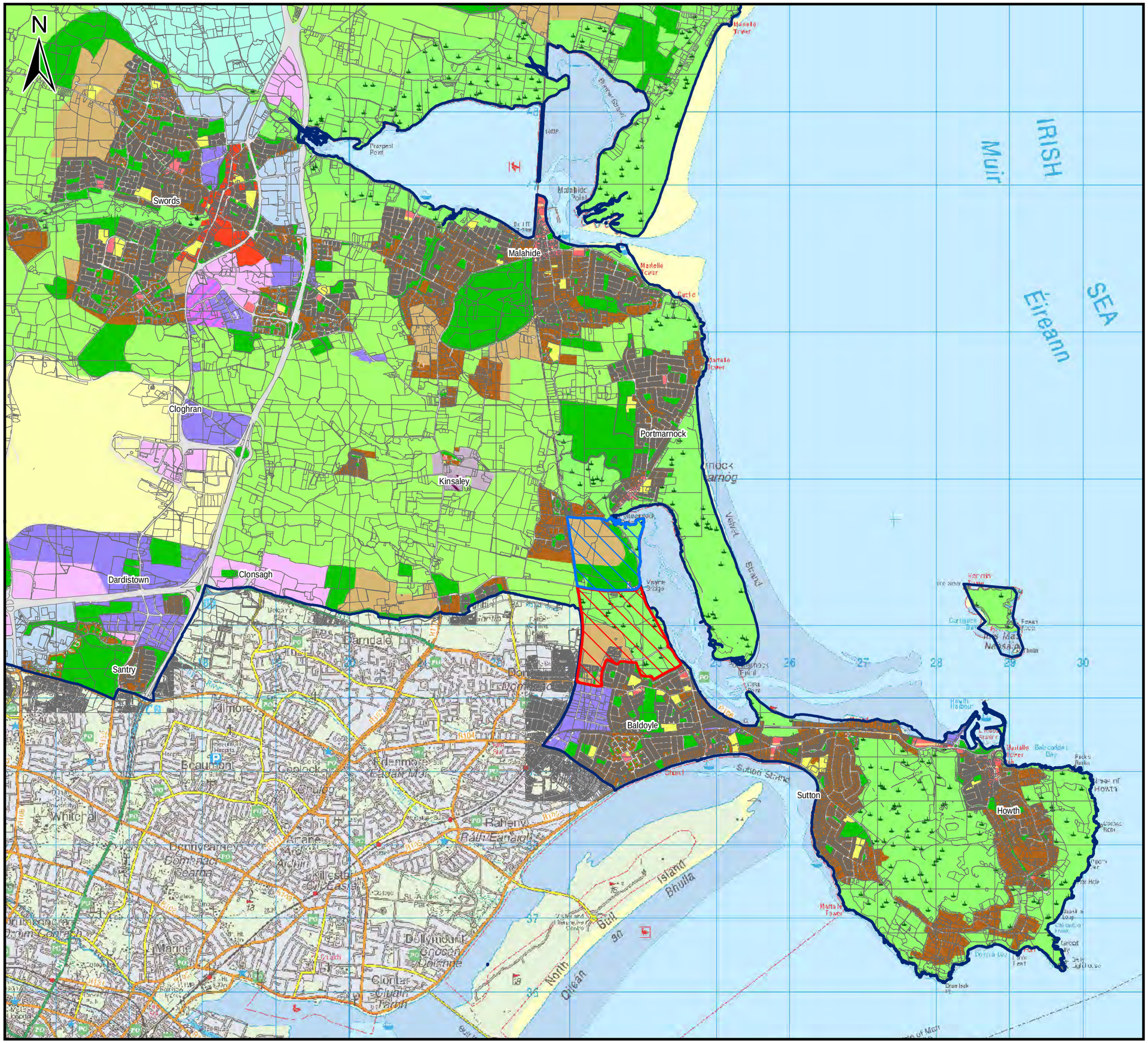


Figure 5: Existing Topography & Vegetation

LAP Context Map
Figure 1



Legend

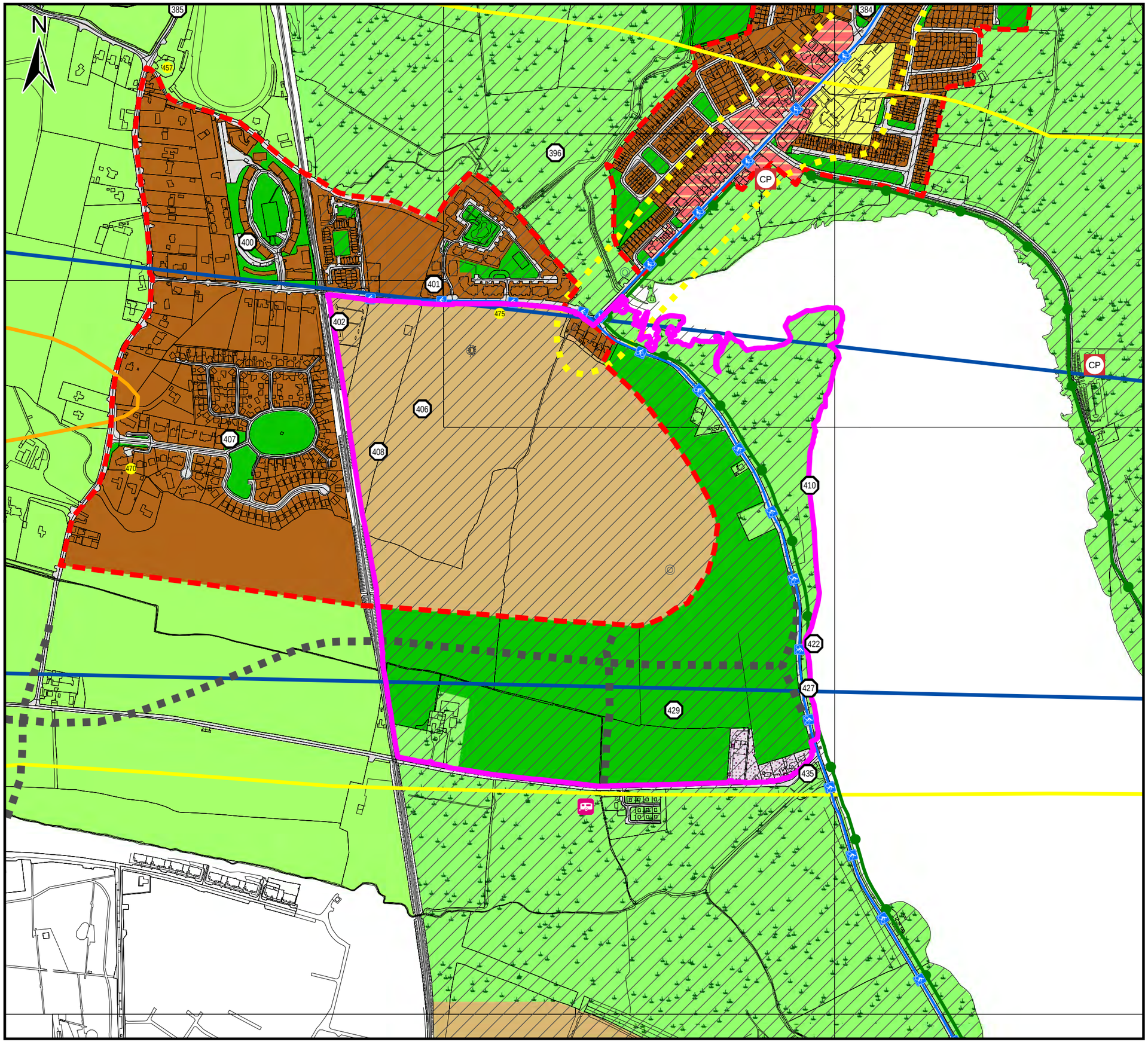
- Portmarnock South Local Area Plan Lands
- Baldoyle Stapolin Local Area Plan Lands
- County Boundary

Comhairle Contae Fhine Gall
Fingal County Council

Planning Department, County Hall, Main Street, Swords

Date: January 2012 Prepared By: A Grogan Drawn By: CJ Scale @ A3: 1:50,000

Development Plan Extract
Portmarnock South
Figure 2



Legend

- Local Area Plan Lands
- **Objective CI** Provide for and protect civic, religious, community, education, health care and social infrastructure
- **Objective GB** Protect and provide for a Greenbelt
- **Objective HA** Protect and enhance high amenity areas
- **Objective OS** Preserve and provide for open space and recreational amenities
- **Objective RA** Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure
- **Objective RC** Provide for small scale infill development serving local needs while maintaining the rural nature of the cluster
- **Objective RS** Provide for residential development and protect and improve residential amenity
- **Objective TC** Protect and enhance the special physical and social character of town and district centres and provide and/or improve urban facilities
- Highly Sensitive Landscape
- Urban Centre Strategy/Study Area
- Inner Airport Noise Zone
- Outer Airport Noise Zone
- Outer Public Safety Zone
- Development Boundary
- Indicative Cycle/Pedestrian Route
- Road Proposal
- Preserve Views
- 473 Protected Structure
- Recorded Monument
- CP Car Park
- 355 Local Objective

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Fingal County Council

Planning Department, County Hall, Main Street, Swords

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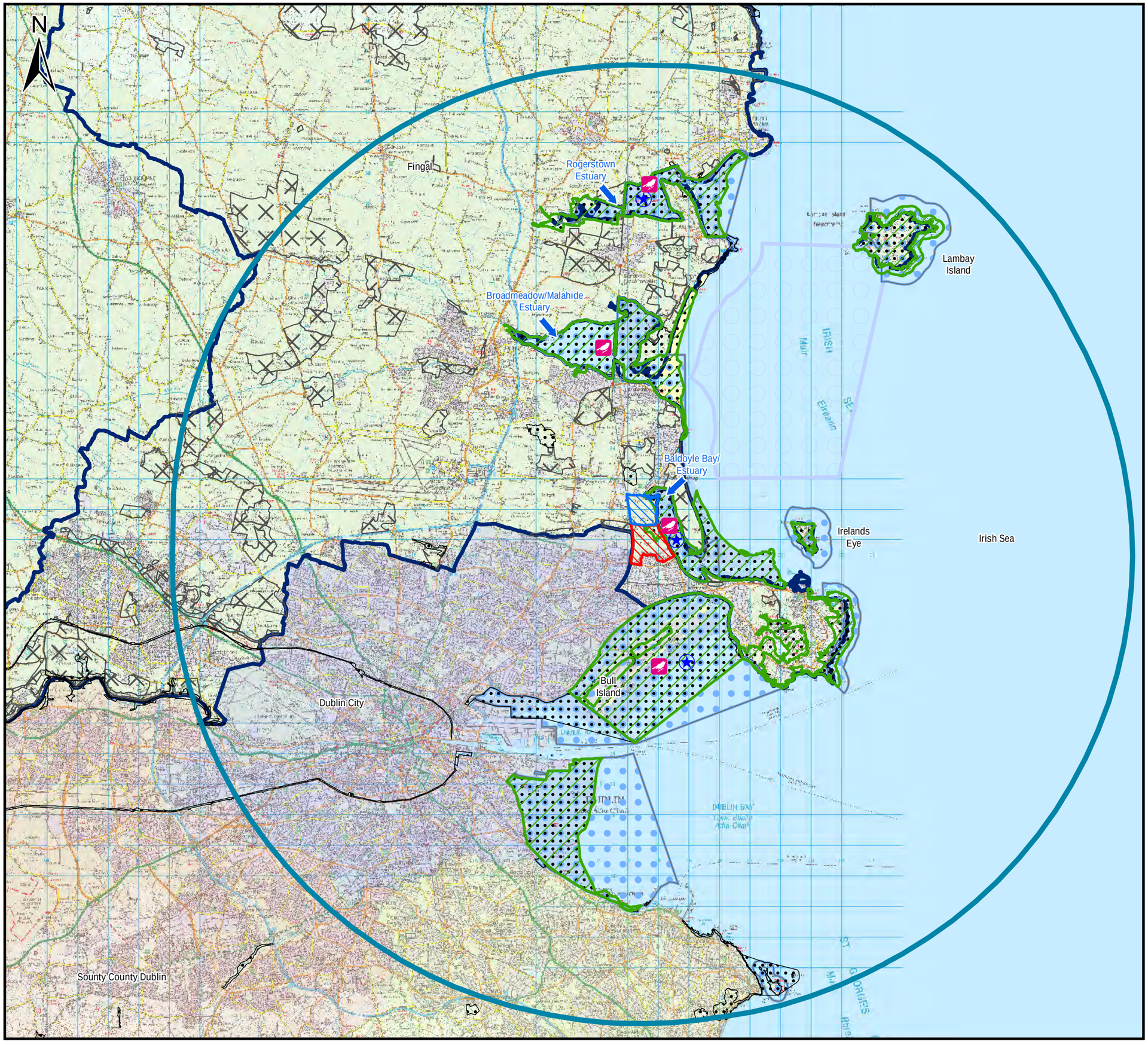

Designated Sites
Figure 3

Legend

- **Portmarnock South Local Area Plan Lands**
- **Baldoyle Stapolin Local Area Plan Lands**
- **County Boundary**
- Designated Shellfish Waters
- 15km Buffer Line

Fingal Ecological Network:

- Special Areas of Conservation SAC
- Special Protection Area SPA
- Natural Heritage Area pNHA/NHA*

*Note: Skerries Islands are the only NHA Designation in Fingal

- Ramsar Conservation Wetland
- Statutory Nature Reserve
- Nature Development Area

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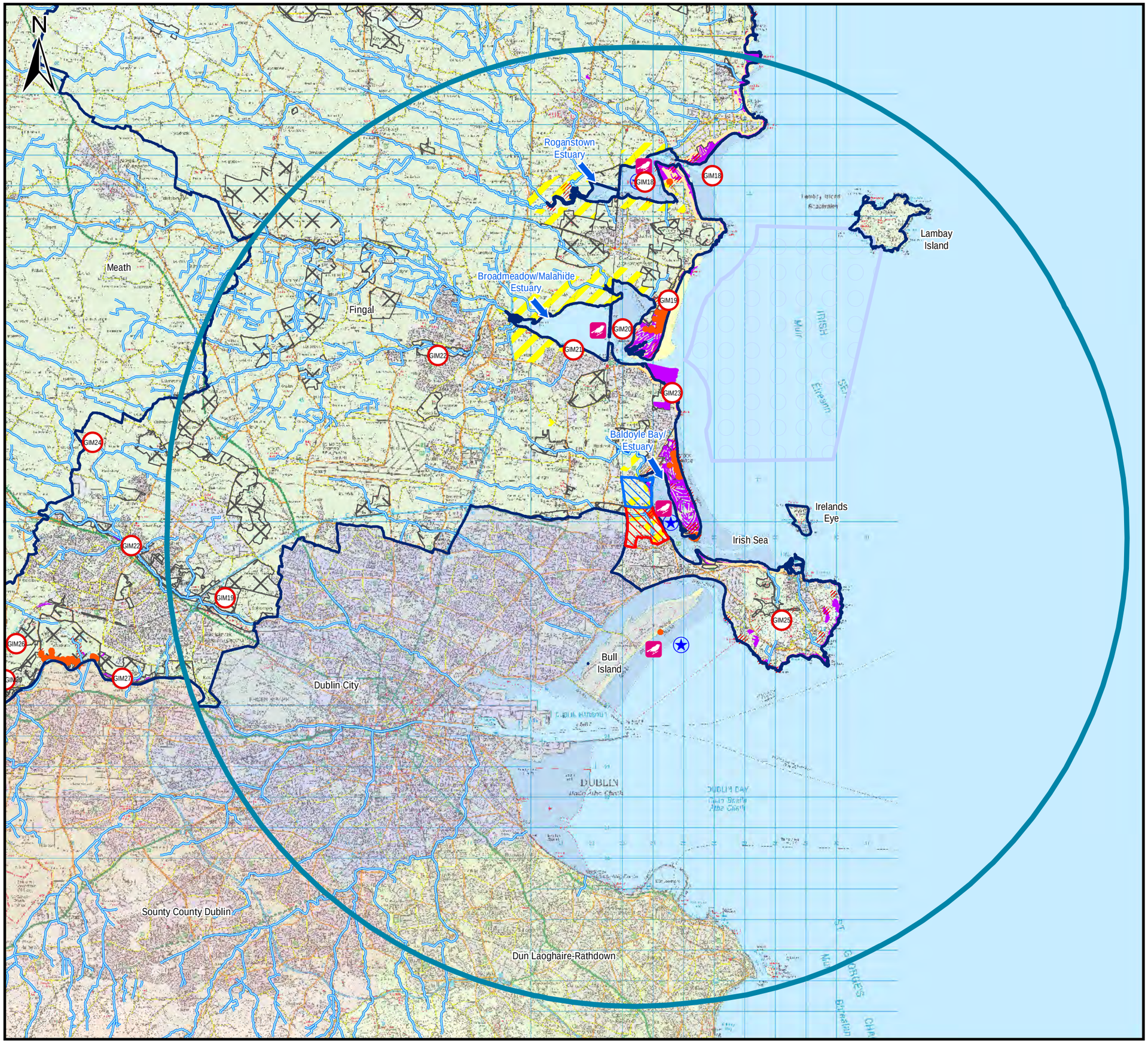
Fingal County Council

Planning Department, County Hall, Main Street, Swords

Date: January 2012 Prepared By: A Grogan Drawn By: CJ Scale @ A3: 1:120,000

Green Infrastructure
Figure 4



Legend

- Portmarnock South Local Area Plan Lands
- Baldoyle Stapolin Local Area Plan Lands
- County Boundary
- 15km Buffer Line
- Area within 100m of Coastline Vunerable to Erosion

Fingal Ecological Network:

- Ramsar Conservation Wetland
- Statutory Nature Reserve
- Annex I Habitat
- Flora Protection Order (1999) Site
- Fingal Rare Flora Site
- Ecological Buffer Zone
- Nature Development Area
- River
- Ecological Corridors along Rivers
- GIM15 — Green Infrastructure Objectives

Comhairle Contae Fhine Gall
Fingal County Council

Planning Department, County Hall, Main Street, Swords

Date: January 2012 Prepared By: A Grogan Drawn By: CJ Scale @ A3: 1:120,000

Appendix III

ENVIRONMENTAL REPORT - Addendum 1

Report on the Proposed Amendments

to the

DRAFT PORTMARNOCK SOUTH LOCAL AREA PLAN

STRATEGIC ENVIRONMENTAL ASSESSMENT
Fingal County Council

June 2013

Addendum to the Environmental Report of the Draft Portmarnock South LAP Strategic Environmental Assessment.

1.0 Introduction

The purpose of this Report is to provide an environmental assessment of the Proposed Amendments to the Draft Portmarnock South Local Area Plan following the public display of the Draft LAP and the submission of the Manager's Report to the Elected Members.

This is an addendum to the Environmental Report of the Strategic Environmental Assessment (SEA) of the proposed Draft Portmarnock South Local Plan 2013-2019. In accordance with the provisions of the SEA Directive (Directive 2001/42/EC) and the SEA Planning and Development Regulations transposing the Directive into Irish Law, this document identifies the environmental consequences of the Proposed Amendments to the Draft Plan arising from a public display of the draft, submission of observations and subsequent manager's recommendations to make amendments to the policies and objectives of the Draft LAP. It should be noted that changes are not made to the original Environmental Report; this Addendum forms part of the documentation of the ongoing SEA/Plan-making process. The Addendum supplements, and should be read in conjunction with, the Environmental Report.

On adoption of the Draft LAP, this and any other addendums to the Environmental Report which arise during the LAP preparation, consultation and making process, will be consolidated into a Final Environmental Report which will be made available alongside the adopted LAP.

In accordance with Section 20 of the Planning & Development Act 2000 (as amended), the proposed Draft Portmarnock South Local Area Plan was on public display from Wednesday 10th April, 2013 to Wednesday 22nd May, 2013, at Fingal County Council Offices, County Hall, Swords, and Grove Road, Blanchardstown, Baldoyle Library, Strand Road, Baldoyle, Portmarnock Sports & Leisure Centre and the Council's website at www.fingalcoco.ie

A total of twelve no. submissions were received during the public display of the Draft Local Area Plan. Proposed amendments to the published Plan relate to the text and map.

A Manager's Report was prepared on the submissions received providing a response and recommendation on each proposed amendment to the Draft LAP. The recommendations the inclusion of six new Objectives in the text, five of which will be contained within the Transportation and Movement Section with the remaining objective being included within Section 9 Infrastructure and Services. A further objective is also recommended for amendment within the Community, Social, Employment and Tourism Infrastructure Section.

2.0 Proposed Amendments to Objectives of Draft LAP

A summary of the amendments to the objectives is provided in the table below:

Table 1: Summary of Proposed Amendments to the Objectives of the Draft Portmarnock South LAP

New Objectives	
Objective TM 1	Future planning applications and development of the plan lands shall be so designed to have regard to Iarnród Éireann future rail improvement proposals.
Objective TM 2	Iarnród Éireann future rail improvement proposals including associated works such as access roads, maintenance yards and car-parks shall be designed and developed having regard to objectives of the LAP and the environmental and visual sensitivities of the Plan area.
Objective TM 8	Ensure co-ordination between the Conservation Management Plan required as part of the Habitat Protection Measures outlined in the LAP and any Environmental Management Plan associated with the coastal route.
Objective TM 9	Provide a clear, safe and legible network of cycling and pedestrian routes within the LAP lands that will link key destinations, including local shops, services, schools, Portmarnock train station and other important local destinations and amenities and which will also provide linkages to the GDA Cycle Network.
Objective TM 10	Provide, as part of the Fingal Coastal Way, an agreed and appropriately designed combined pedestrian and cycle route, of no wider than 3 metres along the eastern edge of the Plan land with linkages to the GDA Cycle Network, minimizing access points and signage to avoid disturbance and ensuring the integrity of the protected habitats and species within Baldoyle Bay and the ecological buffer zone within the Plan lands.

Objective SW 12	SuDs features shall be provided as part of the first phase of development and would only be considered on a phased basis where an alternative temporary solution is proposed or where phasing does not adversely impact or prejudice the delivery of the final SuDs Strategy and complies with appropriate assessment and conservation management objectives/Habitat Protection Measures of the LAP.
Amended Objectives	
Objective T 12	Support and co-operate with the relevant bodies in the development, marketing/ **promotion and funding of sustainable tourism products in the area.**

3.0 Strategic Environmental Assessment of the Proposal

The policies and objectives of the Draft LAP were assessed against a set of environmental protection objectives that were devised during the early stages in the SEA and LAP preparation process. Each policy and objective of the Draft LAP was assessed within a matrix for its impact on the environment in line with the requirements of the SEA Directive.

Table 5.1 Strategic Environmental Objectives

Strategic Environmental Objective and SEA Topic Area	Detailed Assessment Criteria
Objective 1 **Biodiversity Flora and Fauna (BFF)** Protect and where appropriate, enhance biodiversity, particularly protected areas and protected species	• Provide effective protection of international, national and local "protected areas" and "rare and distinctive species" • Provide effective protection of biodiversity in the wider landscape including species and habitats protected by law • Contribute to the Fingal Biodiversity Action Plan objectives
Objective 2 **Population, Human Health (PHH)** Provide high-quality residential, working and recreational environments and sustainable transport	• Reduce population exposure to high levels of noise, vibration and air pollution • Increase modal shift to public transport • Contribute to the co-ordination of land use and transportation • Improve access to recreation opportunities • Contribute to the mitigation of floods and droughts

Objective 3 **Soil (S)** Protect the function and quality of the soil resource in Fingal	• Re-use of brownfield lands, rather than developing Greenfield lands • Safeguard soil and geological quality, quantity and function
Objective 4 **Water (W)** Protect and where necessary improve water quality and the management of watercourses and groundwater to comply with the standards of the Water Framework Directive objectives and measures and all water, habitat and fisheries based legislation including the Urban Wastewater Treatment Directive, the Freshwater Fish Directive, the Shellfish Waters Directive, etc.	• Improve water quality in rivers, lakes, estuaries and groundwater • Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for biodiversity • Reduce the impacts from point source pollution, diffuse source pollution, abstraction and flow regulation and morphological alterations • Ensure flow regulation is appropriate • Prevent deterioration of water bodies from morphological alterations • Promote sustainable use of water and water conservation
Objective 5 **Air Quality and Climatic Factors (AQ/C)** Contribute to mitigation of, and adaptation to, climate change and air quality issues	• Reduce levels of air pollution • Minimise emissions of greenhouse gases • Reduce waste of energy, and maximise use of renewable energy sources • Ensure that all new housing is energy efficient • Ensure flood protection and management • Restrict development in flood plains • Reduce vulnerability to the effects of climate change
Objective 6 **Cultural Heritage (CH)** Protect and, where appropriate, enhance the character, diversity and special qualities of cultural, architectural and archaeological, heritage	• Improve protection for areas of archaeological potential and for undiscovered archaeology • Promote a better understanding of sensitive environments and human interaction with those environments
Objective 7 **Landscape (LH)** Protect and, where appropriate, enhance the character, diversity and special qualities of landscapes in Fingal	• Improve protection for landscapes and seascapes of recognised quality • Ensure that landscape character is considered in the development process • Maintain clear urban/rural distinctions • Enhance provision of, and access to, green space in urban areas
Objective 8 **Material Assets (MA)**	• Improve availability and accessibility of commercially provided facilities and public services

Make best use of existing infrastructure and promote the sustainable development of new infrastructure	• Protect Greenfield land and promote the use of brownfield sites • Increase local employment opportunities • Improve efficiencies of transport, energy and communication infrastructure • Ensure sufficient waste water treatment infrastructure • Provide drinking water supply and water conservation measures • Reduce the generation of waste and adopt a sustainable approach to waste management

Symbol	Impact on the Environment
++	Long term/ permanent positive impact
+	Short term positive impact
--	Long term/ permanent negative impact
-	Short term negative impact
+/-	Potential for both positive and negative impacts in the long and short term
0	Insignificant impact or no relationship

The amended objectives of the Draft LAP have been assessed following this same criteria and set of environmental protection objectives. The Evaluation Matrix is set out in Appendix A.

In summary, the amendments have been found to have a significant beneficial impact on:

- Biodiversity, flora and fauna (BFF) for new Objectives TM 2, Objective TM 8 and TM 10 and potentially for new and amended objectives TM 1, TM 9, T 12 and SW 12.
- Population and human health (PHH) for all amendments.
- Soils (S) for Objectives TM 2, TM 8 and SW 9 and potentially for new and amended Objectives TM 1, TM 9, TM 10 and T 12.
- Water (W) for new Objectives TM 2, TM 8 and SW 12 and potentially for new and amended Objectives TM 1, TM 9, TM 10 and T 12.
- Air Quality and Climate for Objectives (AQ/C) TM 2, TM 8 and potentially for new and amended Objectives TM 1, TM 10 and SW 9 T 12.
- Landscape (L) for Objectives TM 2, TM 8 and potentially for new and amended Objectives TM 1, TM 9, TM 10, T 12 and SW 9.
- Cultural Heritage (CH) for Objectives TM 2, TM 8 and SW 9 and potentially for new and amended Objectives TM 1, TM 9, TM 10, T 12.
- Material Assets (MA) for all new and amended objectives.

Amendments to the wording of existing and assessed policies and objectives did not alter the impact on the environmental receptor. All other impacts were deemed insignificant. There were no significant adverse impacts found.

Strengthening Mitigation
Policies and objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the LAP. Mitigation in the form of polices and objectives serve to formalise the mitigation measures and fully integrates them into the LAP process.

The new and amended policies and objectives of the Draft LAP reinforce mitigatory measures to offset any potential impacts on the environmental receptors.

The proposed new Objectives TM 2, TM 8 in Section 6 Transportation and Movement will help to minimise disturbance to and impact on the biodiversity of the area and the neighbouring Natura 2000 sites during the construction of section of the proposed Fingal Coastal Way which will run along the environmental sensitive open space lands along the eastern perimeter of the site and also further development associated with the railway. These new objectives will further strengthen existing mitigation measures proposed within the Draft LAP.

The addition of Objectives TM 9 and TM 10 in the Transport and Movement Section of the LAP will have the impact of providing for improve linkages and sustainable travel patterns. This will further address and mitigate the impact of development on the transport network serving Portmarnock South and ensure sustainable transport patterns are achieved in an environmental sensitive manner. The proposed changes will therefore be likely to have positive environmental effects with regard to protecting the landscape, maintaining ecological connectivity, reducing car dependency, reducing fuel use and minimising increases in transport related greenhouse gas emissions.

The proposed new Objective SW 12 in Section 9 Infrastructure and Services will have the dual function of more tightly new development within the LAP lands to the phasing of important infrastructure and mitigating the impact of the development on wildlife in the area by providing alternative suitable habitat once development has commenced. The proposed changes will therefore be likely to have positive environmental effects with regard to protecting the landscape and maintaining ecological connectivity.

Finally, the amendments to Objective T 12 will help to ensure that any proposed tourism activities within the Portmarnock South LAP lands will be developed in a sustainable manner and will mitigate any potential negative impacts which may arise from this development on the area.

Conclusion
In conclusion it is apparent from the assessment of amendments to objectives of the Draft LAP that the amendments provide additional mitigatory measures to offset any potential impacts on the environmental receptors. No additional mitigation measures were considered necessary in relation to any of the environmental receptors.

Objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the plan. Mitigation in the form of polices and objectives serve to formalise the mitigation measures and fully integrates them into the LAP process.

Appendix A

Evaluation of the New and Amended Draft Portmarnock South Local Area Plan Objectives

Section 6 Transport and Movement	BFF	PHH	S	W	AQ/C	CH	L	MA
Objective TM 1 Future planning applications and development of the Plan lands shall be so designed to have regard to Iarnród Éireann future rail improvement proposals.	+/-	++	+/-	+/-	0	+/-	+/-	++
Objective TM 2 Iarnród Éireann future rail improvement proposals including associated works such as access roads, maintenance yards and car-parks shall be designed and developed having regard to objectives of the LAP and the environmental and visual sensitivities of the Plan area.	++	++	++	++	++	++	++	++
Objective TM 8 Ensure co-ordination between the Conservation Management Plan required as part of the Habitat Protection Measures outlined in the LAP and any Environmental Management Plan associated with the coastal route.	++	++	++	++	++	++	++	++
Objective TM 9 Provide a clear, safe and legible network of cycling and pedestrian routes within the LAP lands that will link key destinations, including local shops, services, schools, Portmarnock train station and other important local destinations and amenities and which will also provide	+/-	++	+/-	+/-	++	+/-	+/-	++

Section 6 Transport and Movement cont'd	BFF	PHH	S	W	AQ/C	CH	L	MA
linkages, to the GDA Cycle Network.								
Objective TM 10 Provide, as part of the Fingal Coastal Way, an agreed and appropriately designed combined pedestrian and cycle route, of no wider than 3 metres along the eastern edge of the Plan land with linkages to the GDA Cycle Network, minimising access points and signage to avoid disturbance and ensuring the integrity of the protected habitats and species within Baldoyle Bay and the ecological buffer zone within the Plan lands.	++	++	+/-	+/-	++	+/-	+/-	++

Section 8 Community, Social, Employment and Tourism Infrastructure	BFF	PHH	S	W	AQ/C	CH	L	MA
Objective T 12 Support and co-operate with the relevant bodies in the development, marketing/ **promotion and funding of sustainable tourism products in the area.**	+/-	++	+/-	+/-	+/-	+/-	+/-	++

Section 9 Infrastructure and Services	BFF	PHH	S	W	AQ/C	CH	L	MA
Objective SW 12 SuDs features shall be provided as part of the first phase of development and would only be considered on a phased basis where an alternative temporary solution is proposed or where phasing does not adversely impact or	+/-	++	++	++	++	++	+/-	++

prejudice the delivery of the final SuDs Strategy and complies with appropriate assessment and conservation management objectives/Habitat Protection Measures of the LAP.								