



Strategic Environmental Assessment (SEA)
Environmental Report & Non-Technical Summary

Woodbrook - Shanganagh

Draft Local Area Plan 2017 - 2023

March 2017



SEA ENVIRONMENTAL REPORT

FOR THE

WOODBROOK-SHANGANAGH DRAFT LOCAL AREA PLAN 2017 - 2023

for: Dún Laoghaire-Rathdown County Council

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List of Abbreviations

AA	Appropriate Assessment
ACA	Architectural Conservation Area
CFRAM	Catchment Flood Risk Assessment and Management
CSO	Central Statistics Office
DAHRRG	Department of Arts, Heritage, Regional, Rural and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DEHLG	Department of the Environment, Heritage and Local Government
DECLG	Department of the Environment, Community and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EQS	Environmental Quality Standard
EU	European Union
GSi	Geological Survey of Ireland
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NRA	National Roads Authority
NSS	National Spatial Strategy
OPW	Office of Public Works
PAS	Priority Action Substance
RAL	Remedial Action List
RBD	River Basin District
RMP	Record of Monuments and Places
RPA	Register of Protected Areas
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SFRA	Strategic Flood Risk Assessment
SI No.	Statutory Instrument Number
SPA	Special Protection Area
UCD	University College Dublin
WFD	Water Framework Directive
WMU	Water Management Unit

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. AA is a focused and detailed impact assessment of the implications of a strategic action or project, alone and in combination with other strategic actions and projects, on the integrity of a European site in view of its conservation objectives.

Biodiversity and Flora and Fauna

Biodiversity is 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 a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain Plans and programmes on the environment (the Strategic Environmental Assessment 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 outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Mitigate

To make or become less severe or harsh.

Mitigation Measures

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, 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.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 as amended to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the former Department of the Environment, Heritage and Local Government (now Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs) under Section 12 of the National Monuments (Amendment) Act, 1994.

Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with appropriate environmental authorities.

Strategic Actions

Strategic actions include: *Policies/Strategies*, which may be considered as inspiration and guidance for action and which set the framework for Plans and programmes; *Plans*, sets of co-ordinated and timed objectives for the implementation of the policy; and *Programmes*, sets of projects in a particular area.

Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Plan 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.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Draft Woodbrook-Shanganagh Local Area Plan 2017-2023. It has been undertaken by CAAS Ltd. on behalf of Dún Laoghaire-Rathdown County Council.

The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan. The SEA is carried out in order to comply with the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended. This report should be read in conjunction with the Local Area Plan.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before such decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment for individual projects, while *Strategic Environmental Assessment* or SEA is the term that has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme, in order to ensure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

1.3 SEA Directive and its transposition into Irish Law

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011).

1.4 Implications for the Draft Local Area Plan and the Planning Authority

Section 14B(a) of the Planning and Development (Strategic Environmental Assessment) Regulations 2011 requires an environmental report to be prepared where, inter alia, the population or the target population of the area of a local area plan is 5,000 persons or more.

The Core Strategy set out within the Dún Laoghaire-Rathdown County Development Plan 2016-2022 states that there is potential to provide approximately 2,300 residential

units within the Plan area. The Interim Housing strategy, Appendix 2, County Development Plan 2016-2022 states that the average household size within the County is 2.7 persons. In this regard, the Plan area has a potential target population in excess of 5,000 persons. Consequently, SEA was determined as being required.

The findings of the SEA are expressed in this Environmental Report. This report will be placed on public display alongside the Draft Plan and will be updated to take account of any changes that are made to the Draft Plan on foot of submissions. Elected Members of Dún Laoghaire-Rathdown County Council are required to take into account the findings of this report and other related SEA output during their consideration of the Draft Plan and before its adoption. An SEA Statement summarising how environmental considerations have been integrated into the Plan will be prepared at the end of the process to accompany the adopted Plan.

Section 2 The Draft Local Area Plan

2.1 Introduction

The Draft Local Area Plan (LAP) has been prepared in accordance with Sections 18 to 20 of the Planning and Development Act 2000 (as amended). The Plan replaces the Woodbrook-Shanganagh LAP 2006-2016 (extended).

LAPs are required to be consistent with the policies and objectives of the County Development Plan and its Core Strategy, as well as the Regional Planning Guidelines that apply to the area of the Plan.

The Draft LAP should be read in conjunction with the Dún Laoghaire-Rathdown County Development Plan 2016-2022, which sets out the overarching development strategy for the County. Where any provisions of the LAP conflict with the provisions of the County Development Plan, the provisions of the LAP shall cease to have effect.

2.2 Background to the Draft Plan¹

The Draft LAP has been prepared under the provisions of the recently adopted County Development Plan, and will have regard to current guidelines and policy context at both National and Regional level. The Core Strategy as set out in Section 1.2 of the 2016-2022 County Development Plan identifies growth areas, with Woodbrook-Shanganagh designated as a 'Future Development Area'. Section 1.3.4 'Local Area Plans in Dún Laoghaire-Rathdown' sets out the guiding principles for the review of the existing LAP.

To date no development has taken place at Shanganagh or Woodbrook – in part as a consequence of the significant downturn in house-building activity since 2008 but primarily due to ongoing strategic deficiencies in relation to water and drainage infrastructure impacting on the southern part of the County. These infrastructural shortcomings are, however, now being addressed by the relevant

statutory agencies and it is anticipated that the substantial development potential of the LAP lands will be 'unlocked' in the near future. It should be noted that the land use zoning for the Woodbrook-Shanganagh LAP area remains unaltered with the two primary blocks of development land zoned 'A1': "To provide for new residential communities in accordance with approved local area plans". (Maps 10 and 14 from the Dún Laoghaire-Rathdown County Development Plan 2016-2022).

Woodbrook-Shanganagh has the potential to deliver a new sustainable residential community which will contribute significantly towards addressing the acute housing shortage both in Dún Laoghaire-Rathdown and the wider Dublin Region. The Draft LAP will help guide the future development of the area through a series of principles and objectives that will clearly set out a framework for appropriate development within both the Shanganagh Castle and Woodbrook lands - focussing on housing, parks and landscape, infrastructure, community facilities, heritage and the environment.

2.3 Content of the Draft Plan

The Draft LAP has been prepared by Dún Laoghaire-Rathdown County Council and comprises a written document with maps, and various appendices.

Section 1 '*Introduction*' provides an introduction and policy context for Woodbrook-Shanganagh, while Section 2 '*Plan Area Context and Appraisal*' outlines a profile of the Plan area and the challenges and opportunities for development.

Section 3 '*Development Strategy*' presents the overall Strategy for development within the area under the following Chapter headings:

- Delivering Homes and Creating Sustainable Residential Communities
- Community and Social Infrastructure
- Sustainable Infrastructure
- Sustainable Movement and Transport
- Built Heritage

¹ Much of the information in this section is taken from the *Pre-Draft Woodbrook-Shanganagh Local Area Plan 2017* (Dún Laoghaire-Rathdown County Council, 2016; http://dlrcoco.ie/sites/default/files/atoms/files/20161012_predraf-leaflet_11102016_with_links.pdf)

- Open Space, Recreation and Green Infrastructure
- Urban Structure, Design and Public Realm Qualities.

Section 4 *'Site Framework Strategies'* sets out strategies for the Shanganagh Castle and Woodbrook development parcels, followed by final Section 5 *'Implementation and Phasing'*.

2.4 Relationship with other relevant Plans and Programmes

2.4.1 Introduction

The Draft Plan sits within a hierarchy of strategic actions such as plans and programmes and is subject to a number of high-level environmental protection policies and objectives with which it must comply (including those detailed below and in Appendix I, Section 4, Section 5 and Section 9 of this report).

As required by the Act, the Plan is consistent, in so far as is practicable, with such national plans, policies and strategies as the Minister determines relate to proper planning and sustainable development. The Plan may, in turn, guide lower level strategic actions. In this regard, Appendix I includes statutory provisions, plans, policies and strategies that set the context within which the Plan is framed and which have influenced the strategies and objectives of the Plan.

2.4.2 National Spatial Strategy

The National Spatial Strategy 2002-2020 (NSS) is a planning framework for Ireland that aims to achieve a better balance of social, economic and physical development across Ireland, supported by effective planning. In order to drive development in the regions, the NSS proposes that areas of sufficient scale and critical mass will be built up through a network of gateways, hubs and key towns. The NSS is about people, places and potential, and the importance of making the most of our cities, towns and rural places to bring a better spread of opportunities, better quality of life and better places to live in.

The National Spatial Strategy is currently in the process of being replaced by a National Planning Framework.

2.4.3 Regional Planning Guidelines for the Greater Dublin Area 2010-2022

The Greater Dublin Area (GDA) includes the geographical area of Dublin City, Dún Laoghaire- Rathdown, Fingal, South Dublin, Kildare, Meath, and Wicklow and incorporates the regions of both the Dublin Regional Authority and the Mid-East Regional Authority. The Regional Planning Guidelines (RPGs) for the Greater Dublin Area 2010-2022 provide an overall spatial policy framework for the GDA to 2022 and focus on the physical consolidation of the Dublin Metropolitan Area and the proper integration of land use and transportation to promote more sustainable forms of development across the Region. RPG's projections for population and housing targets, published in June 2010, suggest that the GDA will grow significantly through both natural increase and continued in-migration. Up to 118,000 new houses could be needed across the seven GDA Local Authorities by 2022 to cater for the demand generated by the combination of population increase and changing household composition. Substantial retail and commercial development and the commensurate delivery of social and community infrastructure will also be needed to cater for the scale of projected growth.

It is worth noting that these projections were prepared prior to the Census in 2011. It should also be noted that the GDA Regional Authority has been replaced by a new Eastern and Midlands Regional Assembly.

2.4.4 Dún Laoghaire-Rathdown County Development Plan 2016-2022

The Dún Laoghaire-Rathdown County Development Plan 2016-2022 sets out the strategic planning and sustainable development of the County over its lifetime and is consistent with the National Spatial Strategy and the Regional Planning Guidelines.

The Core Strategy as set out in Section 1.2 of the County Development Plan identifies growth areas, with Woodbrook-Shanganagh designated as a 'Future Development Area'. Section 1.3.4 'Local Area Plans in Dún Laoghaire-Rathdown' sets out the guiding principles for the review of the existing LAP. It should be noted that the land use zoning for the Woodbrook-Shanganagh LAP area remains unaltered with the two primary blocks of development land zoned 'A1': "To provide for new residential communities in accordance with approved local area plans". (Maps 10 and 14 from the Dún Laoghaire-Rathdown County Development Plan 2016-2022).

2.4.5 Eastern River Basin Management Plan

Local Authorities including Dún Laoghaire-Rathdown County Council have prepared a River Basin Management Plan and Programme of Measures for the Eastern River Basin District (ERBD) 2009-2015 which is implemented in order to help protect and improve waters in the County and wider River Basin Districts.

The ERBD Management Plans and associated Programmes of Measures include provisions to help ensure that water bodies in the district meet the objectives of the Water Framework Directive. The Plan identifies the status of water bodies within the RBD and provides objectives in order to implement the requirements of the Water Framework Directive.

2.4.6 Catchment Flood Risk Assessment and Management Studies

A Catchment Flood Risk Assessment and Management (CFRAM) Study is being undertaken for the Eastern River Basin District by the Office of Public Works. The national CFRAM programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Studies are intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland.

The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. The Plans will define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.

2.4.7 Smarter Travel 2009

"Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009 - 2020" is the Government's action plan to free towns and cities from traffic congestion, substantially cut CO₂ emissions, encourage car based commuters to leave their cars at home, and encourage a shift toward walking, cycling and greater public transport usage.

2.4.8 GRID 25 and associated Implementation Plan

Grid25 is a high-level strategy outlining how EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 strategy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25 are intended to be implemented.

2.4.9 Environmental Protection Objectives

The Plan is subject to a number of high-level environmental protection policies and objectives with which it must comply, including those which have been identified as Strategic Environmental Objectives in Section 5.

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 Directive - 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.

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

This section details how the SEA has been undertaken alongside the preparation of the Draft Plan. Figure 3.1 lays out the main stages in the Plan/SEA preparation process.

The Plan and associated SEA, AA and SFRA documents were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others.

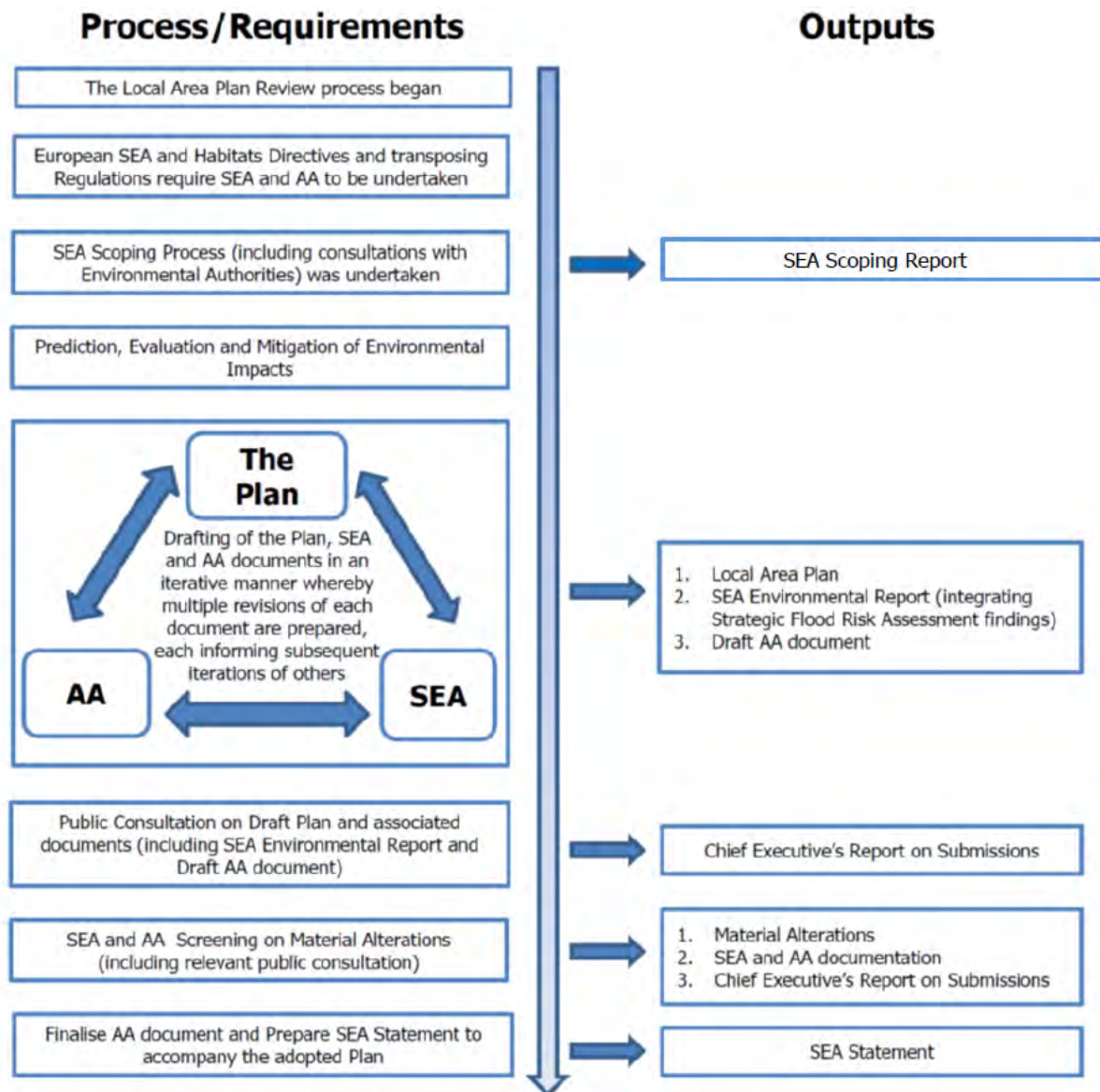


Figure 3.1 Woodbrook-Shanganagh Draft Local Area Plan/SEA/AA Preparation Process

biodiversity and potential effects on European sites.

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

Appropriate Assessment (AA) Screening is being undertaken alongside the preparation and adoption of the Draft Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The AA Screening concluded that the Plan will not have a significant adverse effect on European Sites, and that the integrity of the European Sites, in view of their conservation interests, will not be adversely affected.

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed both the Plan and the SEA.

3.2.2 Integrated Biodiversity Impact Assessment

Many elements of Integrated Biodiversity Impact Assessment as detailed in the EPA's (2013) Practitioner's Manual have been aligned with in the undertaking of the SEA for the Draft Plan. These include:

Scoping

- Biodiversity-relevant issues were identified for consideration at scoping stage and these are now detailed in Section 4.2.
- Reference to a zone of influence is provided at Section 4.2.

Baseline

- Biodiversity data sources relevant for this local level assessment have been identified and datasets collated/gathered.
- The biodiversity baseline addresses designated sites and other habitats and species of ecological value.
- AA Screening information has been incorporated into the SEA baseline.

Alternatives

- Impacts upon biodiversity are considered under each of the alternatives and potential conflicts can be mitigated.

Impact assessment

- Effects on biodiversity are identified and assessed and the AA Screening gives consideration to the interrelationship between

Mitigation and monitoring

- Taking into account all measures contained within the Plan, all the proposed mitigation measures deriving from the various processes were generally consistent and compatible.
- Indicators and associated targets have been included in SEA for monitoring European sites.

Reporting

- This SEA ER addresses all biodiversity-related considerations relevant for this local level assessment.
- This SEA ER contains all biodiversity-relevant information, data, figures and maps relevant for this local level assessment.
- This SEA ER has been informed by the AA Screening findings.

Communication and consultation

- Submissions received from the EPA, Inland Fisheries and Suzanne Bar have been taken on board.
- The preparation of the Plan, SEA and AA Screening has taken place concurrently and the findings of the AA have informed both the Plan and the SEA.

3.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG, 2009).

The preparation of the Draft Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Draft Plan and the SEA.

3.4 Scoping

3.4.1 Introduction

In consultation with the relevant authorities, the scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are addressed was broadly decided upon taking into account the collection of environmental baseline data and input from environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental

components which are specified under the SEA Directive².

As the Plan is not likely to have significant effects on the environment in another Member State transboundary consultations as provided for by Article 7 of the SEA Directive were not undertaken.

3.4.2 Scoping Notices

All relevant environmental authorities³ identified under the SEA Regulations as amended, were all sent SEA scoping notices by the Council indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council.

3.4.3 Scoping Submissions

Submissions were made by the Environmental Protection Agency and Inland Fisheries during the SEA Scoping/ Plan-preparation process. These submissions were all taken into account during preparation of the SEA.

3.5 Environmental Baseline Data

The SEA process is informed by the environmental baseline (i.e. the current state of the environment) to facilitate the identification and evaluation of the likely significant environmental effects of implementing the provisions of the Plan and the alternatives and the subsequent monitoring of the effects of implementing the provisions of the Plan as adopted.

3.6 Alternatives

The SEA Directive requires that reasonable alternatives (taking into account the objectives

² These components comprise biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

³ These comprise: Environmental Protection Agency, Department of Communications, Energy and Natural Resources, Department of Agriculture, Fisheries and Food, Department of the Environment, Community and Local Government, Department of Arts, Heritage, Regional, Rural and the Gaeltacht, Dublin City Council, South Dublin County Council and Wicklow County Council.

and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment. In accordance with this requirement, alternatives for the Plan are examined in Section 7.

3.7 The SEA Environmental Report

In this SEA Environmental Report, which is placed on public display alongside the Draft Plan, the likely environmental effects of the Draft Plan and the alternatives are predicted and their significance evaluated.

The Environmental Report provides the Council, stakeholders and the public with a clear understanding of the likely environmental consequences of implementing the Draft Plan.

Mitigation measures to prevent or reduce significant adverse effects posed by the Draft Plan are identified in Section 9 - these have been integrated into the Draft Plan.

The Environmental Report will be updated in order to take account of recommendations contained in submissions and in order to take account of changes that are made to the original, Draft Plan that is being placed on public display.

The Environmental Report is required to contain the information specified in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended (see Table 3.1).

3.8 The SEA Statement

On the making of the Plan by the Council, an SEA Statement will be prepared which will include information on:

- How environmental considerations have been integrated into the Plan, highlighting the main changes to the Plan which resulted from the SEA process;
- How the SEA Environmental Report and consultations have been taken into account, summarising the key issues raised in consultations and in

the Environmental Report indicating what action was taken in response;

- The reasons for choosing the Plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Plan as adopted was selected; and
- The measures decided upon to monitor the significant environmental effects of implementing of the Plan.

3.9 Difficulties Encountered

The lack of a centralised data source that could make all environmental baseline data for the County both readily available and in a consistent format posed a challenge to the SEA process. This difficulty is one which has been encountered while undertaking SEAs at Local Authorities across the country and was overcome by investing time in the collection of data from various sources and through the use of Geographical Information Systems.

Table 3.1 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section of this Report
(A) Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes	Sections 2, 5 and 8
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the plan or programme	Section 4
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the plan or programme, particularly those relating to European protected sites	Section 4
(E) List environmental protection objectives, established at international, EU or National level, which are relevant to the plan or programme and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 5, 7, 8 and 9
(F) Describe the likely significant effects on the environment	Sections 7 and 8
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the plan or programme	Section 9
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 6, 7 and 8
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Non-Technical Summary
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Environmental Baseline

4.1 Introduction

The SEA Directive requires that the information on the baseline environment is focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected and the likely evolution of the current environment in the absence of the Draft Plan. Being consistent with the strategic provisions of the Plan, this section provides a strategic description of aspects of environmental components that have the greatest potential to be affected by implementation of the Plan, if unmitigated

Article 5 of the SEA Directive states that the report shall include the information that may *reasonably* be required taking into account:

- Current knowledge and methods of assessment;
- The contents and level of detail in the plan or programme and its stage in the decision-making process; and
- The extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

What this means in practice is, inter alia, with regard to Plan, that SEA involves collating currently available, relevant environmental data; it does not require major new research. Where data deficiencies or gaps exist, this should be acknowledged in the report.

The 2006-2016 Woodbrook-Shanganagh Local Area Plan contains provisions that contribute towards environmental protection and sustainable development within Woodbrook and Shanganagh.

If the 2006 Plan was to expire and not be replaced by the new 2017 Plan, this would result in a deterioration of the planning and environmental protection framework. Although higher-level environmental protection objectives – such as those of the new 2016-2022 Dún Laoghaire-Rathdown County Development Plan and various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be

less coordinated and controlled. Such development would have the potential to result in an increase in the occurrence of adverse effects on all environmental components, especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact.

Such adverse effects could include:

- Loss of biodiversity with regard to European Sites and Annexed habitats and species;
- Loss of biodiversity with regard to ecological connectivity and stepping stones;
- Loss of biodiversity with regard to designated sites including Wildlife Sites and species listed on Schedule 5 of the Wildlife Act 1976;
- Spatially concentrated deterioration in human health;
- Adverse impacts on the hydrogeological and ecological function of the soil resource;
- Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology;
- Increase in the risk of flooding;
- Failure to provide adequate and appropriate wastewater treatment;
- Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean;
- Increases in waste levels;
- Failure to contribute towards sustainable transport and associated impacts;
- Effects on entries to the Record of Monuments and Places and other archaeological heritage;
- Effects on entries to the Records of Protected Structures and other architectural heritage; and
- Occurrence of adverse visual impacts.

The Plan area is situated immediately to the south of Shankill and to the north of Bray. The Plan area is 2.2km², located approximately 7km south of Dún Laoghaire.

4.2 Biodiversity and Flora and Fauna

4.2.1 Overview of High Value Biodiversity

Much of the Woodbrook-Shanganagh LAP lands comprise undeveloped, greenfield, open space and recreational areas to the east of the M11 Motorway and between Shankill and Bray. This includes Shanganagh Park and Castle in the north, Woodbrook Golf Course in the east, various hedgerows and wooded areas. Other uses include Shanganagh Cemetery, dwellings, such those at Woodbrook Downs, the Wilford Interchange and community services.

The Irish Sea coastline along the eastern boundary of the Plan area comprises part of the Killiney Bay shoreline, extending from south of Shankill to just north of Bray in County Wicklow. Killiney Bay is important particularly for its sedimentary cliffs, displaying clear geological time sequences through the quaternary period. The shoreline also has an example of a drowned forest, visible in the sand only at extreme low tide.

Lands within the north of the Plan area, including parts of Shanganagh Park, are identified as being valuable to biodiversity on a County level (as shown in Figure 4.1⁴).

4.2.2 European Sites

Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the (former) Department of the Environment, Heritage and Local Government due to their conservation value for habitats and species of importance in the European Union.

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) due to their conservation value for birds of importance in the European Union. SPAs,

along with cSACs, comprise Ireland's Natura 2000 network – part of an EU-wide network of protected areas established under the Habitats Directive.

It is noted that some of the ecological sensitivities discussed in this subsection – and associated potential for environmental impacts – occur beyond the fringes of the Plan area. They are included, however, to ensure that areas which could be impacted as a result of implementing the Plan are identified and assessed. European sites (cSACs and SPAs) in the vicinity of the Plan area are listed on Table 4.1 below and Figure 4.2.

The SEA uses the same zone of influence that is used by the AA. The Department of the Environment, Heritage and Local Government (2009) Guidance on Appropriate Assessment recommends a 15km buffer zone be considered around the site. It is foreseen that in the absence of significant hydrological links the characteristics of the Plan will not impose effects beyond this 15km zone of influence.

Table 4.1 European sites within 15km of the Plan area

European Sites		
Designation	Code	Site Name
cSAC	000713	Ballyman Glen
	000714	Bray Head SAC
	000725	Knocksink Wood
	003000	Rockabill to Dalkey Island
	002122	Wicklow Mountains
	000719	Glen Of The Downs
	000210	South Dublin Bay SAC
	002249	The Murrough Wetlands
	000716	Carriggower Bog
SPA	000206	North Dublin Bay
	004172	Dalkey Islands
	004040	Wicklow Mountains
	004024	South Dublin Bay and River Tolka Estuary
	004186	The Murrough

4.2.3 Proposed Natural Heritage Areas

Natural Heritage Areas (NHAs) are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms

⁴ CORINE Land Cover Categories which indicate lands which are likely to be most valuable to biodiversity in County Dún Laoghaire-Rathdown are shown in Figure 4.1.

or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. Proposed NHAs (pNHA) were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. There are no NHAs or pNHAs occurring inside the Plan boundary. All pNHAs in the vicinity of the Plan area are listed on Table 4.2 below and Figure 4.3.

Table 4.2 pNHAs in the vicinity of the Plan area

Proposed Natural Heritage Areas		
Designation	Code	Site Name
pNHA	000714	Bray Head
	000719	Glen of Downs
	000730	The Murrough
	000716	Carrigower Bog
	001771	Vartry Reservoir
	001769	Great Sugar Loaf
	000724	Kilmacanoge Marsh
	001209	Glenasmole Valley
	000991	Dodder Valley
	001754	Dargle River Valley
	000725	Knocksink Wood
	001202	Ballybetagh Bog
	000713	Ballyman Glen
	001755	Glencree Valley
	001768	Powerscourt Woodland
	001202	Ballybetagh Bog
	001207	Dingle Glen
	001211	Loughlinstown Woods
	001206	Dalkey Coastal Zone and Killiney
	001753	Fitzsimon's Wood
	000210	South Dublin Bay
	000206	North Dublin Bay

4.2.4 Register of Protected Areas

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas (RPAs). Entries to RPAs within/adjacent to the Plan area comprise:

- The coastal waters to the east of the Plan area that are included on RPAs for surface waters relating to SAC habitats and bathing waters.

- The groundwater underlying the Plan area that is part of the wider groundwater area relating to bathing waters and drinking water sources.
- The River Dargle to the south of the Plan area that is included on the RPA for Salmonid species (see Section 4.2.5 below).

4.2.5 Salmonid Waters

The main channel of the River Dargle, which flows in vicinity of the south border of the Plan area, is designated and protected as a Salmonid Water under the European Communities (Quality of Salmonid Waters) Regulations 1998 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

The Glencullen River (to the south – west of the plan area) is a tributary of the River Dargle (to the south of the plan area) and, along with its tributaries, constitutes a Salmonid system. The Carrickmines (Glenamuck) / Shanganagh system is a regionally important Salmonid system. The Carrickmines system (to the north of the plan area) supports a resident population of Brown Trout and a migratory population of Sea Trout. The lower reaches of the Deansgrange Stream support a small but significant population of Brown Trout.

4.2.6 Existing Problems

Previous developments within the Plan area have resulted in loss of biodiversity and flora and fauna however legislative objectives governing biodiversity and flora and fauna were not identified as being currently conflicted with. The Local Area Plan includes robust measures to contribute towards the protection of biodiversity and flora and fauna.

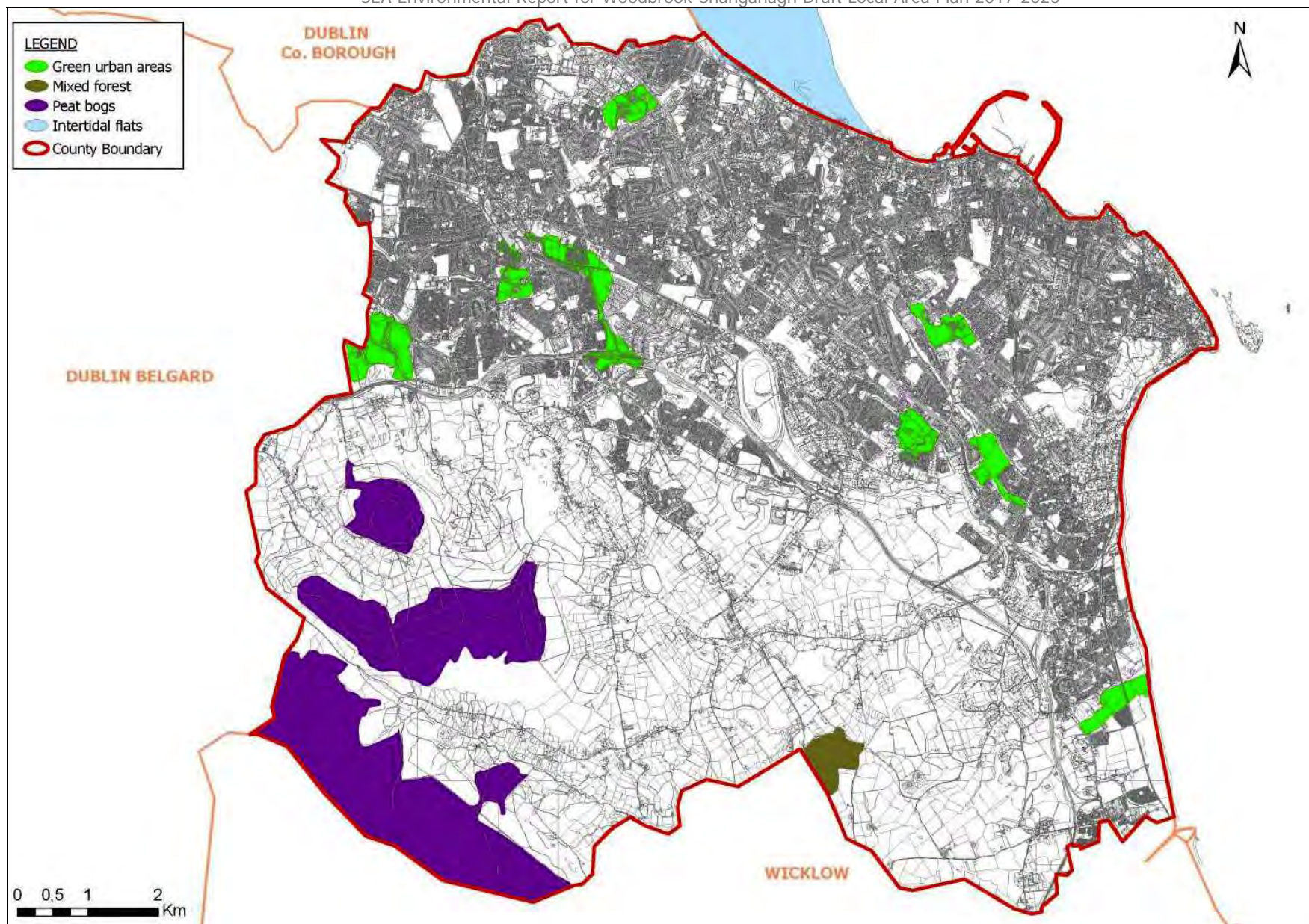


Figure 4.1 CORINE Land Cover Categories which indicate lands which are likely to be most valuable to biodiversity

Source: European Environment Agency (2012) CORINE Land Cover Mapping 2006

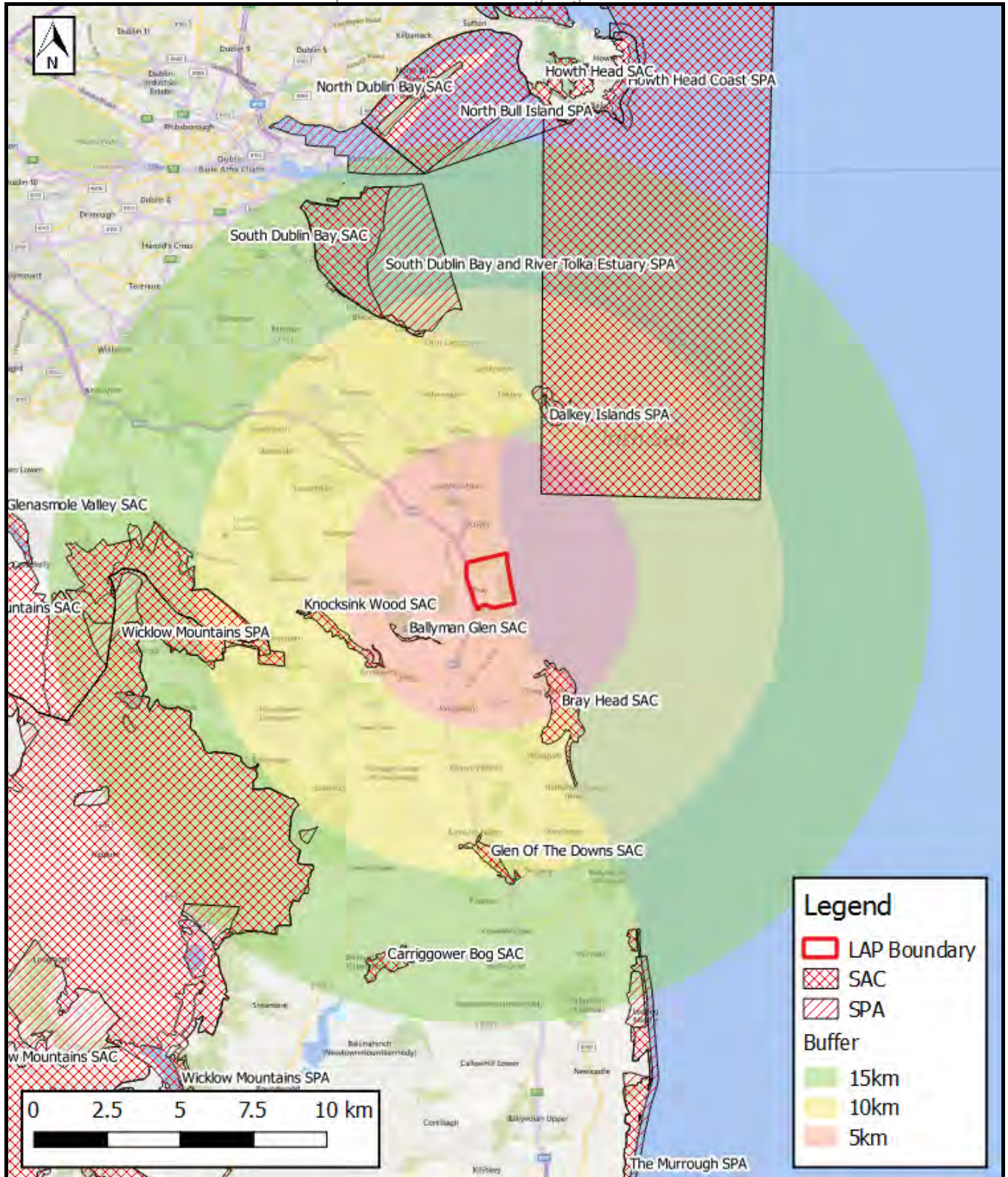


Figure 4.2 SPAs and cSACs within 15km buffer area from the Plan boundary

Source: CAAS (2017)



Figure 4.3 pNHAs in the vicinity of the Plan area

Source: CAAS (2017)

4.3 Population and Human Health

4.3.1 Population

Dún Laoghaire-Rathdown had a population of 206,261 in 2011. This represents 16% of Dublin's population. The population grew by 12,223 persons or 6.3%, between 2006 and 2011, at a time when the National increase was 8.2%.

Preliminary Census data for 2016 indicates that Dún Laoghaire-Rathdown had a population of 217,274 in 2016. This represents 16% of Dublin's population. The population grew by 11,013 persons or 5.3% between 2011 and 2016, at a time when the National increase was 3.7%.

A key feature of population change in the County has been the uneven distribution of growth, with some areas experiencing strong population growth and other areas experiencing stagnation or decline.

Housing densities on the county level are high in the urban regions and comparatively low in the rural uplands. Spatial distribution of the population in the uplands is generally one-off housing, linear in parts. The majority of the population located in the lower-lying north, west, north, eastern and central parts of the county area.

There is currently a relatively low population density within the Plan area, in comparison with other parts of Dún Laoghaire-Rathdown, excluding the more rural areas to the south-west of the M11 Motorway.

The Plan area comprises undeveloped, greenfield, open space and recreational areas to the east of the M11 and between Shankill and Bray. This includes Shanganagh Park and Castle in the north, Woodbrook Golf Course in the east, various hedgerows and wooded areas. Other uses include Shanganagh Cemetery, dwellings, such those at Woodbrook Downs, the Wilford Interchange and community services.

4.3.2 Human Health

Human health has the potential to be impacted upon by environmental vectors (i.e.

environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

4.3.3 Existing Problems

The greatest health risk from radiation in Ireland is caused by radon. The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, occurs across the country. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer. Exposure to radon for long periods or at high concentrations can lead to lung cancer.

The number of homes within the Dún Laoghaire-Rathdown area with Radon levels above the reference level is within the normal range experienced in other locations across the country⁵.

4.4 Soil

4.4.1 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

⁵ Mapping available at <http://www.epa.ie/radiation/radonmap>

because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

To date, there is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

4.4.2 Soil Types

The Plan area is identified as being covered mainly by rendzinas /lithosols (Teagasc, GSI, Forest Service and EPA, 2006).

Rendzinas are shallow calcareous soils with hard rock or skeletal material. Lithosols are shallow non-calcareous soils, commonly overlying hard rock or skeletal and gravelly material. They tend to be stony soils, or with shattered bedrock and are associated with frequent rock outcrops.

4.4.3 County Geological Sites⁶

The audit of County Geological Sites (CGSs) in Dún Laoghaire - Rathdown was completed in 2014. County Geological Sites do not receive statutory protection like Natural Heritage Areas but receive an effective protection from their inclusion in the planning system. CGSs identified by this audit are included in Dún Laoghaire-Rathdown County Development Plan 2016-2022.

Killiney Bay CGS (Site Code DLR007) identified by this audit, is located along the eastern boundary of the Plan area. The wider site stretches from Bray Harbour to Killiney DART Station and comprises a 5.3 kilometres long coastal section exposing a succession of several units of glacial till.

4.4.4 Contaminated Soil

Given the urban nature of the County and the range of land use activities which have taken place historically, soils have been contaminated in the past. Such contamination

has the potential to affect water quality, biodiversity and flora and fauna and human health. Where brownfield redevelopment is proposed, adequate and appropriate investigations are required to be carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work.

There are no known contaminated sites within the Plan area however there are two potentially contaminated sites to the south of the Plan area (at Corke Abbey and Corke Great) identified by the County Council's Survey of Waste Contaminated Lands in County Dublin (December 1988).

The Council are aware of the recent exposure of parts of a former dump to the north of Bray, south of the Plan area and are currently assessing remedial options for this issue.

4.4.5 Existing Problems

Legislative objectives governing soil were not identified as being conflicted with.

⁶ GSI 2017; *Dún Laoghaire-Rathdown-County Geological Site Report (2014)*;
http://www.gsi.ie/NR/rdonlyres/3E6DB183-957D-4783-AE0F-A42B4F96F4CE/0/DLR007_Killiney_Bay.pdf

4.5 Water

4.5.1 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- Sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- Discharges arising from diffuse or dispersed activities on land;
- Abstractions from waters; and
- Structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from wastewater treatment plants, licensed discharges from industrial activities, landfills, contaminated lands (e.g. disused gas works) and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

4.5.2 The Water Framework Directive

4.5.2.1 Introduction and Requirements

Since 2000, Water Management in the EU has been directed by the Water Framework

Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving "good status". 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.

The EU's Common Implementation Strategy Guidance Document No. 20 provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant River Basin Management Plan.

4.5.2.2 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. Dún Laoghaire-Rathdown and the LAP area falls within the Eastern River Basin District (EBRD).

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.

4.5.2.3 River Basin Management Plan

Local Authorities, including Dún Laoghaire-Rathdown County Council, have prepared the Eastern River Basin Management Plan which is being implemented through, inter alia, the County Development Plan, in order to help protect and improve waters in the County and wider RBD. The Management Plan provides

specific policies for individual river basins in order to implement the requirements of the WFD.

4.5.3 Surface Water

4.5.3.1 Introduction

The Crinken Stream flows through the south of the Plan area, entering the Plan area at the M11 Motorway adjacent to St. Joseph's Medical Centre, flowing south past Woodbrook Downs and eastward until it flows out of the Plan area at Woodbrook Glen.

The wider area to the north of the Plan area is drained by the Loughlinstown River, which enters the sea between Ballybrack and Shankill, while the wider area to the south of the Plan area is drained by the Dargle River, which flows along the Dublin/Wicklow county boundary and enters the sea at Bray.

Each River Basin District has been sub-divided into a number of Water Management Units (WMU) or geographical sub-units of a river basin. Most of the Plan area is located within the Newcastle WMU while parts of the Plan area to the west of the R119 are located within the Dargle WMU.

The Zone of Influence with respect to water resources can be estimated to be the two WMUs connected estuarine and coastal water bodies and all connecting bodies of groundwater.

4.5.3.2 WFD 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 Crinken Stream is not attributed with a status as part of the current data on water quality available from the EPA (WFD Status 2010-2015). The Loughlinstown (north of Plan area) and Dargle (south of Plan area) Rivers are both identified as being of *good* status. The coastal waters to the east of the Plan area are identified as being of *high* status.

Figure 4.4 illustrates the WFD surface water status (status of rivers and coastal waters) within and surrounding the Plan area.

4.5.3.3 Surface Water Quality of Rivers

River water quality within the County is monitored by the EPA at a number of locations. *Good* status as defined by the WFD equates to approximately *Q4* in the national biological classification scheme of rivers as set out by the EPA.

Water quality data is unavailable from the EPA however the closest points on the Loughlinstown (north of Plan area) and Dargle (south of Plan area) Rivers that have water quality data available for them are identified as being *Q4 good* status. The coastal waters to the east of the Plan area are identified as being of *high* status.

The Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI) System is used by the EPA in order to classify the quality status of transitional waters. Good status for coastal waters as defined by the WFD equates to approximately *unpolluted* status in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI). Coastal Waters to the east of the Plan area are classified as being *unpolluted* – they do not breach any of the criteria.

Mandatory and Guide Values are set out for bathing waters in the 2006 EU Bathing Water Directive and transposing Regulations. Mandatory Values are values which must be observed if the bathing area is to be deemed compliant with the Directive. Compliance with Guide Values exceeds guidance with Mandatory Values and can be regarded as

quality objectives which bathing sites should endeavour to achieve.

Quality of bathing water for the monitored locations closest to the Plan area (in Killiney, to the north of the Plan area, and in Bray, to the south of the Plan area) is classified for years with available data from 2010 on Table 4.3. Both locations have complied with the Mandatory Values during this period.

Table 4.3 Bathing Water Quality by Year

	Killiney (north of the LAP area)	Bray (south of the LAP area)
2013	Guide Values	Mandatory Values
2012	Guide Values	Mandatory Values
2011	Guide Values	Guide Values
2010	Guide Values	Mandatory Values

Source: EPA Bathing Water Quality (Various)

4.5.4 Ground Water

4.5.4.1 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.

4.5.4.2 WFD 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. The groundwater within the Plan area is classified as being of a *good* status.

Given the urban nature of the County and the range of land use activities which have taken place historically, soils have been contaminated in the past. Such contamination has the potential to affect water quality, biodiversity and flora and fauna and human health. The County Development Plan requires that where brownfield redevelopment is proposed, adequate and appropriate investigations are carried out (through the

Development Management process) into the nature and extent of any soil and groundwater contamination and the risks associated with site development work.

4.5.4.3 Aquifer Vulnerability

The Geological Survey of Ireland (GSI) rates groundwaters according to both their productivity and vulnerability to pollution. The Plan area is underlain by a locally important sand/gravel aquifer.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter into groundwater. The aquifer underlying the Plan area is classified as being of high vulnerability.

4.5.5 WFD Registers of Protected Areas

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas (RPAs). Entries to RPAs within/adjacent to the Plan area comprise:

- The coastal waters to the east of the Plan area that are included on RPAs for surface waters relating to SAC habitats and bathing waters.
- The groundwater underlying the Plan area that is part of the wider groundwater area relating to bathing waters and drinking water sources.
- The River Dargle to the south of the Plan area that is included on the RPA for Salmonid species.

4.5.6 Flooding

4.5.6.1 Introduction

Flooding is an environmental phenomenon that, as well as causing economic and social impacts, could in certain circumstances pose a risk to human health. EU Floods Directive European Directive 2007/60/EC on the assessment and management of flood risks requires Member States to carry out a preliminary assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding.

Flood risk management plans⁷ focused on prevention, protection and preparedness will be finalised in 2017. The Office of Public Works has prepared Preliminary Flood Risk Assessment (PFRA) maps that identify areas where the risks associated with flooding might be significant.

4.5.6.2 DEHLG Flood Risk Management Guidelines

In 2009, the DEHLG published The Planning System and Flood Risk Management Guidelines for Planning Authorities. These are aimed at ensuring a more consistent, rigorous and systematic approach which will fully incorporate flood risk assessment and management into the planning system. Planning authorities are required to undertake flood risk identification, assessment and management processes as appropriate when preparing land use plans and in the consideration of applications for planning permission.

4.5.6.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been prepared that has informed the Plan. This SFRA is included as Appendix 8 to the Plan and the flood zones from the SFRA are detailed on Figure 4.5.

The OPW's PFRA mapping shows an elevated level of predicted fluvial flood risk in the west of the Plan area along the Crinken Stream as well as an elevated level of predicted coastal risk along the edge of the coast along the Plan's eastern boundary. Compatible zoning (Green Belt) is provided for in these areas.

The OPW's historical flood mapping also shows a recurring flood event within the Plan area to the south of Woodbrook Downs. Available reporting on this event (2005) identifies that "it is probably due to a culvert blockage".

4.5.7 Existing Problems

Legislative objectives governing water were not identified as being currently conflicted with.

⁷ <http://maps.opw.ie/floodplans/>

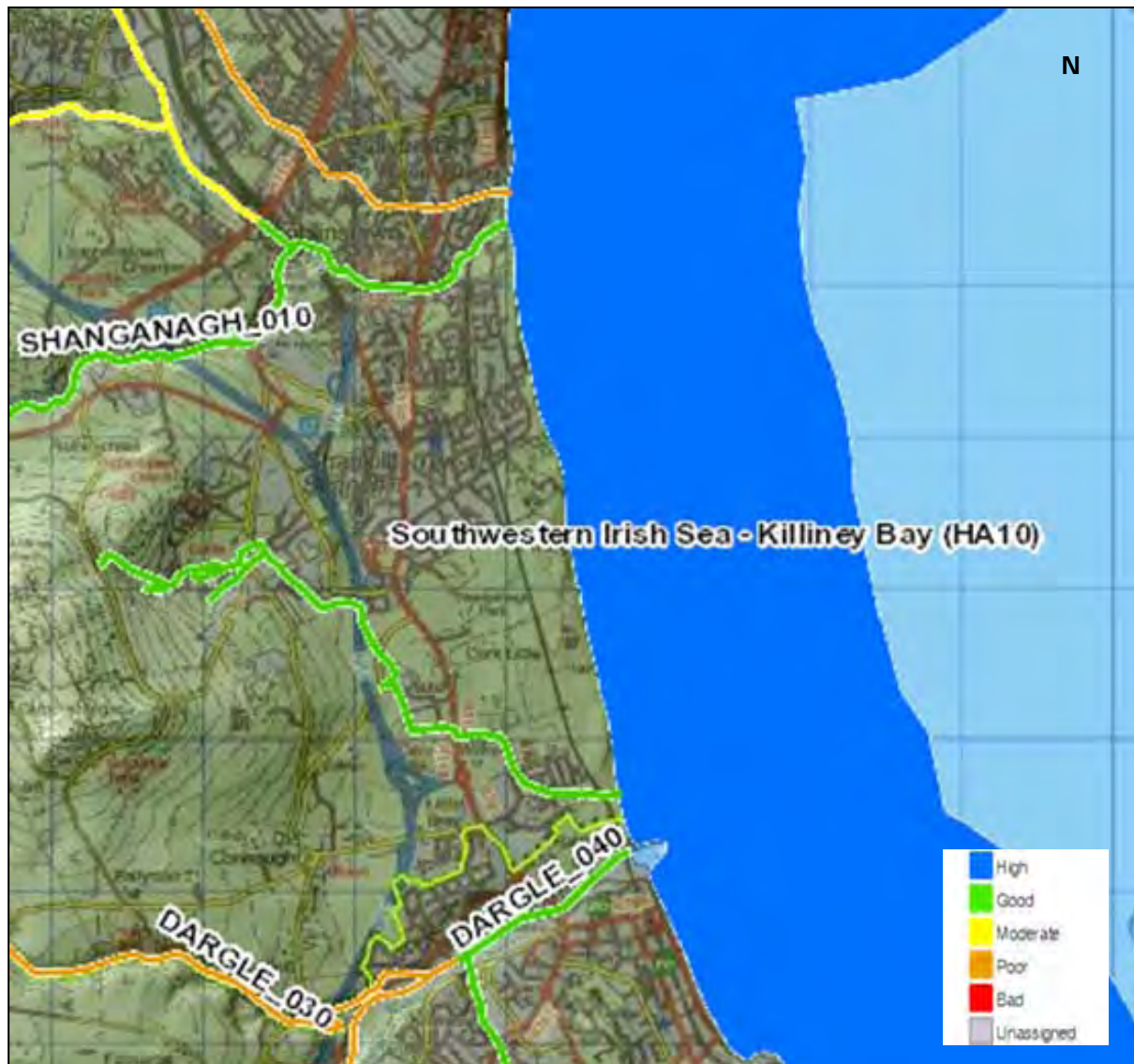


Figure 4.4 Surface Water WFD Status 2010-2015

Source: EPA (2017)

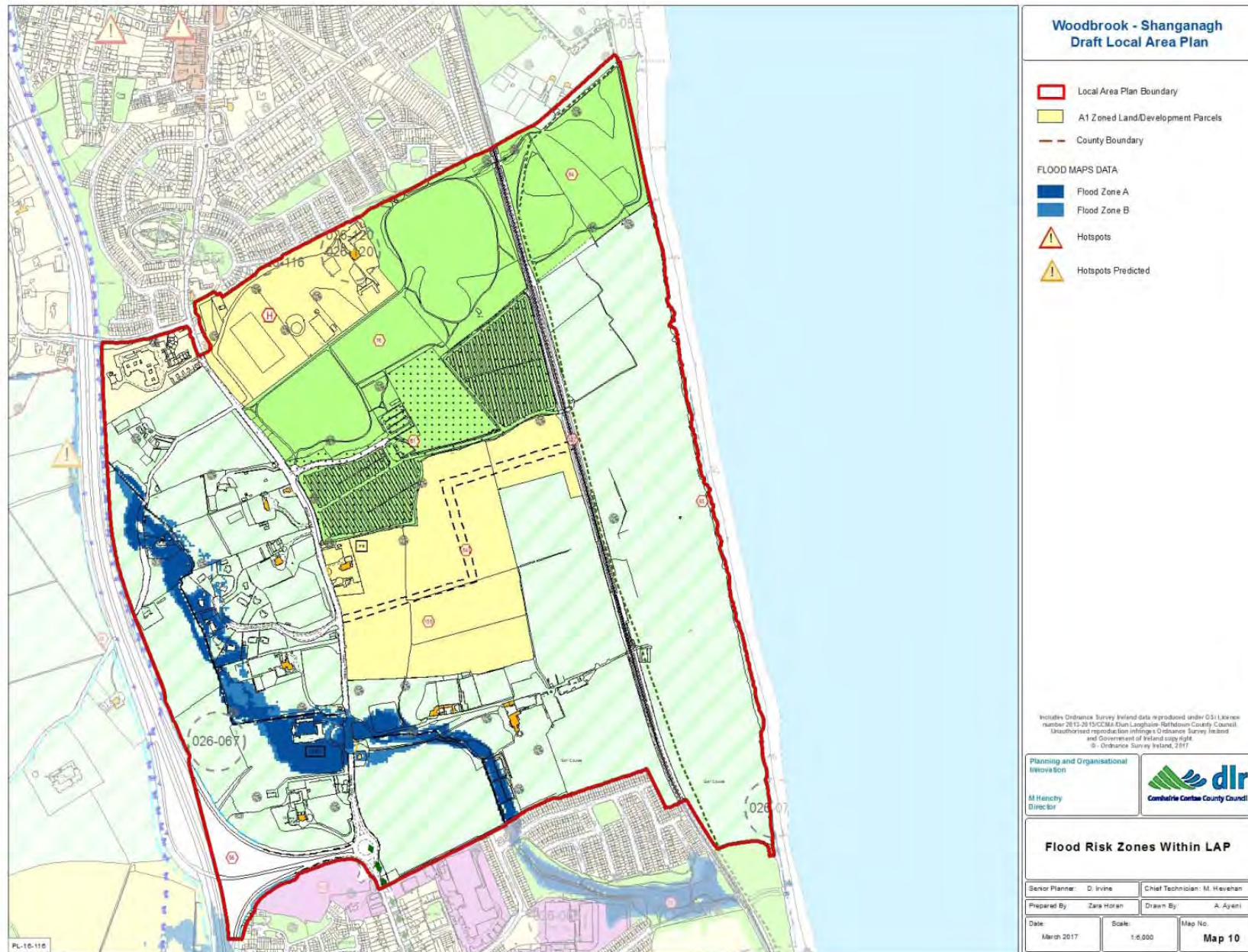


Figure 4.5 Flood Zones A and B

4.6 Air and Climatic Factors

4.6.1 Ambient Air Quality

4.6.1.1 Introduction and Legislation

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles to this European approach are set out under the Air Quality Framework Directive 1996 as transposed into Irish law under the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999 (SI No. 33 of 1999).

Four Daughter Directives lay down limits or thresholds for specific pollutants. The first two of these directives cover: sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead; and, carbon monoxide and benzene. Two more Daughter Directives deal with: ozone; and polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

4.6.1.2 Air Zones

In order to comply with the directives mentioned above, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002). The main areas defined in each zone are:

- Zone A: Dublin Conurbation.
- Zone B: Cork Conurbation.
- Zone C: 21 Other cities and large towns including Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee and Dundalk.
- 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 Plan area falls into zone A, where air quality is currently identified as being "good"⁸.

Key issues/challenges identified in the EPA's (2016) *Air Quality in Ireland 2015* report include:

- The WHO has intimated that there is no safe limit for air pollution.
- In general, air quality in Ireland is good and compares favourably with other EU member states, largely as a result of the relative absence of large cities, weather and access to predominantly clean air masses from the south west. However this status is both weather dependent and a comparison, relative to European neighbours many of whom are in exceedance of EU limit values for pollutants such as particulate matter, ozone and nitrogen dioxide.
- As the improvement in the Irish economy continues, Ireland will face challenges to comply with EU legislation for pollutants emitted from car exhausts.
- Economic activity will likely be mirrored by increases in NOX emissions, particularly in urban areas.
- City centre and urban monitoring sites in Ireland are approaching EU limit values for NO₂, and it is probable that Ireland will see limit value exceedances in the near future unless mitigation steps are taken.

4.6.2 Noise

Noise is unwanted sound. 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. The END does not set any limit value, nor does it prescribe the measures to be used in the action plans, which

⁸ The above index is for overall air quality in the Dublin City AQIH Region as accurate on 17/01/2017; EPA (2017) <http://www.epa.ie/air/quality/data/dl/>

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 statutory limit values. In accordance with the requirements of the Noise Directive the EPA has made available the strategic noise mapping of major agglomeration airports, major roads and major rail networks, in the form of noise contours for the L_{den} (day, evening, night) and L_{night} (night) periods. A noise map is a graphical representation of the predicted situation with regards to noise in a particular area with different colours representing different noise levels in decibels [dB(A)].

The EPA's noise mapping⁹ shows that the main sources of noise within the Plan area are transport generated and from the M11 Motorway, R119 Regional Road and DART line. New developments would be required to be subject to the provisions of the LAP and County Development Plan (CDP), including CDP Policy EI20.

4.6.3 Climatic Factors

The key issue involving the assessment of the effects of implementing the Plan on climatic factors relates to greenhouse gas emissions arising from transport. It is noted that the Plan contains a number of actions which respond to potential threats to environmental components arising from a changing climate.

Flooding (see Section 4.5.6) is influenced by climatic factors and the implications of climate change with regard to flood risk have been integrated into the recommendations which have been inserted into the Plan. There are emerging objectives relating to climate adaptation and there is likely to be future Guidance for climate change proofing of land use plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012). Some of these objectives might relate to green infrastructure which can achieve synergies with regard to the following:

- Provision of open space amenities;
- Sustainable management of water;
- Protection and management of biodiversity;
- Protection of cultural heritage; and

- Protection of protected landscape sensitivities.

Ireland's emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998. Travel is a source of:

1. Noise;
2. Air emissions; and
3. Energy use (42.2% of Total Final Energy Consumption in Ireland in 2015 was taken up by transport, the largest take up of any sector)¹⁰.

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development - and its associated impacts - can be minimised and the cost of service provision can be reduced.

For 2015, total national greenhouse gas emissions are estimated to be 3.7% higher than emissions in 2014. This follows the 0.3% decrease in emissions reported for 2014, most likely attributable to a mild winter in that year. Emission reductions have been recorded in 8 of the last 10 years, however this has largely been as a result of reduced economic activity. There is now strong evidence that emissions are once again increasing in line with economic and employment growth, particularly in the Transport sector. Greenhouse gas emissions from the Transport sector increased by 4.2% in 2015. This is the third successive year of increases in transport emission. Greenhouse gas emissions in 1990 and 2015 by sector show a more than doubling of the proportion of emissions from the Transport sector, from 9.2% in 1990 to 19.8% in 2015¹¹.

The EPA 2015 publication *Ireland's Greenhouse Gas Emission Projections 2014-2035*, identifies that:

- Under the 'worst case' scenario, Ireland is projected to cumulatively

⁹ <http://gis.epa.ie/Envision>

¹⁰ Sustainable Energy Ireland (2016) *Energy in Ireland 1990 – 2015*

¹¹ EPA (2016) *Ireland's Provisional Greenhouse Gas Emissions in 2015*

exceed its obligations by 4 Mt of CO₂eq over the period 2013-2020.

- Under the 'best case' scenario, Ireland is projected to cumulatively meet its compliance obligations over the 2013-2020 period and meet its 2020 target. This takes into account the overachievement of the annual limits in the period 2013- 2017 which is banked and used in the years 2018-2020. The report identifies that achieving the outlook under the 'best case' scenario will require focus and effort which includes meeting renewable targets for transport and heat as well as energy efficiency targets.
- Transport emissions are projected to show strong growth over the period to 2020 with a 13%-19% increase on current levels depending on the level of policy implementation. Relative to 2005, transport emissions are projected to remain the same or, at best, decrease by 4% by 2020.

Maximising sustainable mobility will help Ireland meet its emission target for greenhouse gases under the 2020 EU Effort Sharing target which commits Ireland to reducing emissions from those sectors that are not covered by the Emissions Trading Scheme (e.g. transport, agriculture, residential) to 20% below 2005 levels. Subsequently, by 2030, Ireland is required to reduce its carbon emissions by up to 30% compared to 2005 levels.

4.6.4 Existing Problems

Legislative objectives governing air and climatic factors within the Plan area were not identified as being conflicted with.

4.7 Material Assets¹²

4.7.1 Water Services

4.7.1.1 Irish Water

Since January 2014 Dún Laoghaire-Rathdown County Council no longer has any direct control in relation to the provision of water or wastewater services. The delivery, integration and implementation of strategic water and

wastewater projects and infrastructural improvements are now the responsibility of Irish Water. The Council commits to working closely with Irish Water to ensure that the Plan continues to align with both the National Spatial Strategy and the Regional Planning Guidelines and that the provision of water/wastewater services will not be a limiting factor in terms of forecasted growth.

The function and role of Irish Water includes:

- Abstracting and treating water;
- Delivering water and wastewater services to homes and businesses;
- Installing water meters and billing domestic and business customers;
- Raising finance to fund improvements and repairs in the water system; and
- Maintaining and operating the water system.

The upgrading of water services infrastructure will contribute towards compliance with the Water Framework Directive, EU Urban Waste Water Treatment Directive and Drinking Water Regulations and will help to protect human health and maintain the quality of surface waters.

4.7.1.2 Water Services Assets and Achievements

Since the 2006 LAP was adopted, the 'Shanganagh Bray Main Drainage Scheme' and upgrading of Shanganagh Treatment Plant (located c.1.5km to the north of the Plan area¹³) have been completed. The Shanganagh Drainage Scheme became operational in 2012 and since completion of the project, the plant is operating in the order of less than two-thirds capacity, thus there is ample capacity to serve future developments within the Plan area.

Dún Laoghaire-Rathdown County Council have actively engaged with Irish Water in relation to advancing water and drainage infrastructure schemes within southern part of the County. Irish Water have indicated that the Plan area forms part of the 'Connaught-Woodbrook Water Supply and Sewerage Scheme' – identified within their Proposed Capital Investment Programme (2014-2016) – and will

¹² Much of the text in this section is taken from the Draft Local Area Plan

¹³ The Shanganagh WWTW provides full secondary treatment for wastewater from Shanganagh and Bray. The new plant, constructed at the site of an aging WWTW, has the capacity to treat effluent from 186,000 PE with the potential to increase capacity to 248,000 PE in the future.

be prioritised in order to 'unlock' the development potential of the area.

4.7.1.3 Water Services Challenges and Opportunities

Since the adoption of the original LAP in 2006, there have been limited funding mechanisms in place required to deliver the infrastructure needed to facilitate development within the Plan area. In this regard, one of the key challenges for the new Plan will be the timely delivery of both water supply and drainage that will enable development.

The opportunity to provide the required infrastructure could now be realised through coordinated funding measures available via Irish Water's Proposed Capital Investment Programme (2014-2016).

Water production capacity in the wider Dublin region is barely adequate and a priority for Irish Water is the provision of a sustainable water source for Dublin, which they aim to deliver by 2020. Locally, a scheme is required to address the shortcomings of water supply in the Old Conna and Woodbrook area. To that end, a new reservoir is planned at Ballyman (c. 2km to the south west of the LAP area) to serve the southern areas of the County.

The majority of existing properties within the Plan area are served by individual wastewater treatment systems/septic tanks. With the appropriate infrastructure in place, there may well be an opportunity for the properties to be connected to mains sewerage and the wastewater treatment systems decommissioned.

4.7.1.4 Approach to Water Services for Woodbrook-Shanganagh

The future development of lands at Woodbrook and Shanganagh Castle is contingent upon the timely delivery of improved water infrastructure. Irish Water, which has responsibility for water supply and foul drainage within the Plan Area, is currently progressing projects for the Plan Area under the guise of the Old Conna/Woodbrook Water Supply and Drainage Schemes. Irish Water has committed to the funding and implementation of this scheme but, until such time that all necessary infrastructure is in place, will investigate interim solutions to facilitate early first phase development in the Plan Area and elsewhere.

The Old Conna/Woodbrook Water Supply and Drainage Schemes include the provision of new reservoirs at Ballyman and trunk water mains. It is anticipated that this project would provide a sustainable water supply for the Plan Area. Irish Water is currently preparing a planning application for this project. Irish Water have indicated that there is a potential interim water supply, reliant on conservation measures, and will assess the potential for such provisions within the area.

The Old Conna/Woodbrook Water Supply and Drainage Schemes also include the provision of an improved and reinforced foul drainage network for the Bray-Shanganagh area which will enable the development of new development parcels, including Woodbrook-Shanganagh. In the interim, Irish Water is investigating the potential of utilising the existing local drainage network by facilitating local upgrades where feasible. A survey to ascertain the capacity of the existing pipework is currently being carried out to determine what scale, or if any, development could be facilitated utilising the existing network. Where capacity is identified, a certain level of development (to be determined by Irish Water) could then proceed in advance of more comprehensive infrastructural upgrades in the area.

It is anticipated that the infrastructure improvements within the Plan Area will also offer existing properties the opportunity to connect to a mains sewerage system thereby removing reliance on individual waste water treatment systems.

The ability to decommission individual waste water treatment systems will greatly assist in maintaining the "good" water quality imperatives within the Plan area in accordance with the core objectives set out in the Water Framework Directive.

4.7.1.5 Wastewater Performance

Wastewater performance information published by the EPA¹⁴ identified that the Shanganagh WWTP passed all mandatory Wastewater Treatment Directive related requirements during 2015.

4.7.1.6 Drinking Water Quality

Drinking water must be clean and wholesome. That means it must meet the relevant water

¹⁴ EPA (2016) *Urban Waste Water Treatment in 2015*

quality standards and must not contain any other substance or micro-organism in concentrations or numbers that constitute a potential danger to human health.

Compliance with the drinking water requirements is determined by comparing the results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis.

Under Section 58 of the Environmental Protection Agency Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports which are supported by Remedial Action Lists (RALs). The RAL identifies water supplies which are not in compliance with the Regulations mentioned above.

The EPA's 'Drinking Water Report for Public Water Supplies 2015' (2016) Reports identify that microbiological compliance levels in Public Water Supplies in Dún Laoghaire-Rathdown were 100% in 2015.

The most recent EPA Remedial Action List (Q4 of 2016) identified one water supply within the County (Roundwood) in need of improvement with respect to "treatment and management issues". The Remedial Action List identifies "Replacement of Callow Hill Tunnel, use of covered storage reservoir and upgrade of disinfection system" for solving these issues.

4.7.2 Waste Management

The total collected and brought household waste in Dún Laoghaire-Rathdown in 2012 amounted to 66,453(t). This is a reduction on 2011 figures where 66,707(t) was collected and brought¹⁵.

The Government recently adopted a new approach to waste management through a document called 'A Resource Opportunity – Waste Management Policy in Ireland' published in July 2012. This policy provides a roadmap on how Ireland will move away from an over dependence on landfill, by putting in

place the most appropriate technologies and approaches to reduce waste, while at the same time maximising the resources that can be recovered from waste.

The policy is predicated on five principles those being prevention and minimisation, reuse, recycling, recovery and disposal.

The County Development Plan commits the Council to continue to work in tandem with EU and National policy and the Environmental Protection Agency in the implementation and execution of its waste management responsibilities and duties throughout the duration of the lifetime of the Plan. Development under the LAP will be subject to these provisions.

4.7.3 Fishing and Marine Resources

The fishing industry in Dún Laoghaire-Rathdown relates not only to commercial fishing (at sea and inland) but also to tourism and recreational activities. The harbours of Dún Laoghaire and Bullock provides fishing year round and are used as recreational and amenity harbours.

The marine resource is very important to Dún Laoghaire-Rathdown as it supports a significant number of water based activities, both work and pleasure related. These include boat hire, yachting, adventure sports, pier/shore angling, sea angling, dolphin and bird watching, hiking, visiting heritage sites and festivals. Dublin Bay Cruises also sail from Dún Laoghaire-Rathdown to Howth daily during the summer months.

4.7.4 Existing Problems

There are a number of challenges with respect to water services which are outlined under Section 4.7.1.

The provisions of the new Plan will contribute towards protection of the environment with regard to impacts arising from material assets.

¹⁵ EPA (2014) National Waste Report 2012

4.8 Cultural Heritage

4.8.1 Introduction and Overview¹⁶

The Woodbrook Shanganagh Area encapsulates the essence of a demesne landscape with a rich tapestry of architectural features. One of the special characteristics of the development lands is undoubtedly the dramatic views to distant landmarks which provides a unique landscape context to frame future development.

Shanganagh Castle and its immediate grounds are important both architecturally and historically and merit classification as a significant site, albeit with some loss of integrity. The original demesne was larger in extent encompassing lands to the north that included the functional farm buildings, stable and walled gardens and also the current lands of Shanganagh Park.

For Woodbrook, whilst there are no buildings or structures within the greenfield lands, there are a number of nineteenth century estate houses in the immediate vicinity. Beauchamp House, The Aske, Woodbrook Estate and Corke Lodge are all close by and as such contribute collectively to the special character of the area with the mature trees and historic stone walls punctuated by decorative entrances and gate lodges. St. James Church (1840) immediately adjoins the development lands and as an existing landmark building, has the potential to become a key structuring element in any design strategy for the area.

New development at Woodbrook-Shanganagh creates a unique opportunity to conserve Shanganagh Castle as an important element of the area's architectural heritage and creates the potential for its re-use as a publicly accessible building, thereby enlivening and creating a vibrancy at heart of the new residential lands. It also provides an opportunity for re-instating historic views and vistas, and heritage routes where appropriate, as well as creating greater permeability with Shanganagh Park. There is also an opportunity to reinforce the significance of St. James

Church as a landmark building which has an important civic function.

Shanganagh Castle represents a valuable asset given its strategic location vis á vis Shanganagh Park, and provides the impetus for enhancement of the park to Regional Status with the Castle as the centre piece – as with similar historic houses in Marley Park and Cabinteely Park.

Similarly, St. James Church, as an active centre for religious worship and as a landmark building, provides a focal point for a new community hub or cluster of civic activities and neighbourhood uses, whilst it also maintains its original or historic use for the Church of Ireland congregation.

4.8.2 Archaeological Heritage

4.8.2.1 Introduction

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence. As archaeological heritage can be used to gain knowledge and understanding of the past it is of great cultural and scientific importance.

Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface.

4.8.2.2 Record of Monuments and Places

Dún Laoghaire-Rathdown's archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts.

¹⁶ Much of the information in this section is taken from Section 3.5 'Built Heritage' of the Draft Woodbrook-Shanganagh Local Area Plan 2017 (Dún Laoghaire-Rathdown County Council, 2016)

The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped.

The term 'monument' includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. All monuments in existence before 1700 A.D. are automatically considered to be historic monuments within the meaning of the Acts. Monuments of architectural and historical interest also come within the scope of the Acts. Monuments include: any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections; any cave, stone or other natural product, whether or not forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position; any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or, ritual, industrial or habitation site; and any place comprising the remains or traces of any such building, structure or erection, any such cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site, situated on land or in the territorial waters of the State', but excludes 'any building or part of any building, that is habitually used for ecclesiastical purposes' (National Monuments Acts 1930-2004).

A recorded monument is a monument included in the list and marked on the map which comprises the RMP set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified.

The following are entries to the Record of Monument and Places within the Plan area as identified by the National Monuments Service (archaeology.ie);

1. Burial site (DU026-067), in the south west of the Plan area;
2. Shanganagh Castle (DU026-120), in the north of the Plan area;
3. Martello Tower (DU026-070), in the south east of the Plan area; and

4. Fulacht Fiadh at Shanganagh (DU026-116).

4.8.3 Architectural Heritage

4.8.3.1 Introduction

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.

4.8.3.2 Record of Protected Structures

The Record of Protected Structures (RPS) included in the Development Plan is legislated for under Section 12 and Section 51 of the Planning and Development Act 2000 as amended.

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

In relation to a protected structure or proposed protected structure, the following are encompassed:

- (i) the interior of the structure;
- (ii) the land lying within the curtilage¹⁷ of the structure;
- (iii) any other structures lying within that curtilage and their interiors; and,
- (iv) all fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii).

¹⁷ Curtilage is normally taken to be the parcel of ground immediately associated with the Protected Structure, or in use for the purposes of the structure. Protection extends to the buildings and land lying within the curtilage. While the curtilage sometimes coincides with the present property boundary, it can originally have included lands, features or even buildings now in separate ownership, e.g. the lodge of a former country house, or the garden features located in land subsequently sold off. Such lands are described as being attendant grounds, and the protection extends to them just as if they were still within the curtilage of the Protected Structure.

These structures include harbours, piers, boat slips, bridges, quarries, Martello Towers, Victorian terraces, Georgian houses, public buildings, street furniture, churches, castles, schools, yacht clubs and a range of domestic architecture.

Entries to the Record of Protected Structures within the Plan area include:

- Beauchamp House
- Corke Lodge and The Coach House
- Woodbrook House
- Woodbrook House Lodge
- Woodbrook Front Lodge
- Wilford
- Woodbrook Side Lodge
- Shanganagh Marble and Stone Centre and railings
- Askefield House
- Saint James Church and railings
- The Aske
- Shanganagh Castle
- Crinken Lodge

4.8.4 Existing Problems

The context of archaeological and architectural heritage has changed over time within the Plan area. Such changes have included the loss of key views to and from Shanganagh Castle.

4.9 Landscape

4.9.1 Landscape Character

There is one Landscape Character Area (Shanganagh LCA) identified within the Plan area as described below.

There is a commitment given in the Plan 2016-2022 to review the Landscape Character Areas when new National guidance is issued.

Key Characteristics of Dún Laoghaire-Rathdown LCA 12: Shanganagh¹⁸

This enclosure is essentially the area between Shankill and Bray which takes in the cemetery at Shanganagh, Shanganagh Park and Woodbrook golf course. This enclosure also includes the land to the west between the Dublin Road and the N11. The Dublin

Road from Shankill to Bray traverses this enclosure. Big houses include The Aske, Beauchamp, Wilford, Woodbrook and Shanganagh House. When viewed from Killiney Hill and also from Carrickgollogan this area is effectively indistinguishable from the overall plain. The entire expanse appears to be dominated by low-density housing. When viewed from the Dublin Road, the trees prevent any sense of a vista but instead provide for a tree line Avenue.

The LAP promotes the sylvan historic landscape character of the Woodbrook-Shanganagh Area as an important element in creating a distinct identity and sense of place for the new residential developments. In this regard, it seeks to protect the visual amenity of heritage sites and features, as well as key historic views and vistas from within and without the plan area in order to conserve its integrity. The historic boundary walls and mature trees along the Old Dublin Road are considered an intrinsic quality and the council will endeavor to retain these features as part of any development proposals or road improvement schemes, subject to safety considerations.

The Council will seek to ensure high quality public realm that subtly embodies the essence of the demesne landscape character which defines the area. Particular attention will be at key entrances to Shanganagh Castle, Park and Cemetery, the new civic space or village green to be delivered as part of a neighbourhood centre on the Woodbrook lands and also key nodal points in the residential lands, the latter in the interests of legibility.

Efforts will also be made to re-establish the historic walking routes and key views which were an important element of the overall landscape approach of an historic estate. These efforts will help to safeguard the identity of the area and improve permeability or connectivity between the key residential lands, Shanganagh Castle and the Park.

4.9.2 Views and Prospects

There are a number of existing long distance views from the LAP towards the mountains and the sea, as well as a more localised vistas. This includes the prospect to be preserved towards Carrickgollogan as listed in Policy

¹⁸ Dún Laoghaire-Rathdown Landscape Character Areas

LHB6: Views and Prospects in the County Development Plan. In addition, the Development Plan also includes protected views eastwards over the LAP Area from Ferndale Road and Quarry Road. Table 4.4 identifies Protected Views and Prospects from the Draft Plan.

The Draft Plan requires that development proposals within the Plan Area should provide visual impact assessments in order to illustrate how future development might impact upon these protected views and prospects listed in the Development Plan and also demonstrate how local views can be integrated and enhanced within a new scheme.

Table 4.4 Views and Prospects¹⁹

View No.	Description	View Type
1, 4, 8 & 10	Views west towards Carrickgollogan and the lead mines chimney	Long Distance Views / Preserved Prospect in CDP
2	View towards Shanganagh Castle Gate Lodge	Local Views / Vistas
3 & 5	Views north towards Killiney Hill and Dalkey Island	Long Distance Views
6 & 7	Views south towards the Wicklow Mountains – Sugar Loaf, Little Sugar Loaf and Bray Head	Long Distance Views
9	Views of St James Church from within the Woodbrook Lands	Local View / Vista
11	Views of the clock tower from within the Woodbrook Lands.	Local View / Vista
12	View from Ferndale Road Eastwards	Protected Views in CDP
N/A	Views of Shanganagh Castle from within the Castle Lands and the Park	Proposed / Reinstated Local View / Vista

4.9.3 Existing Environmental Problems

New developments have resulted in changes to the visual appearance of lands within the Plan area however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

¹⁹ Section 3.6 of the Draft Plan includes photographs for these views and prospects

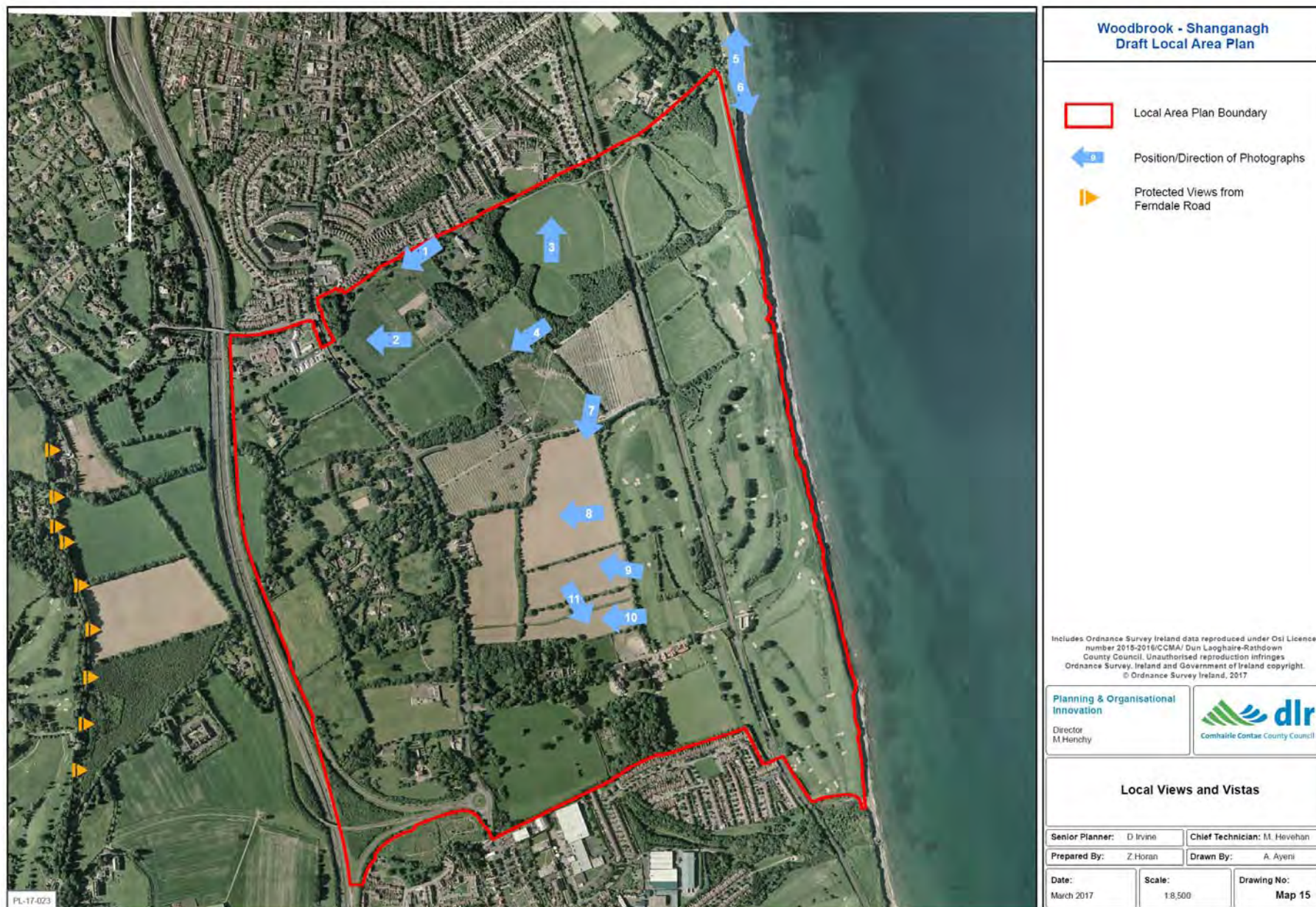


Figure 4.6 Local Views and Vistas

Source: Dún Laoghaire-Rathdown County Council (2017)

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Draft Plan and the alternatives are 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.

The SEOs are linked to indicators that can facilitate monitoring the environmental effects of the Plan as well identifying targets that the Plan can help work towards.

All SEOs, indicators and targets are provided on Table 5.1 overleaf while background to these measures is provided in the subsections below.

Further detail on legislation, plans and programmes are provided under Section 2 (and associated Appendix I "Relationship with Legislation and Other Plans and Programmes") and Section 4.

Table 5.1 Strategic Environmental Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objectives	Selected Indicator(s)	Selected Target(s)
Biodiversity, Flora and Fauna	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ²⁰	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ²¹
	B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ²² and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976
Population and Human Health	PHH1: To protect human health from exposure to incompatible landuses	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan
	PHH2 (and L1): To protect use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): To avoid and minimise disruption to use of and access to amenities including parklands, playing fields and the coast
Soil	S1: To avoid damage to the hydrogeological and ecological function of the soil resource	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity

²⁰ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²¹ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

(a) no alternative solution available;
(b) imperative reasons of overriding public interest for the plan to proceed; and
(c) adequate compensatory measures in place.

²² The Planning and Development Act 2000 as amended defines a 'wildlife site' that includes Natural Heritage Areas (NHAs) and proposed NHAs.

Environmental Component	Strategic Environmental Objectives	Selected Indicator(s)	Selected Target(s)
Water	W1: To maintain and improve, where possible, the quality and status of surface waters	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ²³
	W2: To prevent pollution and contamination of groundwater	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
	W3: To comply as appropriate with the provisions of the Flood Risk Management Guidelines for Planning Authorities	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities
Material Assets	M1: To serve new development with adequate and appropriate wastewater treatment	M1: Number of new developments granted permission which can be adequately and appropriately served with wastewater treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by wastewater treatment over the lifetime of the Plan
	M2: To serve new development with adequate drinking water that is both wholesome and clean	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers
Air and Climatic Factors	C1: To contribute towards sustainable mobility and help to facilitate the achievement of higher level targets relating to air pollution greenhouse gas emission targets	C1: Percentage of resident and employment populations travelling to work, school or college by public transport or non-mechanical means	C1: Maximise the percentage of the resident and employment populations travelling to work, school or college by public transport or non-mechanical means
Cultural Heritage	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - and the context of these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and their context	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and their context from adverse effects resulting from development which is granted permission under the Plan

²³ Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA: Q4 in the biological classification of rivers; and Unpolluted status in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI).

Environmental Component	Strategic Environmental Objectives	Selected Indicator(s)	Selected Target(s)
Landscape	PHH2 (and L1): To protect use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): To avoid and minimise disruption to use of and access to amenities including parklands, playing fields and the coast

Section 6 Description of Alternatives

6.1 Introduction

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

The description of the environmental baseline (both maps and text) and Strategic Environmental Objectives (SEOs) are used in the evaluation of alternatives for the Draft Local Area Plan (LAP) for Woodbrook-Shanganagh.

6.2 Limitations in Available Alternatives

The alternatives available for the Draft LAP are significantly limited by the objectives of the County Development Plan. The LAP is required to be prepared by the County Plan (so 'do-nothing' is not an option). The County Plan sets out a number of parameters for the LAP as follows:

- The Core Strategy of the County Plan identifies Woodbrook-Shanganagh as a 'future development area' within the County with the potential to accommodate an additional c. 4,000 to 6,000 persons in approximately 1,600 to 2,300 residential units;
- The County Plan sets out the land use zoning for the LAP area (see Figure 1). Lands within the LAP area are subject to one of the four following land use zoning objectives:
 - F: To preserve and provide for open space with ancillary active residential amenities;
 - GB: To protect and enhance the open nature of lands between urban areas;
 - A: to protect and/or improve residential amenity; and
 - A1: To provide for new residential communities in accordance with approved Local Area Plans.

Development within the LAP area will be primarily focused on the two development parcels of land zoned A1, Shanganagh Castle in the north and Woodbrook in the south.

- The County Plan, which has been subject to SEA and AA, contains a number of provisions relating to sustainable development and environmental protection and management with which the LAP must comply.

6.3 Environmental Benefits offered by existing County Development Plan LAP Parameters

There are a number of environmental benefits that are provided for by the parameters set down by the County Development Plan within which the LAP must be prepared. These are further expanded upon under Section 7.4.1 "Significant Positive Effects Common to all Alternatives".

6.4 Overview of Available Alternatives

Although alternatives available for the Draft LAP are significantly limited by the objectives of the County Development Plan, a number of reasonable alternatives have been identified under the following headings:

1. Density Alternatives; and
2. Site Framework Strategy Alternatives (this relates to the spatial configuration for future development within the LAP area/ development parcels).

6.4.1 Density Alternatives

There are a number of alternatives available to the LAP for density of Residential units within the Shanganagh Castle and Woodbrook lands.

The selection of densities has implications for:

- The type (apartments, houses) and mix of residential units which will be provided for;
- The height of residential blocks; and
- The likelihood of development occurring on the site after adoption of the LAP.

Taking into account the need to comply with the parameters set down by the County Plan, available alternatives for the LAP relating to densities were identified as follows:

- **Higher (Res3)** density mix resulting in an average net density of 80-100+ units/hectare;
- **Medium (Res2)** density mix resulting in an average net density of 60-80 units/hectare; and
- **Lower (Res1)** density mix resulting in an average net density of 45-60 units/hectare.

6.4.2 Shanganagh Castle Site Framework Alternatives

Three site framework alternatives for development at Shanganagh Castle were identified during the Plan-preparation process as follows:

Shanganagh Castle Site Framework Alternative 1 (see Figure 6.2), which aligns with the 2006 Woodbrook/Shanganagh Local Area Plan, provides for:

- Residential development throughout most of the Shanganagh Castle Site and the Castle building;
- The retention of Shanganagh Park in its current form including pitches for sports;
- Mixed use commercial/community/retail/residential area at park edge; and
- A bus connection through the park.

Shanganagh Castle Site Framework Alternative 2 (see Figure 6.3) provides for:

- Provides for reduced residential development within the Shanganagh Castle Site development parcel;
- Development is informed by setting of the Castle and residential development is not provided for adjacent to the Castle building;
- Provides for existing and improved uses at Shanganagh Park (including pitches for sports) as well as providing for areas for playgrounds and biodiversity areas where maintenance is managed to maximise benefit to biodiversity;
- Restores views towards the coast from the Castle;
- Incorporates public open space at pond into the Park; and
- Facilitates the Castle to become a publically accessible community hub.

Shanganagh Castle Site Framework Alternative 3 (see Figure 6.4) provides for:

- Provides for reduced residential development within the Shanganagh Castle development parcel;
- Development is informed by setting of the Castle and residential development is not provided for adjacent to the Castle building
- Site Framework Alternative 3 has been prepared with a lower density of development than Alternatives 1 or 2; and,
- A significant quantum of undeveloped land and public open space provision.

6.4.3 Woodbrook Site Framework Alternatives

Three site framework alternatives for development at Woodbrook were identified during the Plan-preparation process as follows:

Woodbrook Site Framework Alternative 1 (see Figure 6.5), which aligns with the 2006 Woodbrook/Shanganagh Local Area Plan:

- Provides for two commercial centres within the Woodbrook area; and
- Two distinct neighbourhood nodes.

Woodbrook Site Framework Alternative 2 (see Figure 6.6):

- Provides for one neighbourhood centre within the Woodbrook area;
- Reduction in commercial activity; and
- One central distinct neighbourhood / village green area.

Woodbrook Castle Site Framework Alternative 3 (see Figure 6.7) provides for:

- Site Framework Alternative 3 has been prepared with a lower density of development than Alternatives 1 or 2; and,
- This alternative provides significant levels of the lower (Res1) density band zoning.

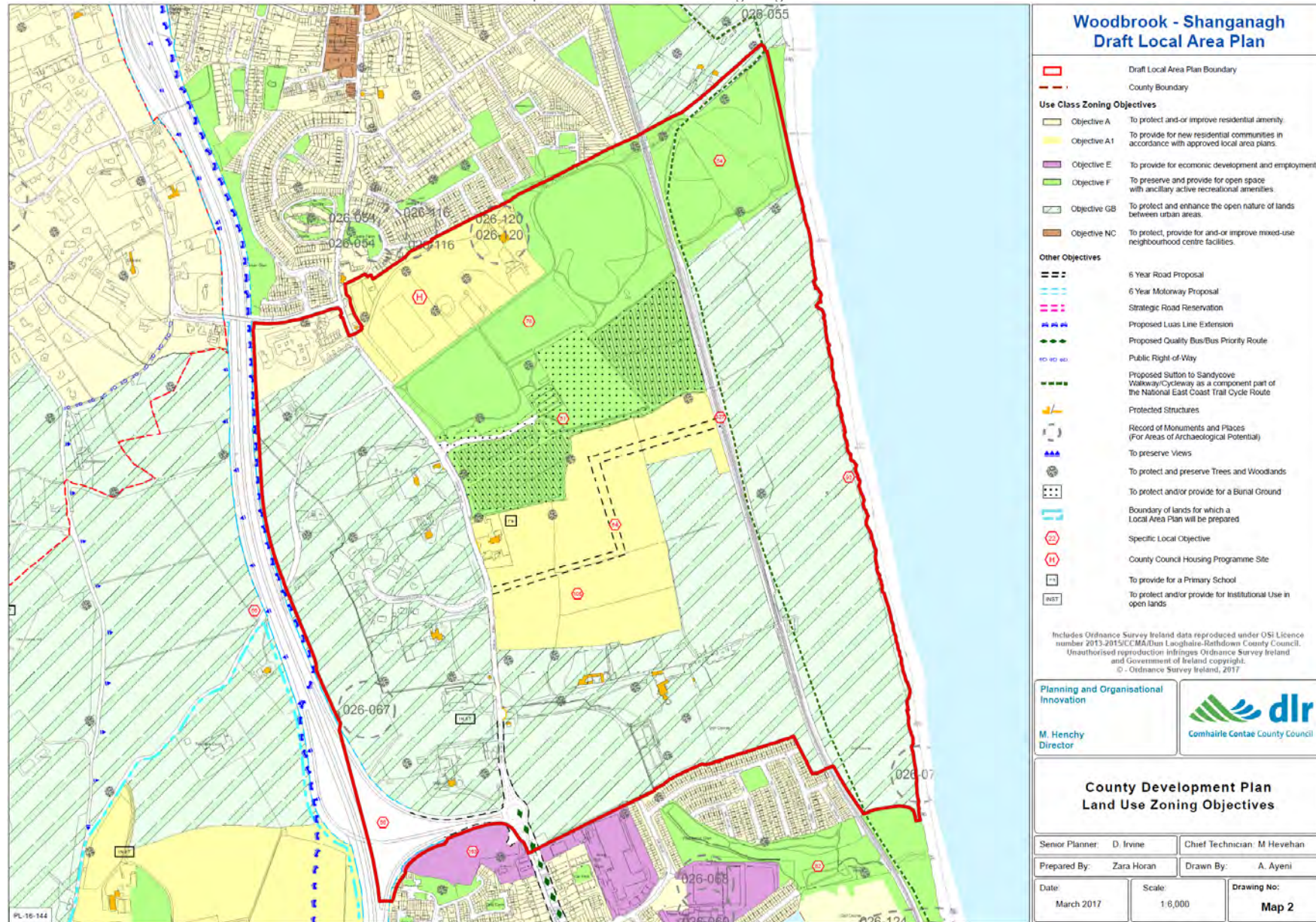


Figure 6.1 County Development Plan Land Use Zoning

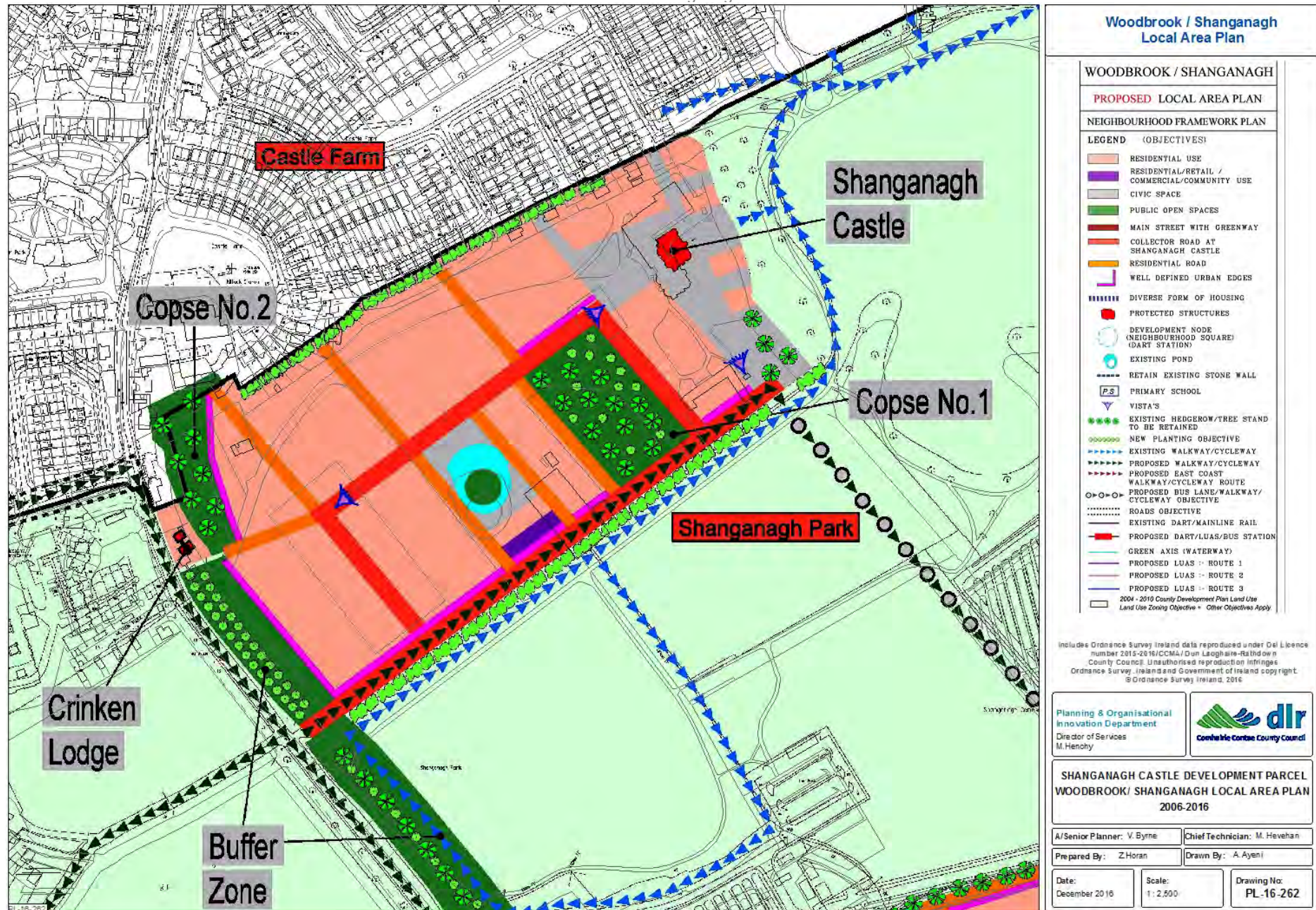


Figure 6.2 Shanganagh Castle Site Framework Alternative 1

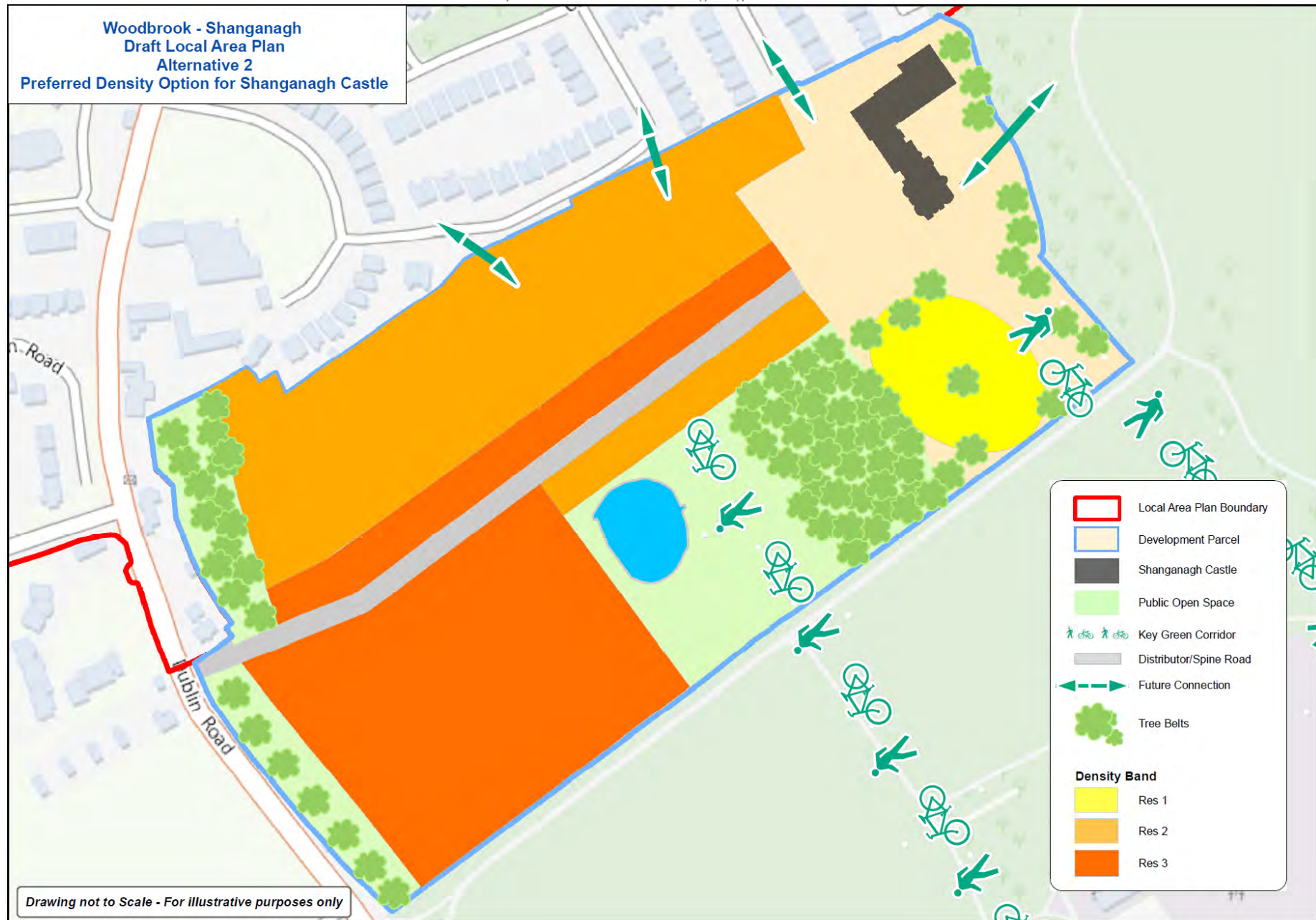


Figure 6.3 Shanganagh Castle Site Framework Alternative 2

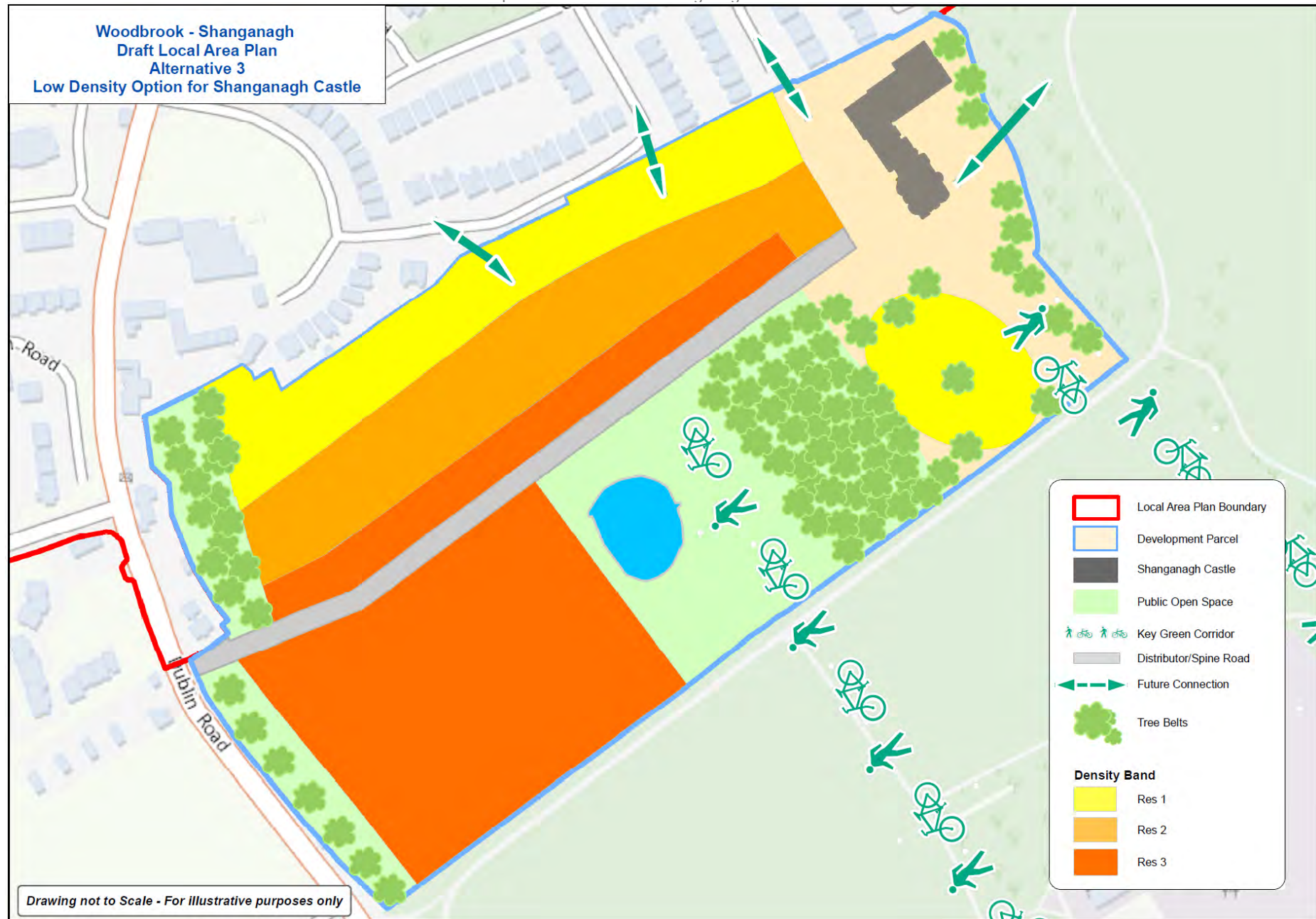


Figure 6.4 Shanganagh Castle Site Framework Alternative 3

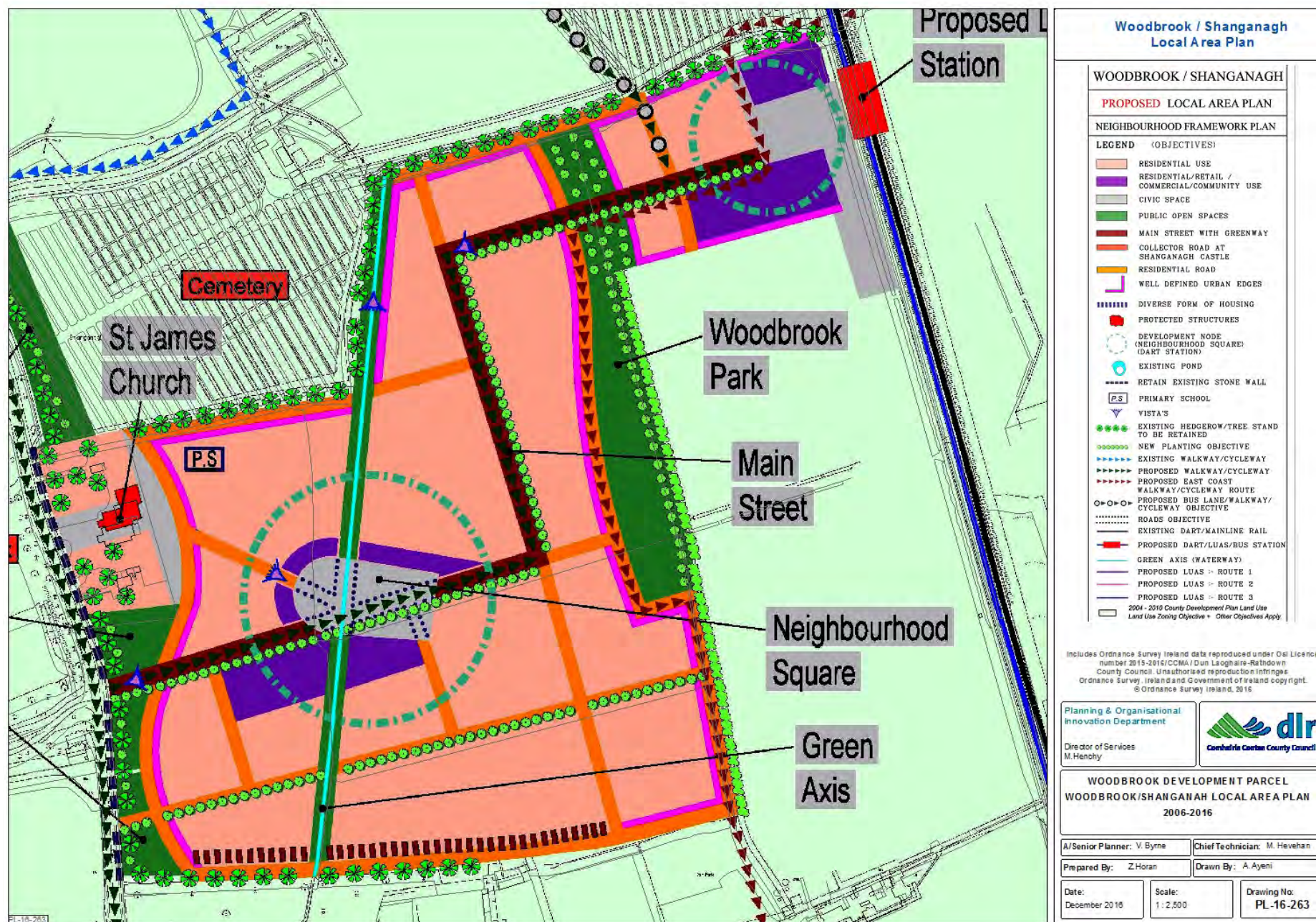


Figure 6.5 Woodbrook Site Framework Alternative 1



Figure.6.6 Woodbrook Site Framework Alternative 2

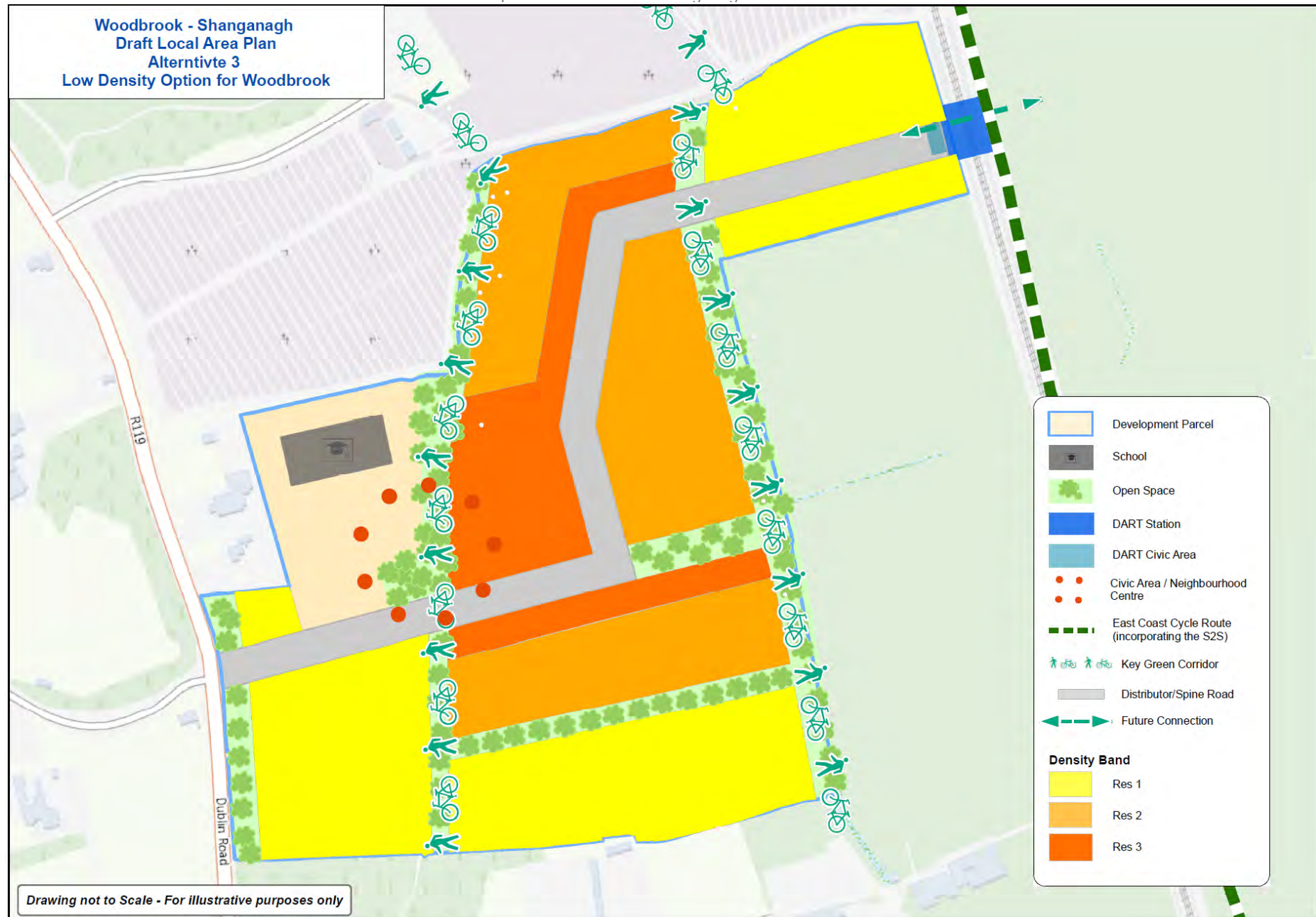


Figure 6.7 Woodbrook Site Framework Alternative 3

Section 7 Evaluation of Alternatives

7.1 Introduction

This section provides a comparative evaluation of the environmental effects of implementing the alternatives. This determination sought to understand whether each alternative was likely to improve, conflict with or have a neutral interaction with the receiving environment.

7.2 Methodology

The relevant aspects of the current state of the environment (see Section 4) and the Strategic Environmental Objectives (SEOs) (see Section 5 and Table 7.1) are used in the evaluation of alternatives.

The alternatives are evaluated using compatibility criteria (see Table 7.1 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternatives are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species²⁴'.

The interactions identified are reflective of likely significant environmental effects²⁵:

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates. The extent of positive effects which would be likely to occur varies and there are two 'likely to improve columns' (see Table 7.2).
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects could be mitigated (for the chosen alternative these effects will be mitigated by measures which have been integrated into the Draft Plan). The extent to which effects could be mitigated varies and there are two 'likely to be mitigated columns' (see Table 7.2).
3. Interactions that would probably conflict with the status of an SEO and would be unlikely to be mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.

The degree to which effects can be fully determined at this level of decision making is limited as the Plan will be implemented through lower tier decision making and environmental assessments where relevant. Nonetheless a comparative evaluation of the various alternatives can be provided.

²⁴ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²⁵ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 7.1 Strategic Environmental Objectives²⁶

Environmental Component	Code	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ²⁷
	B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ²⁸ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
Population and Human Health	PHH1	To protect human health from exposure to incompatible landuses
	PHH2 (and L1)	To protect use of and access to amenities including open space, parklands, playing fields and the coast
Soil	S1	To avoid damage to the hydrogeological and ecological function of the soil resource
Water	W1	To maintain and improve, where possible, the quality and status of surface waters
	W2	To prevent pollution and contamination of groundwater
	W3	To comply as appropriate with the provisions of the Flood Risk Management Guidelines for Planning Authorities
Material Assets	M1	To serve new development with adequate and appropriate wastewater treatment
	M2	To serve new development with adequate drinking water that is both wholesome and clean
	M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Air and Climatic Factors	C1	To contribute towards sustainable mobility and help to facilitate the achievement of higher level targets relating to air pollution greenhouse gas emission targets
Cultural Heritage	CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	CH2	To protect architectural heritage including entries to the Record of Protected Structures and their context
Landscape	PHH2 (and L1)	To protect use of and access to amenities including open space, parklands, playing fields and the coast

Table 7.2 Criteria for appraising the effect of Alternatives on SEOs

Likely to <u>Improve</u> status of SEOs to a <u>greater</u> degree	Likely to <u>Improve</u> status of SEOs to a <u>lesser</u> degree	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>lesser</u> degree - likely to be mitigated	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>greater</u> degree - likely to be mitigated	<u>Probable Conflict</u> with status of SEOs - unlikely to be fully mitigated	<u>No significant interaction</u> with status of SEOs
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²⁶ See Section 5 for a description of Strategic Environmental Objectives.²⁷ 'Annexed habitats and species' refer to those listed under Annex I, II and IV of the EU Habitats Directive and Annex I of the EU Birds Directive.²⁸ The Planning and Development Act 2000 as amended defines a 'wildlife site' that includes Natural Heritage Areas (NHAs) and proposed NHAs.

7.3 Cumulative Effects

Cumulative effects are one of the types of effects which have been considered by the assessment of the alternatives. Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact.

There are 2 types of potential cumulative effects that have been considered, namely:

- Potential *intra-Plan* cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a plan, programme, etc. Where there are elevated levels of environmental sensitivities, future development could result in environmental conflicts and lead to a deterioration in environmental integrity. The interrelationships between environmental components that help determine these potential effects are identified on Table 8.3 in Section 8 e.g. interrelationships between:
 - Human health and soil/water quality/air quality/flood risk;
 - Landscape/amenities and population; and
 - Ecology and soil/water quality.
- Potential *inter-Plan* cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc.

Effects that may arise as a result of implementing the Plan have been mitigated to the extent that the only residual adverse effects likely to occur as a result of implementation of the Plan are those which are identified under Section 8.4.

With regard to potential *inter-Plan* cumulative environmental effects, these occur as a result of the combination of: potential environmental effects which are identified by the assessment; and the effects arising from other legislation, plans, programmes or developments arising.

In considering the relationship with legislation and other plans and programmes it is important to note that the Plan will be implemented within areas that have existing plans and programmes (see Sections 2.4, 4 and 5 and Appendix I) for a range of sectors at a range of levels (e.g. National, River Basin District, Regional, County and Local) that are already subject to more specific higher and lower tier SEA and AA.

The assessment of the likely *inter-Plan* cumulative environmental effects requires knowledge of the likely effects of all plans/developments under consideration. The assessment is limited in this instance as there has been limited assessment of the likely types of developments provided for by other policies, plans and programmes that could occur in combination with the implementation of the Plan.

The SEA undertaken for the Plan has taken account of the Council's obligation to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Cumulative effects that have been considered include those resulting from the Draft Plan and (see also Appendix I):

- Other land use Plans (e.g. Dún Laoghaire-Rathdown County Development Plan 2016-2022);
- Water services, transport and energy infrastructure plans (e.g. the National Transport Authority's Greater Dublin Area Transport Strategy 2016-2035, Irish Water's Water Services Strategic Plan and associated Capital Investment Plan 2014-2016 and Grid25 and associated Implementation Programme) and the Dún Laoghaire-Rathdown Local Economic and Community Plan 2016-2021; and
- Environmental protection and management plans (e.g. Eastern River Basin District Management Plan and Eastern CFRAMS Flood Risk Management Plan).

Potential cumulative effects arising from the Plan and other plans and programmes include the following (note that potential adverse cumulative effects will be mitigated by provisions which have been integrated into the Draft Plan):

- Contributions towards reductions in travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of facilitating sustainable mobility/a shift from motorised transport modes to more sustainable and non-motorised transport modes.
- Contributions towards travel related greenhouse gas and other emissions to air (in combination with plans, programmes and existing and new developments from all sectors, including transport and land use planning) as a result of facilitating development which will result in an extent of car-based and other motorised travel.
- Contributions towards emissions to air including dust and particulate matter (in combination with plans, programmes and existing and new developments from all sectors, including transport and land use planning) and associated potential interactions with human health.
- Facilitation of new development which is accompanied by appropriate levels of water services thereby contributing towards environmental protection.
- Contributions towards need for and use of water and wastewater treatment capacity arising from new developments and associated potential adverse effects.
- Potential cumulative effects upon the status of water bodies as a result of new development.
- Potential cumulative effects (habitat damage, enhancing ecological connectivity, contributing towards sustainable mobility) arising from linear developments within the Plan area, including potential effects along the wider coastline;
- Potential effects on flood risk to new development where appropriate sustainable urban drainage systems are not employed;
- In combination with plans and programmes from all sectors potential adverse effects on all environmental components arising from new development. The type of these effects are consistent with those described throughout Section 7 and 8. These plans and programmes from other sectors undergo SEA, AA and SFRA as appropriate and comply with environmental legislation while projects are subject to EIA and AA, as relevant.

7.4 Detailed Evaluation of Alternatives

7.4.1 Significant Positive Effects Common to all Alternatives

There are a number of environmental benefits that are provided for by the parameters set down by the County Development Plan within which the LAP must be prepared.

There is an established need for residential and associated development within Dún Laoghaire-Rathdown and the wider Greater Dublin Area.

The Shanganagh Castle and Woodbrook A1-zoned lands at which development within the LAP area will be primarily focused:

- Contain relatively low levels of environmental sensitivities and designations, in comparison to, for example, other lands within the County and beyond including coastal fringes and upland areas (such as in the more rural areas of the County and parts of County Wicklow);
- Are adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145); and
- Are located within a wider area that contains services and employment opportunities.

By providing for growth and development in this area, each of the alternative scenarios would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on the following environmental components:

- Biodiversity and flora and fauna;
- Population and human health;
- Soil;
- Water (status of rivers and groundwater);
- Flood risk, including risk from rising sea levels and eroding coasts;
- Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases);
- Material Assets (provision of adequate and appropriate wastewater and drinking water services and waste management);
- Cultural Heritage (architectural and archaeological heritage); and
- Landscape and amenities.

7.4.2 Potentially Significant Adverse Effects Common to all Alternatives

All of the alternatives provide for the development of the site to some extent. Such development would have the potential to conflict with environmental components – to different degrees. Potentially significant adverse environmental effects arising from this conflict are common to all alternatives and are described on Table 7.3 below. For the Plan, these effects will be mitigated by measures that have been integrated into the Plan.

Table 7.3 Potentially Significant Adverse Environmental Effects common to all alternatives

Environmental Component	Potential Effect
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. o Habitat loss, fragmentation and deterioration, including patch size and edge effects. o Disturbance and displacement of protected species.
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health/interactions if effects upon environmental vectors such as water and air are not mitigated. o Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including open space, parklands, playing fields and the coast.
Soil	<ul style="list-style-type: none"> o Damage to soil function.
Water	<ul style="list-style-type: none"> o Adverse impacts upon the status and quality of water bodies, including bathing waters, arising from changes in quality, flow and/or morphology. o Increase in the risk of flooding.
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (emissions to air, including greenhouse gas emissions and energy usage).
Material Assets	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate wastewater treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity ensures the mitigation of potential conflicts). o Increases in waste levels.
Cultural Heritage	<ul style="list-style-type: none"> o Effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including open space, parklands, playing fields and the coast.

7.4.3 Density Alternatives

Three alternatives for average net density bands within the Shanganagh Castle and Woodbrook lands were identified as follows:

- **Higher (Res3)** (80-100+ units/hectare);
- **Medium (Res2)** (60-80 units/hectare); and
- **Lower (Res1)** (45-60 units/hectare).

The selection of densities has implications for the type (apartments, houses) and mix of residential units which will be provided for; the height of residential blocks; and the likelihood of development occurring on the site after adoption of the LAP. Differences in average net densities are most likely to result in differences in environmental effects across the following environmental components:

- Cultural heritage (including designated archaeology and architecture) and its context and setting e.g. Shanganagh Castle and its setting. The **higher (Res3)** average net density band would present the greatest amount of potential conflicts in this regard.
- Landscape and amenity issues including the sylvan setting of Shanganagh Castle, the use of open space and parklands surrounding Woodbrook and Shanganagh for recreation, views to the coast. The **higher (Res3)** average net density band would present the greatest amount of potential conflicts in this regard.

Differences are also likely to arise with respect to the extent to which each alternative would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced (see positive effects arising described under Section 7.4.1). Given the location of the LAP lands and existing and planned public transport infrastructure and services, including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145), it is considered that the **lower (Res1)** average net density band would not facilitate a sufficiently high level of development taking into account the development potential of the site whereas the **higher (Res3)** and **medium (Res2)** bands would.

Density Alternative	Likely to <u>Improve</u> status of SEOs to a <u>greater</u> degree	Likely to <u>Improve</u> status of SEOs to a <u>lesser</u> degree	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>lesser</u> degree - likely to be mitigated	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>greater</u> degree - likely to be mitigated	<u>Probable Conflict</u> with status of SEOs - unlikely to be fully mitigated
Higher (Res3) average net density band	<p>Direct interactions as a result of providing for development on the site:</p> <p>C1 M1 M2 M3 CH1 CH2</p> <p>Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region:</p> <p>B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1</p>		<p>Potential conflicts to be mitigated:</p> <p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1</p>	<p>Potential conflicts more difficult to mitigate:</p> <p>CH1 CH2 L1 PHH2</p>	
Medium (Res2) average net density band	<p>Direct interactions as a result of providing for development on the site:</p> <p>C1 M1 M2 M3 CH1 CH2</p> <p>Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region:</p> <p>B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1</p>		<p>Potential conflicts to be mitigated:</p> <p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		
Lower (Res1) average net density band		<p>Direct interactions as a result of providing for development on the site:</p> <p>C1 M1 M2 M3 CH1 CH2</p> <p>Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region:</p> <p>B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1</p>	<p>Potential conflicts to be mitigated:</p> <p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		

Table 7.4 Evaluation of Density Alternatives against SEOs

7.4.4 Shanganagh Castle Site Framework Alternatives

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. Open space provision would be excessive - when taken together with undeveloped space around the Castle this would be in the region of 40% of the overall site area which would impact upon the delivery of the required densities within appropriate height parameters.

Two site framework alternatives for development at Shanganagh Castle were given further consideration. Differences between these two alternatives and resultant differences in environmental effects are as follows:

- Extent of residential development nearby Shanganagh Castle

Alternative 1 provides for residential development throughout most of the Shanganagh Castle Site, thereby presenting potential adverse effects upon the protection of architectural and archaeological heritage (including setting) that would be difficult to mitigate. **Alternative 2** provides for a reduced amount of residential development within the Castle Site thereby making effects less difficult to mitigate. **Alternative 2** provides for greater public open space in this area, including for the protection of the pond and surrounding lands, and facilitates the restoration of views towards the coast. Through these provisions, **Alternative 2** directly benefits the protection of architectural and archaeological heritage (including setting), ecological connectivity and use of and access to amenities.

- Plans for Shanganagh Castle

Alternative 2 facilitates Shanganagh Castle to become a publically accessible community hub close to existing and new residential development. This would contribute towards sustainable mobility and associated reductions in energy usage and transport emissions. By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, **Alternative 2** makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage.

- Treatment of Shanganagh Park

Alternative 1 provides for the retention of Shanganagh Park in its current form (including pitches for sports) – this would help to protect use of and access to amenities – however it would provide a bus link through the park that could conflict with the amenity of the park. **Alternative 2** provides for existing and improved uses at Shanganagh Park (including pitches for sports) as well as providing for areas for playgrounds and biodiversity areas where maintenance is managed to maximise benefit to biodiversity. Therefore **Alternative 2** enhances and expands amenity uses as well as contributing towards the enhancement of biodiversity.

Table 7.5 provides an evaluation of Shanganagh Castle Site Framework Alternatives against Strategic Environmental Objectives (SEOs).

7.4.5 Woodbrook Site Framework Alternatives

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. There would be excessive provision of the lower/Res 1 density band, excessive 'undeveloped' land around the school resulting in inefficient use of land within the site and limited community / non-residential use provision (only the school is indicated in this option).

Two site framework alternatives for development at Woodbrook were given further consideration. Differences between these two alternatives and resultant differences in environmental effects are as follows:

- Neighbourhood/Commercial Centres

Alternative 1 provides for two Neighbourhood/Commercial Centres within the Woodbrook area while **Alternative 2** provides for one Neighbourhood/Commercial Centre. It was considered by the Council that one centre would be more likely to ensure the viability of any retail or commercial component.

Therefore **Alternative 2** would be more likely to achieve the successful development of the site and associated positive environmental effects²⁹.

- Public Open Space

Both alternatives provide for public open space, including green corridors, throughout the site thereby contributing towards the enhancement and protection of amenity and biodiversity.

Table 7.6 provides an evaluation of Woodbrook Site Framework Alternatives against Strategic Environmental Objectives (SEOs).

²⁹ By providing for growth and development in this area, each of the alternative scenarios would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on various environmental components (see Section 7.4.1).

Shanganagh Castle Site Framework Alternative	Likely to <u>Improve</u> status of SEOs to a <u>greater</u> degree	Likely to <u>Improve</u> status of SEOs to a <u>lesser</u> degree	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>lesser</u> degree - likely to be mitigated	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>greater</u> degree - likely to be mitigated	<u>Probable Conflict</u> with status of SEOs - unlikely to be fully mitigated
Alternative 1	Direct interactions (see also Section 7.4.1): C1 M1 M2 M3 CH1 CH2 PHH2 L1 B2 Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region (see also Section 7.4.1): B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1		Potential conflicts to be mitigated (see also Section 7.4.2): B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Alternative 2	Direct interactions (see also Section 7.4.1): C1 M1 M2 M3 Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region (see also Section 7.4.1): B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1	Direct interactions: PHH2 L1 B2	Potential conflicts to be mitigated (see also Section 7.4.2): B1 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1	Potential conflicts more difficult to mitigate (see also Section 7.4.2): CH1 CH2 L1 PHH2 B2	

Table 7.5 Evaluation of Shanganagh Castle Site Framework Alternatives against SEOs

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. Open space provision would be excessive - when taken together with undeveloped space around the Castle this would be in the region of 40% of the overall site area which would impact upon the delivery of the required densities within appropriate height parameters.

Woodbrook Site Framework Alternative	Likely to <u>Improve</u> status of SEOs to a <u>greater</u> degree	Likely to <u>Improve</u> status of SEOs to a <u>lesser</u> degree	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>lesser</u> degree - likely to be mitigated	Likely to <u>Potentially Conflict</u> with status of SEOs to a <u>greater</u> degree - likely to be mitigated	<u>Probable Conflict</u> with status of SEOs - unlikely to be fully mitigated
Alternative 1	Direct interactions (see also Section 7.4.1): C1 M1 M2 M3 PHH2 L1 B2 Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region (see also Section 7.4.1): B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1		Potential conflicts to be mitigated (see also Section 7.4.2): B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Alternative 2		Direct interactions (see also Section 7.4.1): C1 M1 M2 M3 PHH2 L1 B2 Indirect interactions as a result of significantly reducing the need for development elsewhere within the Dublin Region (see also Section 7.4.1): B1 B2 B3 PHH1 PHH2 C1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1	Potential conflicts to be mitigated (see also Section 7.4.2): B1 B2 B3 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		

Table 7.6 Evaluation of Woodbrook Site Framework Alternatives against SEOs

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. There would be excessive provision of the lower/Res 1 density band, excessive 'undeveloped' land around the school resulting in inefficient use of land within the site and limited community / non-residential use provision (only the school is indicated in this option).

7.5 The Selected Alternatives

The Draft Plan was developed by the Planning Team and placed on public display having regard to both:

1. The environmental effects which were identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects which also considered by the Council.

Regarding **density alternatives**, the Plan applies an absolute minimum net density of 60 units per hectare and encourages higher densities within each development parcel. The approach provides for a specified range of different density bands that allow for flexibility and the attainment of higher densities if required or appropriate. Densities greater than 60 units per hectare would be encouraged however the Plan allows for exceptional circumstances for variations or deviations to be considered.

Regarding **Shanganagh Castle Site Framework Alternatives**, **Alternative 2** was selected over Alternative 1³⁰.

Regarding **Woodbrook Site Framework Alternatives**, **Alternative 2** was selected over Alternative 1³¹.

Table 8.4 in Section 8 details the overall findings of the assessment with respect to the Plan that was developed from the selected alternatives for the Plan.

By complying with appropriate mitigation measures – these are identified at Section 9 of this report - potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Residual effects are those that arise after mitigation. Mitigation measures are applied to potential adverse effects as indicated by Table 9.1 in Section 9.

³⁰ Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration – see Section 7.4.4.

³¹ Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration – see Section 7.4.5.

Section 8 Evaluation of Draft Plan Provisions

8.1 Methodology

This section evaluates the provisions of the Draft Plan. The description of the environmental baseline together with the maps provided in Section 4 of this report is used for this purpose. Strategic Environmental Objectives (SEOs) identified in Section 5 and reproduced overleaf are also used.

The provisions of the Plan are evaluated using compatibility criteria (see Table 8.1 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the provisions of the Plan are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats Directive with regard to the protection of European Sites and Annexed habitats and species'³².

The interactions identified are reflective of likely significant environmental effects³³;

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates.
2. Interactions that would probably conflict with the status of an SEO and would be unlikely to be mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.
3. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects would be likely to be mitigated by measures which have been integrated into the Plan.

The degree of significance of effects occurring cannot be fully determined at this level of decision making due to the lack of exact detail available with regard to the type or scale of development that will be permitted under the Plan.

Mitigation measures to prevent or reduce significant adverse effects posed by the Plan are identified in Section 9 - these have been integrated into the Plan (the Council have integrated recommendations arising from the SEA and AA processes into the Draft Plan - see Section 9). Both the Planning and the assessment teams contributed towards the mitigation which was developed over multiple iterations and reviews and was informed by, inter alia, various communications through the SEA and AA processes.

In accordance with the established European principle of subsidiarity, more detailed assessment will be undertaken as appropriate at lower tiers of decision making. More detailed environmental measures would be likely to emanate from such assessments, further facilitating the mitigation of adverse effects.

Table 8.1 Criteria for appraising the effect of Plan provisions on SEOs

Likely to Improve status of SEOs	Probable Conflict with status of SEOs- unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
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³² 'Annexed habitats and species' refers to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

³³ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 8.2 Strategic Environmental Objectives³⁴

Environmental Component	Code	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ³⁵
	B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ³⁶ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
Population and Human Health	PHH1	To protect human health from exposure to incompatible landuses
	PHH2 (and L1)	To protect use of and access to amenities including parklands, playing fields and the coast
Soil	S1	To avoid damage to the hydrogeological and ecological function of the soil resource
Water	W1	To maintain and improve, where possible, the quality and status of surface waters
	W2	To prevent pollution and contamination of groundwater
	W3	To comply as appropriate with the provisions of the Flood Risk Management Guidelines for Planning Authorities
Material Assets	M1	To serve new development with adequate and appropriate wastewater treatment
	M2	To serve new development with adequate drinking water that is both wholesome and clean
	M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Air and Climatic Factors	C1	To contribute towards sustainable mobility and help to facilitate the achievement of higher level targets relating to air pollution greenhouse gas emission targets
Cultural Heritage	CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	CH2	To protect architectural heritage including entries to the Record of Protected Structures and their context
Landscape	PHH2 (and L1)	To protect use of and access to amenities including parklands, playing fields and the coast

8.2 Appropriate Assessment and Strategic Flood Risk Assessment

Appropriate Assessment (AA) Screening has been undertaken alongside the preparation and adoption of the Draft Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The AA Screening concluded that the Draft Plan is not foreseen to give rise to any significant adverse effects on designated European sites, alone or in combination with other plans or projects.

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the Draft Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG, 2009).

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

³⁴ See Section 5 for a description of Strategic Environmental Objectives.

³⁵ 'Annexed habitats and species' refer to those listed under Annex I, II and IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

³⁶ The Planning and Development Act 2000 as amended defines a 'wildlife site' that includes Natural Heritage Areas (NHAs) and proposed NHAs.

8.3 Interrelationship between Environmental Components

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Likely significant effects on environmental components which are identified include those which are interrelated; implementation of the Draft Plan will not affect the interrelationships between these components. The presence of significant interrelationships between environmental components is identified on Table 8.3.

Table 8.3 Presence of Interrelationships between Environmental Components

Component	Biodiversity, flora and fauna	Population and human health	Soil	Water	Air and Climatic factors	Material assets	Cultural heritage	Landscape
Biodiversity, flora and fauna		No	Yes	Yes	Yes	Yes	No	Yes
Population and human health			Yes	Yes	Yes	Yes	No	No
Soil				Yes	No	Yes	No	No
Water					No	Yes	No	No
Air and Climatic factors						Yes	No	No
Material assets							Yes	Yes
Cultural heritage								Yes
Landscape								

8.4 Overall Findings

Table 8.4 details the overall findings of the SEA of Draft Plan provisions. This table details: significant positive effects, likely to occur; potential effects, if unmitigated; residual adverse effects (considering the extent of detail provided by the Draft Plan and assuming that all mitigation measures are complied with by development). Cumulative effects considered by the assessment include those detailed under Section 7.3. Environmental impacts which occur, if any, will be determined by the nature and extent of multiple or individual projects and site specific environmental factors. Avoidance of conflict with SEOs and the environment is dependent upon compliance with the mitigation measures which have emerged through the SEA, AA and SFRA processes and which have been integrated into the Draft Plan (please refer to Section 9 of this report for detail on mitigation).

In summary:

- There are a number of environmental benefits that are provided for by the parameters set down by the County Development Plan within which the LAP must be prepared.
- The Shanganagh Castle and Woodbrook A1-zoned lands at which development within the LAP area will be primarily focused:
 - Contain relatively low levels of environmental sensitivities and designations, in comparison to, for example, other lands within the County and beyond including coastal fringes and upland areas (such as in the more rural areas of the County and parts of County Wicklow);
 - Are adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145); and
 - Are located within a wider area that containing services and employment opportunities.
- By providing for growth and development in this area, the Draft Plan would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on the following environmental components:
 - Biodiversity and flora and fauna;
 - Population and human health;
 - Soil;
 - Water (status of rivers and groundwater);
 - Flood risk, including risk from rising sea levels and eroding coasts;
 - Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases);
 - Material Assets (provision of adequate and appropriate wastewater and drinking water services and waste management);
 - Cultural Heritage (architectural and archaeological heritage); and
 - Landscape and amenities.
- The Draft Plan protects and enhances amenity uses at Woodbrook-Shanganagh and facilitates the restoration of views towards the coast from Shanganagh Castle.
- By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, the Plan makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage.
- As the Draft Plan provides for development at this site, potential conflicts with environmental components would arise, including those relating to the environmental components listed above (biodiversity and flora and fauna etc.). These conflicts will be mitigated to the extent that the only adverse effects occurring will be those detailed on Table 8.4 overleaf.

Table 8.4 Overall Findings – Effects arising from the Selected Alternatives for the Draft Plan

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> Facilitates lower overall effects on ecology (including designated sites, ecological connectivity and habitats) – by reducing the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. Protects biodiversity areas in Shanganagh Park where maintenance is managed to maximise benefit to biodiversity. Provides for the protection of public open space including trees and ecological connectivity Facilitates protection of ecology with respect to the provision of wastewater services. Facilitates contribution towards the protection of ecology as a result of contributing towards the protection of environmental vectors, including water. 	<ul style="list-style-type: none"> Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. Habitat loss, fragmentation and deterioration, including patch size and edge effects. Disturbance and displacement of protected species. 	<ul style="list-style-type: none"> Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces.
Population and Human Health	<ul style="list-style-type: none"> Facilitates contribution towards the protection of human health as a result of contributing towards the protection of environmental vectors, including water. Facilitates protection of human health with respect to the provision of wastewater services and the provision of transport infrastructure integrated with land use planning – and associated interactions with sustainable mobility, emissions and energy usage. Amenity uses and areas are protected and enhanced with new areas for playgrounds. Facilitates the restoration of views from the Castle towards the coast. Building heights and densities close to open space areas contribute towards the protection of amenity. Green corridors would contribute towards amenity and efforts to encourage walking and cycling. 	<ul style="list-style-type: none"> Spatially concentrated deterioration in human health/interactions if effects upon environmental vectors such as water and air are not mitigated. 	<ul style="list-style-type: none"> None
Soil	<ul style="list-style-type: none"> Facilitates lower overall effects on soil – by reducing the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. 	<ul style="list-style-type: none"> Damage to soil function. 	<ul style="list-style-type: none"> Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Water	<ul style="list-style-type: none"> Facilitates lower effects on ground and surface waters due to utilisation of already developed but vacant lands and use of existing utilities. 	<ul style="list-style-type: none"> Adverse impacts upon the status and quality of water bodies, including bathing waters, arising from changes in quality, flow and/or morphology. Increase in the risk of flooding. 	<ul style="list-style-type: none"> Any increase in loadings as a result of development (these would be in compliance with River Basin Management Plans). Development will: avoid areas of elevated flood risk; and not increase areas of elevated flood risk. Flood related risks remain due to uncertainty with regard to extreme weather events.
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> Support Irish Water in the facilitation of the timely delivery of the water services – including adequacy of water supply and wastewater network design. Makes use of existing water services. Potential to connect existing dwellings currently on WWTS to new mains. 	<ul style="list-style-type: none"> Failure to provide adequate and appropriate wastewater treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity ensures the mitigation of potential conflicts) Increases in waste levels. 	<ul style="list-style-type: none"> Residual wastes (these would be disposed of in line with higher level waste management policies).
Air and Climatic Factors/ Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases)	<ul style="list-style-type: none"> Facilitates contribution towards reducing increases in travel related greenhouse gas and other emissions to air that would occur by developing lands adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145). Facilitates contribution towards a shift from car to more sustainable and non-motorised transport modes. Green corridors would contribute towards amenity and efforts to encourage walking and cycling. Efforts to improve sustainable mobility and associated interactions (energy usage and emissions to air including noise and greenhouse gases) would be further contributed towards by the development of the Castle as a publically accessible community hub. 	<ul style="list-style-type: none"> Failure to contribute towards sustainable transport and associated impacts (emissions to air, including greenhouse gas emissions and energy usage). 	<ul style="list-style-type: none"> An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility.

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Cultural Heritage	<ul style="list-style-type: none"> • Contribution towards the protection of cultural heritage by facilitating compliance with protection legislation. • Facilitates the restoration of views from the Castle towards the coast. • Through these provisions, the Plan directly benefits the protection of architectural and archaeological heritage (including setting), ecological connectivity and use of and access to amenities. • By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, the Plan makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage. 	<ul style="list-style-type: none"> • Effects on protected and unknown archaeology and protected architecture arising from construction and operation activities. 	<ul style="list-style-type: none"> • Potential alteration to the context and setting of architectural heritage (this would occur in compliance with legislation). • Potential alteration to the context and setting of archaeological heritage (this would occur in compliance with legislation). • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan.
Landscape /Amenities	<ul style="list-style-type: none"> • Amenity uses and areas are protected and enhanced with new areas for playgrounds. • Facilitates the restoration of views from the Castle towards the coast. • Building heights and densities close to open space areas contribute towards the protection of amenity. • Green corridors would contribute towards amenity and efforts to encourage walking and cycling. 	<ul style="list-style-type: none"> • Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including parklands, playing fields and the coast. 	<ul style="list-style-type: none"> • The Plan contributes towards the protection of access to amenities and their use. These semi natural amenities will change overtime as a result of natural changes in vegetation cover combined with new developments.

8.5 Detailed Evaluation of Draft Plan Provisions

8.5.1 Section 2: Plan Area Context and Appraisal

For an explanation of SEO codes e.g. **B1**, **B2**, **B3**, **PHH1**, etc. refer to Table 8.2 on page 64.

	Likely to Improve status of SEOs	Likely to Potentially Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs - unlikely to be mitigated	No Likely interaction with status of SEOs
Vision The vision of this LAP is to create a new compact sustainable residential community at Woodbrook-Shanganagh. The following elements will help deliver this vision: <ul style="list-style-type: none"> To create an attractive residential neighbourhood at Woodbrook-Shanganagh where people will want to live through all stages of life. To create a walkable neighbourhood with key facilities within a 5-10min walk from future residential properties To improve pedestrian and cycle connections to, and through, Shanganagh Park providing both strategic and local routes through the LAP area and into the wider area To create a distinctive and vibrant community offering an attractive place to live and visit underpinned by a high standard of urban design To achieve a thriving community with high-quality residential, community, civic and recreational amenities To promote a modal shift to more sustainable modes of transportation – with priority afforded to walking and cycling – to include the provision of a new DART Station at Woodbrook To facilitate and accelerate the delivery of key infrastructure that will, in turn, enable development To enhance the landscape, environmental and architectural heritage within the Plan Area To implement the Site Framework Strategies for the two identified residential areas at Shanganagh Castle and Woodbrook and the objectives pertaining to the wider Plan Area. 	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
Commentary: <i>This Vision reflects the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i>				

8.5.2 Section 3: Plan Development Strategy

For an explanation of SEO codes e.g. **B1**, **B2**, **B3**, **PHH1**, etc. refer to Table 8.2 on page 64.

	Likely to Improve status of SEOs	Likely to Potentially Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs - unlikely to be mitigated	No Likely interaction with status of SEOs
Delivering Homes & Creating Sustainable Residential Communities				
<p>Policy WS1:</p> <p>It is the Policy of Dún Laoghaire-Rathdown County Council:</p> <p>To plan for a new residential community at Woodbrook-Shanganagh in accordance with the aims, objectives and principles of 'Sustainable Residential Development in Urban Areas' and the accompanying 'Urban Design Manual – A Best Practice Guide', 2009 and to implement a strategy for residential development based on a concept of sustainable urban villages which involves the commensurate and timely provision of community and recreational facilities.</p> <p>It is an Objective of Dún Laoghaire-Rathdown County Council:</p> <p>H1: To unlock the potential and accelerate the delivery of housing on the Woodbrook-Shanganagh, working in collaboration with all relevant stakeholders.</p> <p>H2: To promote sustainable higher densities and quality innovative housing designs.</p> <p>H3: To promote high quality homes and quality residential choices for a range of household needs.</p> <p>H4: To seek a successful interaction between the street, the residential scheme, the public realm and open space to foster a true sense of neighbourhood and encourage interaction between residents.</p> <p>H5: To ensure that the design of residential schemes, communal open space, public open space and the public realm shall be integrated to maximise use by residents and the community.</p> <p>H6: To implement a strategy for residential development based on a concept of sustainable urban villages.</p> <p>H7: To promote Build-to-Rent (B2R) projects as a viable attractive type of household tenure.</p> <p>H8: To ensure that proposals for apartment schemes comply with the 'Sustainable Urban Housing: Design Standards for New Apartments: Guidelines for New Apartments', DECLG, December 2015.</p> <p>H9: To ensure that all residential proposals comply with the policies and standards of the Dún Laoghaire Rathdown County Development Plan 2016-2022 for Residential Development (Chapters 2 & 8), the provisions of the Dún Laoghaire Rathdown County Council's Interim Housing Strategy (Appendix 2) and Ministerial Guidelines and Circulars, as relevant to housing and subject to other objectives below.</p> <p>H10: To promote, drive and seek to implement the Government's Rebuilding Ireland: Action Plan for Housing and Homelessness, July 2016.</p> <p>H11: To ensure that proper community and neighbourhood facilities are provided in conjunction with, and as an integral component of, major new residential developments in accordance with the concept of sustainable urban villages and the objectives and principles of 'Sustainable Residential Development in Urban Areas' and the accompanying 'Urban Design Manual – A Best Practice Guide'.</p>	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
<p>Commentary:</p> <p><i>These Plan objectives and policy provide for the future development of homes and residential communities at Woodbrook-Shanganagh and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.</i></p> <p><i>These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p>				

Also, many of these provisions contribute towards sustainable development/the protection and management of the environment, for example:

- Policy WS1 "sustainable urban villages..." "timely provision of community and recreational facilities"
- Objective H2 "sustainable higher densities"
- Objective H6 "sustainable urban villages"
- Objective H8 "comply with the 'Sustainable Urban Housing: Design Standards for New Apartments: Guidelines for New Apartments'"

Community and Social Infrastructure

Policy WS2:

It is the Policy of Dún Laoghaire-Rathdown County Council:

To ensure that proper community infrastructure and complementary neighbourhood facilities – including essential supporting social infrastructure such as schools, community amenities and childcare facilities - are provided concurrently with the residential units at Woodbrook-Shanganagh as a new residential growth node and sustainable community.

It is an Objective of Dún Laoghaire-Rathdown County Council:

CS1:

To support and encourage the provision of community, cultural, recreational and social infrastructure facilities, within the Woodbrook-Shanganagh LAP, including the provision of civic spaces, green amenity areas and quality public realm that provide an attractive setting for future residents and visitors.

CS2: To promote and encourage public access to high quality community and social infrastructure that supports a sustainable residential neighbourhood.

CS3: To restore / rehabilitate Shanganagh Castle, as appropriate and feasible, with the provision of an appropriate mix of publically accessible community focused uses.

CS4: To explore the potential for the provision of a social innovation facility within Shanganagh Castle.

CS5: To coordinate with the Department of Education and Skills in the adequate and appropriate provision of schools within the Plan Area. In this regard, a new primary school within Woodbrook will be required in accordance with the requirements of the County Development Plan 2016-2022 and the Department of Education and Skills.

CS6: To require that any proposed residential development includes a detailed childcare requirement assessment and provides adequate childcare facilities to serve Woodbrook and Shanganagh in accordance with the County Development Plan 2016-2022, Policy SIC11: Childcare Facilities.

CS7: To require the provision of a suitably scaled mixed use neighbourhood centre within the Woodbrook lands to cater for local needs and that is secondary to neighbourhood facilities within Shankill.

CS8: To promote optimum use of community and social infrastructure facilities and encourage shared / dual use of existing and future facilities.

CS9: To promote the development of good street design that offers safe and attractive walking and cycling routes connecting residential developments to supporting community support facilities both within the Plan and the wider environs.

B1 B2 B3 PHH1
PHH2 S1 W1 W2
W3 M1 M2 M3 C1
CH1 CH2 L1

B1 B2 B3 PHH1
PHH2 S1 W1 W2
W3 M1 M2 M3
C1 CH1 CH2 L1

Commentary:

These Plan objectives and policy provide for the future development of community and social infrastructure at Woodbrook-Shanganagh and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.

These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.

Also, many of these provisions contribute towards sustainable development/the protection and management of the environment, for example:

- Policy WS2 "ensure that proper community infrastructure and complementary neighbourhood facilities...are provided concurrently with the residential units"
- Objective CS2 "access to high quality community and social infrastructure that supports a sustainable residential neighbourhood."
- Objective CS3 "restore / rehabilitate Shanganagh Castle"
- Objective CS9 "safe and attractive walking and cycling routes"

Sustainable Infrastructure				
<p>Policy WS3: It is the Policy of Dún Laoghaire- Rathdown County Council: To support Irish Water in the facilitation of the timely delivery of the water services – including adequacy of water supply and wastewater network design – as required to realise the development objectives for Woodbrook-Shanganagh as a new residential growth node as set out in the Development Plan Core Strategy and this LAP.</p> <p>It is an objective of Dún Laoghaire-Rathdown County Council:</p> <p>S11: To actively liaise and co-operate with Irish Water to expedite the delivery of water supply and waste water infrastructure throughout the Plan Area.</p> <p>S12: To ensure that water quality is protected and that future development meets the requirements of the Water Framework Directive.</p> <p>S13: To require all proposed developments to carry out a Site-Specific Flood Risk Assessment (SSFRA) that shall demonstrate compliance with:</p> <ul style="list-style-type: none"> • The Planning System and Flood Risk Management, Guidelines for Planning Authorities (DEHLG / OPW, 2009), as may be revised and/or updated • The prevailing Dún Laoghaire-Rathdown County Development Plan. • Any SSFRA shall not be required to carry out a Justification Test, given that this exercise was already carried out at County Development Plan-level. A review of this process was also undertaken as part of the preparation of this Local Area Plan (LAP). • The SSFRA shall pay particular emphasis to site-specific mitigation measures and any necessary management measures, as per Appendix B4 of the above 2009 National Guidelines. • Attention shall be given in the SSFRA to the incorporation of SuDS design measures into the public realm and open space provision. <p>S14: To achieve best-practice and innovations in SuDS design as part of the Local Area Plan, including the successful co-ordination of surface water management with ecology and the amenity functions of open space and landscaped areas. All planning applications shall be accompanied by a surface water drainage plan which will include proposals for the management of surface water within sites and the protection of the water quality of existing water bodies and groundwater sources.</p> <p>S15: To pilot and test new green infrastructure installations in the public realm to boost biodiversity and improve surface water management, including the use of permeable materials for surfaces, green roofs and the provision of storm water tree trenches / pits.</p> <p>S16: To support the development of soft landscaping in public open spaces, where feasible in accordance with the principles of Sustainable Drainage Systems (SuDS).</p> <p>S17: That green roofs shall be provided in accordance with the County Development Plan Green Roofs Guidance Document.</p> <p>S18: That future development within the Plan Area shall comply with the requirements of Section 8.2.9: Environmental Management of the County Development Plan.</p> <p>S19: That energy efficient design and renewal energy sources will be encouraged and incorporated into any future development within the Plan Area.</p> <p>S110: That adequate provisions shall be made for suitable waste disposal and recycling in accordance with the requirements of the County Development Plan.</p>				
	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		

Commentary:

These Plan objectives and policy provide for the future development of sustainable infrastructure at Woodbrook-Shanganagh and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area. By facilitating the future development of sustainable infrastructure these provisions would primarily result in environmental protection and management, including the protection of water resources, human health and ecology (W1 W2 PHH1 B1 B2 B3), management of flood risk (W3) and the provision of water and waste management services (M1 M2 M3).

These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.

Examples of provisions that contribute towards sustainable development/the protection and management of the environment include:

- *Policy WS3 "timely delivery of the water services – including adequacy of water supply and wastewater network design –"*
- *Objective SI1 "liaise and co-operate with Irish Water to expedite the delivery of water supply and waste water infrastructure"*
- *Objective SI2 "ensure that water quality is protected and that future development meets the requirements of the Water Framework Directive"*
- *Objective SI3 "require all proposed developments to carry out a Site-Specific Flood Risk Assessment"*
- *Objective SI4 "To achieve best-practice and innovations in SuDS design.... All planning applications shall be accompanied by a surface water drainage plan"*
- *Objective SI5 "pilot and test new green infrastructure installations in the public realm to boost biodiversity and improve surface water management"*
- *Objective SI9 "energy efficient design and renewal energy"*
- *Objective SI10 "suitable waste disposal and recycling"*

Sustainable Movement & Transport

Policy WS4: It is the Policy of Dún Laoghaire-Rathdown County Council:

To promote sustainable transport forms such as walking, cycling and public transport as set out in the Government's 'Smarter Travel – A Sustainable Transport Future 2009-2020' and to support planned infrastructure that prioritises public transport, as well as new cycling and pedestrian interconnections to key public transport nodes, school and amenity destinations in the Woodbrook-Shanganagh LAP Area and wider environs.

It is an Objective of Dún Laoghaire-Rathdown County Council:

T1: To promote sustainable transport forms such as walking, cycling and public transport as set out in the Government's 'Smarter Travel, A Sustainable transport Future 2009-2020'.

T2: To promote the provision of a DART Station at Woodbrook as set out in the National Transport Authority's (NTA) 'Transport Strategy for the Greater Dublin Area 2016-2035' and the County Development Plan 2016-2022 Objective (SLO 127) and to ensure that the DART Station is designed in a manner to accommodate a pedestrian over-bridge in the interest of permeability and enhancing access to the lands to the east.

T3: To seek early delivery of the planned DART Station in order to establish sustainable commuting and travel patterns at the outset as an integral element of a newly emerging sustainable community.

T5: To provide for a public transport interchange between Suburban Rail (DART) and the Quality Bus Network (QBN) at the planned Woodbrook DART Station.

T6: To provide for a temporary car park to accommodate up to 150-200 Car Parking Spaces in the immediate vicinity of the planned DART Station at Woodbrook.

T7 To support the delivery of a Strategic Park and Ride facility within the Plan Area in accordance with the objectives of the NTA's Transport Strategy for the Greater Dublin Area 2016-2035. The location of a Strategic Park and Ride will be dependent on the provision of a DART Station and on the implementation of the relevant recommendations of the TII Study of the M50 and N11 Corridor. The Local Authority will co-operate with the NTA to identify an appropriate location for a Strategic Park and Ride that will serve a wider catchment while protecting the amenities of the existing and new communities. A report and potentially an amendment to the County Development Plan regarding the Strategic Park and Ride may be brought to the Council for their decision over the life of this Plan as a Variation, or to be addressed in the next County Development Plan.

T8: To co-operate with the National Transport Authority, Transport Infrastructure Ireland and Wicklow County Council in relation to on-going corridor studies in respect of the Dublin Road Core Bus Corridor M11 / N11 which will inform potential road infrastructure improvements and public transport provision both in the Plan Area and the wider environs.

T9: To seek to retain the sylvan character of the Dublin Road in any road improvement schemes and to ensure

B1 B2 B3 PHH1
PHH2 S1 W1 W2
W3 M1 M2 M3 C1
CH1 CH2 L1

B1 B2 B3 PHH1
PHH2 S1 W1 W2
W3 M1 M2 M3
C1 CH1 CH2 L1

<p>that any loss of mature trees will be mitigated by replacement tree-planting with consideration also to the re-instatement of any historic walls or features along any new road alignment.</p> <p>T10: To provide for high quality pedestrian and cycle network within the LAP Area with high levels of permeability, passive surveillance and supervision where feasible and to ensure that this network will provide attractive, legible and direct links to the Neighbourhood Centre, the DART Station, Bus Stops, Shanganagh Park and the wider area outside the Plan Boundary.</p> <p>T11: To ensure that all proposals for new roads, streets and residential layouts comply with the 'Design Manual for Urban Roads and Streets' (DMURS, 2013) which focuses on the needs of pedestrians, cyclists and public transport users.</p> <p>T12: To provide for safe and secure cycle parking at appropriate locations within the LAP Area and in particular close to recreational or community facilities, residential units, transport nodes, shops and services.</p> <p>T13: To provide pedestrian / cycle access across the M11 Corridor at Allies River Road as a longer-term objective (in conjunction with LUAS Line B2).</p> <p>T14: To promote the development of the National East Coast Trail Cycle Route, as relevant to the LAP Area and cognisant of facilitating connections to outside the Plan boundary and wider area.</p> <p>T15: To adopt a proactive mobility management approach and to encourage a culture of sustainable travel in the new residential neighbourhoods at Woodbrook-Shanganagh. Travel Plans will be required for large scale residential proposals and / or each of the key sites at Master Plan Level.</p> <p>T16: To support the set-up of Car Club Schemes in accordance with Policy ST23 of the County Development Plan 2016-2022 and in particular to facilitate the spatial provision or management arrangements as part of significant development proposals which incorporate locally based short-term car hire facilities or 'car clubs' for residents use as an alternative to car ownership.</p> <p>T17: To promote and provide for any future Luas Extension (Luas Line B2) in the Plan Area in general accordance with the route alignment as shown in the County Development Plan 2016-2016, and to actively seek the provision of a Luas Stop within the Plan Area or its immediate environs with consideration to a possible future public transport interchange, most probably with the QBN Route.</p>				
<p>Commentary:</p> <p><i>These Plan objectives and policy provide for the future development of sustainable movement and transport at Woodbrook-Shanganagh and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area. By facilitating the future development of sustainable movement and transport these provisions would primarily contribute towards maximising sustainable mobility and associated interactions with emissions to air, energy usage and human health (SEOs C1 PHH1).</i></p> <p><i>These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p> <p><i>Examples of provisions that would contribute towards maximising sustainable mobility:</i></p> <ul style="list-style-type: none"> • Policy WS4 "promote sustainable transport forms such as walking, cycling and public transport...and to support planned infrastructure that prioritises public transport, as well as new cycling and pedestrian interconnections" • Objective T1 "sustainable transport forms" • Objective T2 "promote the provision of a DART Station" • Objective T3 "seek early delivery of the planned DART Station" • Objective T5 "provide for a public transport interchange" • Objective T6 "provide for a temporary car park to accommodate up to 150-200 Car Parking Spaces in the immediate vicinity of the planned DART Station at Woodbrook" • Objective T7 "support the delivery of a Strategic Park and Ride facility" • Objective T8 "operate with the National Transport Authority" • Objective T10 "provide for high quality pedestrian and cycle network" • Objective T11 "focuses on the needs of pedestrians, cyclists and public transport users" • Objective T12 "provide for safe and secure cycle parking" • Objective T13 "provide pedestrian / cycle access" • Objective T14 "promote the development of the National East Coast Trail Cycle Route" • Objective T15 "mobility management approach" 				

- Objective T16 “Car Club Schemes”
- Objective T17 “promote and provide for any future Luas Extension”

The development of walkways, cycleways and trails presents a variety of potentially adverse effects (upon environmental components including soil, water, landscape, cultural heritage, emissions to air and waste) that would be likely to arise from both the construction and operation of such developments and/or their ancillary infrastructure. These types of infrastructure are often constructed in ecologically and visually sensitive areas such as those adjacent to the banks of rivers and streams or along the coast. Potential adverse effects would be mitigated both by measures which have been integrated into the Draft Plan which provide for and contribute towards environmental protection, environmental management and sustainable development (see Section 9) and by measures arising from lower tier assessments (including those for the preparation of lower tier strategies, plans or programmes).

Any development of the National East Coast Trail Cycle Route or future Luas Extension would have to comply with the provisions of the relevant land use / transport plans (including those detailed at Appendix 1 of this report) that provide for the protection and management of the environment, including the relevant provisions of the Local Area Plan (see Section 9 of this report) where appropriate. Potential adverse environmental effects that would be mitigated (including in-combination effects across County borders) include potential effects habitats and species (such as ecological connectivity) relating to the development of linear infrastructure on lands adjacent to the coast.

Built Heritage

<p>Policy WS5: It is the Policy of Dún Laoghaire- Rathdown County Council: To continue to protect the built heritage of the Plan Area, sustaining its significance, fabric and character to ensure that it makes a positive contribution to Woodbrook-Shanganagh as a new residential growth node and neighbourhood. It is in Objective of Dún Laoghaire-Rathdown County Council: BH1: To ensure the provision of high quality public realm works that embody the demesne and landscape character heritage of the area. BH2: To ensure that new development respects the significance of the Protected Structures and represents an appropriate response to their historic spatial context and landscape setting. BH3: To ensure that the architectural and historic significance of Shanganagh Castle is protected, conserved and enhanced. BH4: To ensure that any restoration works and adaptive re-use to Shanganagh Castle, as a Protected Structure, is carried out in accordance with internationally established principles, national standards and best-practice. BH5: To seek to retain key historic landscape features. BH6: To interpret and promote the architectural and archaeological resource of the area to the local community and visitors. BH7 To ensure that, in circumstances not provided for in the above objectives, all proposals shall comply with the policies and objectives set out in the Built Heritage Section of the Dún Laoghaire-Rathdown County Development Plan 2016-2022.</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		
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Commentary:

These provisions primarily contribute towards the protection of architectural and archaeological heritage (SEOs CH1 CH2) and the landscape/amenity/ecology (SEOs L1 PHH2 B1 B2 B3) and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.

Any development arising from these provisions would have the potential to conflict with environmental components and would contribute towards and support the selected alternatives (see evaluation of the provided in Section 7 and the likely significant environmental effects detailed under Section 8.4 Overall Findings).

Open Space, Recreation & Green Infrastructure

<p>Policy WS6: It is the Policy of Dún Laoghaire-Rathdown County Council: To continue to protect and enhance the landscape, green spaces, recreational amenities and the green infrastructure network, through sustainable planning and design for both existing and new communities in accordance with the policies and objectives of the County Development Plan and the objectives of this LAP. It is an objective of Dún Laoghaire-Rathdown County Council: OR1: To ensure that all Landscape, Open Space and Recreation proposals provided within the Woodbrook-Shanganagh LAP is in accordance with the requirements of the County Development Plan 2016-2022 unless stated otherwise within this Plan. OR2: To prepare a Master Plan for Shanganagh Park providing for the upgrading and enhancement of the public open space - offering active and passive recreation, improved connections into and through the Park and provision of new and improved biodiversity opportunities.</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		
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<p>OR3: To create and improve a hierarchy of inter-connecting green spaces through the provision of safe pedestrian and cycle routes through the Plan Area having regard to Site Framework Strategies, the Park Master Plan and the Green Infrastructure objectives and guiding principles underpinning the Plan Area.</p> <p>OR4: To retain and/or enhance existing boundary treatments, tree belts and hedgerows where appropriate and feasible. The retention and protection of existing trees / woodlands shall accord with the requirements of the County Development Plan 2016-2022.</p> <p>OR5: To ensure that the layout and provision of public, communal and private open space is clearly delineated, offers adequate play opportunities and is provided in accordance with Site Framework Strategies.</p> <p>OR6: That a comprehensive landscape plan, arborists report and visual impact assessment is submitted for any new development proposal within areas identified for future development.</p> <p>OR7: To ensure that new development proposals have regard to the themes and key objectives incorporated in the DLR Green Infrastructure Strategy – Appendix 14, County Development Plan 2016-2022 and that the guiding principles for the Plan Area set out in Table 5 above are implemented as appropriate.</p> <p>OR8: To protect and enhance biodiversity throughout the Plan Area by protecting habitats and creating new habitat opportunities through native planting and landscaping schemes.</p> <p>OR9: To develop a sports campus, expanding on the existing sports facility at the Castle, to deliver greater recreational opportunities for existing and new residential communities and for the wider area.</p> <p>OR10: To ensure that a range of new and improved local facilities, services and amenities is provided commensurate with new residential communities as required and deemed appropriate by the Planning Authority.</p> <p>OR11: That all plans or projects within the Local Area Plan will be subject to Appropriate Assessment Screening in accordance with Article (3) of the Habitats Directive.</p>				
<p>Commentary:</p> <p><i>These provisions primarily facilitate the provision of open space recreation and green infrastructure within the Plan area and will help to protect the use of and access to amenities including parklands, playing fields and the coast (SEOs L1 PHH2) which will benefit the protection and management of other environmental components including ecology (SEOs B1 B2 B3). This will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.</i></p> <p><i>These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p> <p><i>Examples of provisions that contribute towards sustainable development/the protection and management of the environment include:</i></p> <ul style="list-style-type: none"> • Policy WS6 “protect and enhance the landscape, green spaces, recreational amenities and the green infrastructure network” • Objective OR2 “upgrading and enhancement of the public open space” • Objective OR3 “create and improve a hierarchy of inter-connecting green spaces through the provision of safe pedestrian and cycle routes” • Objective OR4 “retain and/or enhance existing boundary treatments, tree belts and hedgerows” • Objective OR6 “comprehensive landscape plan, arborists report and visual impact assessment” • Objective OR8 “protect and enhance biodiversity” • Objective OR10 “new and improved local facilities, services and amenities” • Objective OR11 “in accordance with Article (3) of the Habitats Directive” <p><i>The development of green infrastructure would facilitate: contributions towards increases in sustainable mobility and reductions in greenhouse gas emissions (SEO C1); increases in flood risk management (SEO W3) and protection of human health (SEO PHH1); protection and management biodiversity and water quality (SEOs B1 B2 B3 W1 W2); and protection cultural heritage and landscape/amenity sensitivities (SEOs CH1 CH2 L1 PHH2). The development of green infrastructure potentially conflicts with most environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 CH1 CH2 L1 PHH2). This type of infrastructure is often constructed in ecologically and visually sensitive areas such as those adjacent to the banks of rivers and streams or along the coast. Potential adverse effects (including in-combination effects across County borders) would be mitigated by measures that have been integrated into other provisions within the Plan (see Section 9) and any additional requirements arising through lower tier assessments or granting of permission.</i></p> <p><i>See also comments included under Sustainable Movement & Transport above.</i></p>				

Urban Structure, Design & Public Realm Qualities				
<p>Policy WS7: It is the Policy of Dún Laoghaire- Rathdown Council: To ensure that all development is of high quality design and assists in promoting a sense of place with a quality public realm, having regard to the good urban design and place making principles as set out in the County Development Plan. The Council will require that a 'Design Statement' accompany all medium-to-large scale (30+ residential units) and complex applications in the Plan Area, to demonstrate how the proposed development addressed or responds to the design criteria as set out in the 'Urban Design Manual – A Best Practice Guide', 2009 and the Site Framework Strategies for the respective development parcels at Woodbrook and Shanganagh Castle.</p> <p>It is an Objective of Dún Laoghaire-Rathdown Council: US1: To achieve sustainable densities, not as a stand-alone objective, but in conjunction with other safeguarding qualitative criteria - as set out in the Dún Laoghaire-Rathdown County Development Plan - in order to achieve a high quality living environment and attractive residential neighbourhood. US2: To promote a variety of residential typologies, including terrace housing, duplexes and apartments with coherent streets and open spaces to create a distinctive neighbourhood that will promote whole life-cycle living. US3: To establish a coherent urban structure based on proven urban design principles (See County Development Plan Policy UD1), and the creation of a compact sustainable residential community that can support a range of social activities and a high quality public transport network. US4: To promote streets, routes and spaces which are human-scaled, memorable as places, have a high standard of amenity and are in accordance with the guidance set out in Design Manual for Urban Roads and Streets, 2013 (DMURS). US5: To define a single Neighbourhood Centre with a civic space and potentially a landmark element in order to create a focal point and potentially facilitate the clustering of other social, community and recreational activities and functions. US6: To ensure that new north-south linkages and routes are created to allow for quality usable connections between the future residential communities at Shanganagh Castle and Woodbrook, as well as Shanganagh Park as a major recreational resource. US7: To ensure that the public realm is legible, cohesive and operates as a connected network and that it interfaces successfully with the public realm of the wider area and facilitates future strategic connections. US8: To ensure that the design of the public realm incorporates the principles of Green Infrastructure. US9: To retain and protect, where possible, natural historic features such as the pond, located on the lands at Shanganagh Castle.</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		
<p>Commentary:</p> <p><i>These Plan objectives and policy seek to provide for a high quality urban structure, design and public realm and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area. These provisions reflect the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p> <p><i>Most provisions in this Chapter would contribute towards sustainable development/the protection and management of the environment. Examples of these provisions include:</i></p> <ul style="list-style-type: none"> • Policy WS7: "high quality design ...a quality public realm" • Objective US1: "sustainable densities" • Objective US2: "life-cycle living" • Objective US3: "coherent urban structure based on proven urban design principles ...and the creation of a compact sustainable residential community" • Objective US4: "high standard of amenity" • Objective US5: "clustering of other social, community and recreational activities and functions" • Objective US6: "north-south linkages and routes are created to allow for quality usable connections ... as well as Shanganagh Park as a major recreational resource" • Objective US7: "public realm is legible, cohesive and operates as a connected network" • Objective US8: "design of the public realm incorporates the principles of Green Infrastructure" • Objective US9: "retain and protect, where possible, natural historic features such as the pond, located on the lands at Shanganagh Castle" 				

8.5.3 Section 4: Site Framework Strategies

For an explanation of SEO codes e.g. **B1**, **B2**, **B3**, **PHH1**, etc. refer to Table 8.2 on page 64.

	Likely to Improve status of SEOs	Likely to Potentially Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs - unlikely to be mitigated	No Likely interaction with status of SEOs
Woodbrook Site Framework Strategy Key Site Objectives				
<p>Urban Design</p> <p>WB1 The Woodbrook Neighbourhood is to comprise primarily of residential development with supporting mixed-uses and community facilities clustered primarily at the Neighbourhood Centre.</p> <p>WB2 The new residential neighbourhood shall provide for a range of housing typologies and shall be designed in accordance with DMURS.</p> <p>WB3 A general building height range of 3-5 stories will be sought, with appropriate heights along any sensitive site boundaries (2-4 stories) and thereafter a transition to higher building heights towards the centre of the site and along the main distributor route; with a general building height range of 3-4-5 stories (plus setback), and rising to a maximum of 6 stories, unless a compelling urban design case is otherwise made for reasons of legibility, place-making and identity.</p> <p>WB4 A landmark structure may be provided at the Neighbourhood Centre, the height and precise location shall be subject to a design analysis and an assessment of views on approach to the neighbourhood centre and also having regard to the relationship with and potential impact on St. James Church (Protected Structure). The higher element of any landmark structure shall be of slender proportions.</p> <p>WB5 Ensure that the scale of buildings responds to the street hierarchy and character, and affords an appropriate degree of enclosure to key civic spaces.</p> <p>WB6 The ground floor units in the Neighbourhood Centre shall be designed with a commercial floor-ceiling height of circa 4m to potentially cater for active uses.</p> <p>WB7 Own-door housing will be promoted across all typologies, including apartments at ground floor level, to achieve a moderately active frontage on key routes.</p> <p>WB8 The DART Station will require a design approach to ensure successful integration to the urban form and landscape context. It will also require a co-ordinated approach between the relevant landowners and statutory transport agencies (NTA / EI).</p> <p>Residential Density</p> <p>WB9 The Woodbrook Site shall achieve an overall average minimum net density of 60 units per hectare.</p> <p>WB10 Proposals for development shall generally accord with the density range as specified for each band, to ensure an appropriate mix of residential typologies and place-making qualities within the resultant urban form (See Table 14 Below).</p> <p>WB11 A relaxation of private open space standards for terraced, semi-detached or detached housing and car parking provision will be considered in order to achieve higher sustainable densities.</p> <p>WB12 Apartment developments to cater for a mix of household sizes and as such proposals shall comply with the following mix of units: 10% Studio Units (as part of build to let development); not more than 20% of Units shall be 1 Bed Units (30% with re-allocation of the Studio Units); a range of Min. 40% - Max. 60% shall be 2 Bed Units; and a range of Min. 20% - Max. 40% shall be 3 Bed Units.</p> <p>Public Realm & Open Spaces</p> <p>WB13 Ensure a quality civic space with a favourable aspect, active frontage and direct linkage to key routes to function as a vibrant focal point at the Neighbourhood Centre.</p> <p>WB14 Provide for a public space of a different character and function at the DART Station that responds to the requirements of a public transport interchange, as well as creating an attractive space for public transport users.</p>	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		

<p>WB15 Provide for generous north-south green corridors as multi-functional recreational, amenity and biodiversity linkages; as in the Green Axis and Linear Park.</p> <p>WB16 The public realm, including new streets, civic spaces and green routes shall comprise of high quality hard and soft landscaping materials and an appropriate level of street furniture, play equipment and signage provision.</p> <p>WB17 Seek to provide a new linkage to the lands east of the DART at the location of the planned DART Station for recreation and amenity purposes.</p> <p>WB18 Provide for pocket parks with a range of passive and active recreational facilities for all age-users and, where feasible, Multi-Use Games Areas (MUGAs) as part of the public and communal open space provision.</p> <p>WB19 Provide for moderately active frontage with own-door housing at ground floor levels along the main distributor route linking the Dublin Road and the DART Station.</p> <p>WB20 Ensure passive surveillance of public and communal open space provision by overlooking and careful juxtaposition of key routes and residential development, for example, the Green Axis and Linear Park.</p> <p>WB21 Seek to retain and enhance the sylvan character of the site boundaries for biodiversity and amenity value. Design of vehicular access to the new residential neighbourhood shall minimise the loss of mature trees and historic boundary wall along the Dublin Road, whilst meeting road safety standards.</p> <p>WB22 Ensure appropriate boundary treatment along all boundaries of the site in the interest of residential, visual and landscape amenity.</p> <p>Land Uses</p> <p>WB22 Achieve a fine grain of active uses at the main civic space of the Neighbourhood Centre to create a vibrancy throughout the day and evening</p> <p>WB23 Provide for a convenience retail element and small-scale retail services to cater for the daily needs of local residents.</p> <p>WB24 Provide for a childcare facility ideally within or in close proximity to the Neighbourhood Centre and / or Future School Site, and also potentially at the DART Station. Future provision and demand for childcare facilities shall be assessed having regard to the needs of the emerging population and in accordance with the Development Plan Standards on Childcare.</p> <p>WB25 Accommodate a primary school equivalent to 24 Classrooms in accordance with the determination of Future Schools Provision undertaken by the Department of Education & Science (DES)</p> <p>WB26 Consider the provision of small-scale own door offices or services in the vicinity and on key routes leading to the Neighbourhood Centre and DART Station</p> <p>WB27 Seek appropriate temporary uses such a community café or a creative community space as an interim solution to any vacant units at ground floor level at the neighbourhood centre or DART Station Node.</p> <p>Community Facilities</p> <p>WB28 Support the clustering of a range of community facilities and social infrastructure in the vicinity of the Neighbourhood Centre, School Site and St. James Church.</p> <p>WB29 A high quality public realm, attractive streets and spaces, usable open space and local shopping facilities with a café or restaurant, will be activity promoted as important elements of social infrastructure to support a new residential community.</p> <p>WB30 Reserve a school site to accommodate a new primary school(s) as per the requirements of the Department of Education & Skills (DES) and to explore in conjunction with the DES, the potential for sharing the school facilities, community facilities and adjoining public open spaces so as to ensure optimum use of social infrastructure.</p> <p>WB31 Promote an urban school typology which achieves an efficient use of scarce urban land, contributes positively to the streetscape and reflects the civic importance of a school to the local community</p> <p>WB32 Allow for a relaxation of the Development Plan car parking standards for schools having regard to the accessibility of the site and the objective to achieve an urban school typology.</p> <p>Infrastructure</p> <p>WB33 Water Supply & Drainage: All planning applications to demonstrate that there is sufficient water supply and drainage capacity to serve a particular phase(s) of development with confirmation of same by Irish Water.</p> <p>WB34 DART: Seek early provision of the DART Station at Woodbrook to establish sustainable travel patterns. DART Station to be designed in a manner to accommodate a pedestrian over-bridge.</p> <p>WB35 Woodbrook Distributor Road: Seek provision of the Distributor Road in its entirety in tandem with the first</p>				
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<p>phase of the residential development to facilitate early provision of, and facilitate access to, the DART Station. The attainment of this objective may be subject to additional funding sources.</p> <p>WB36 Wilford Junction Upgrade: Potential upgrade of the existing roundabout and replacement with a higher capacity signalised 4-arm junction.</p> <p>WB37 Temporary Car Park at DART Station: Seek provision of a temporary surface car park of circa 150-200 car spaces in the immediate vicinity of the DART Station.</p> <p>WB38 Surface Water Drainage: SuDS measures to be incorporated as part of all proposals.</p> <p>WB39 Each phase to demonstrate contribution to the public realm as part of proposals for residential development. Development Plan Compliance</p> <p>WB40 Development proposals to comply with the policies and objectives of the current Dún Laoghaire-Rathdown County Development Plan, including those set out in the Development Management Section.</p>				
<p>Commentary:</p> <p><i>The Woodbrook Site Framework Strategy Key Site Objectives reflects the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p> <p><i>These objectives provide for the future development of the Woodbrook development parcel and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.</i></p> <p><i>Most objectives would contribute towards sustainable development/the protection and management of the environment. Examples of these provisions include:</i></p> <ul style="list-style-type: none"> • Objective WB2 “designed in accordance with DMURS” • Objective WB3 “appropriate heights” • Objective WB4 “assessment of views” • Objective WB8 “design approach to ensure successful integration to the urban form and landscape context” • Objective WB9 “overall average minimum net density of 60 units per hectare” • Objective WB11 “achieve higher sustainable densities” • Objective WB14 “attractive space for public transport users” • Objective WB15 “generous north-south green corridors as multi-functional recreational, amenity and biodiversity linkages; as in the Green Axis and Linear Park” • Objective WB17 “for recreation and amenity purposes” • Objective WB18 “pocket parks with a range of passive and active recreational facilities” • Objective WB21 “retain and enhance the sylvan character of the site boundaries for biodiversity and amenity value” • Objective WB22 “appropriate boundary treatment” • Objective WB33 “All planning applications to demonstrate that there is sufficient water supply and drainage capacity to serve a particular phase(s) of development with confirmation of same by Irish Water.” • Objective WB34 “early provision of the DART Station at Woodbrook to establish sustainable travel patterns” • Objective WB38 “SuDS measures to be incorporated as part of all proposals” • Objective WB40 “Development proposals to comply with the policies and objectives of the current Dún Laoghaire-Rathdown County Development Plan, including those set out in the Development Management Section.” 				
Shanganagh Castle Site Framework Strategy Key Site Objectives				
<p>Urban Design</p> <p>SC1 The Shanganagh Castle Site is to comprise primarily of residential development with a publicly accessible facility as a focal point at Shanganagh Castle.</p> <p>SC2 The new residential neighbourhood shall provide for a range of housing typologies and shall be designed in accordance with DMURS.</p> <p>SC3 Ensure that the scale of buildings responds to the varying character areas across the site.</p> <p>SC4 Building heights along the northern boundary shall be restricted to 2-4 storeys to provide for a sensitive boundary treatment and to safeguard the residential amenity of existing properties at Castle Farm.</p> <p>SC5 A general height or massing strategy of 4-5 storeys for the central portion of the site, rising to 5-6 storeys towards the south-western quadrant to provide a strong frontage on the Dublin Road bookending the existing urban edge, shall apply to the site. There may be potential for an additional setback level in the interest of visual variety, subject to detailed design assessment.</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	<p>B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		

<p>SC6 Shanganagh Castle is to provide a visual focal point and as such is not considered necessary to introduce additional landmark structures or a significant element of height for legibility or identity reasons.</p> <p>SC7 New development proposals to create a new central vista to Shanganagh Castle.</p> <p>SC8 Own-door housing will be promoted as part of apartment development or multi-unit developments at ground floor level to achieve a moderately active frontage onto the central spine route.</p> <p>SC9 Ensure residential development provides appropriate frontage onto the public open space.</p> <p>SC10 Ensure that new development respects the significance of Shanganagh Castle (Protected Structure) and represents an appropriate response to its historic spatial context and landscape setting.</p> <p>Residential Density & Mix</p> <p>SC11 The Shanganagh Castle Site shall achieve an overall average minimum net density of 60 units per hectare.</p> <p>SC12 Proposals for development shall generally accord with the density range as specified for each band, to ensure an appropriate mix of residential typologies and place-making qualities within the resultant urban form (See Table 16 Below).</p> <p>SC13 A relaxation of private open space standards for terraced, semi-detached or detached housing and car parking provision will be considered in order to achieve higher sustainable densities, subject to design and layout.</p> <p>SC14 Seek to deliver a mix of social, affordable and private housing on the site as a best-practice model of a socially inclusive and balanced residential community.</p> <p>SC15 Apartment developments to cater for a mix of household sizes and as such proposals shall comply with the following mix of units: 10% Studio Units (as part of build to let development); not more than 20% of Units shall be 1 Bed Units (30% with re-allocation of the Studio Units); a range of Min. 40% - Max. 60% shall be 2 Bed Units; and a range of Min. 20% - Max. 40% shall be 3 Bed Units.</p> <p>Land Use</p> <p>SC16 Residential to be the predominant land use with an emphasis on mixed tenures.</p> <p>SC17 Provide for publicly accessible community, recreational and/or cultural uses at Shanganagh Castle as a focal point for the neighbourhood and wider area, creating a synergy with Shanganagh Park and complementary to the Neighbourhood Centre at Woodbrook.</p> <p>Public Realm & Open Space</p> <p>SC18 Ensure a high quality public realm that reflects the demesne and landscape character of the site.</p> <p>SC19 Ensure an appropriate setting for Shanganagh Castle as a Protected Structure. This space may also have a civic quality and the potential to accommodate temporary exhibitions or events.</p> <p>SC20 Provide for generous key access points along the southern boundary of the site connecting into Shanganagh Park and to facilitate the creation of new north-west / south-east linkages through the Park.</p> <p>SC21 Explore the potential to achieve new linkages between Castle Farm and Shanganagh Castle in the interest of permeability and the creation of direct, safe routes to adjoining recreational amenities and /or community facilities.</p> <p>SC22 Provide for an appropriate range of play facilities for young children as part of the communal open space provision and to ensure that passive and active recreational facilities for all age groups are provided in the immediate vicinity as part of the future Master Plan proposals for Shanganagh Park.</p> <p>SC23 Potentially incorporate the central public open space element to be provided as part of the future residential proposal into the adjoining Shanganagh Park, so as to consolidate and reinforce the recreational potential of the Park and to enhance the potential for continuous recreational routes between the two sites.</p> <p>SC24 Reinstate historic views towards the coastline from Shanganagh Castle by the removal of an element of the modern tree-planting east of the Castle.</p> <p>SC25 Create an attractive tree-lined avenue along the central spine route with the planting of appropriate native broadleaf species.</p> <p>SC26 Retain the water pond or wetland area as an historic landscape feature and also for visual amenity and biodiversity value as part of the public open space provision on the site.</p> <p>SC27 Ensure passive surveillance of the central spine route by overlooking and an element of own-door access so as to create a safe and secure route.</p> <p>SC28 Seek to retain and protect the tree copses or substantial tree belts at the two locations as shown on the Site Framework Map and to undertake additional tree planting in the form of tree belt along the Dublin Road boundary. Design of vehicular access to the new residential neighbourhood shall minimise the loss of mature trees, whilst meeting</p>				
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<p>road safety standards.</p> <p>SC29 Ensure appropriate boundary treatment along all boundaries of the site, and in particular the northern boundary, in the interest of residential, visual and landscape amenity.</p> <p>Community Facilities</p> <p>SC30 Make a significant contribution to the social housing needs of the County through the delivery of new social homes under the Council's Housing Programme and in accordance with the Council's Interim Housing Strategy.</p> <p>SC31 Undertake a building assessment and feasibility study to determine the cost of refurbishment and adaption to potential new uses and to inform the most appropriate new uses for Shanganagh Castle. It will be an objective that any new use will incorporate publicly accessible community, culture and / or recreational uses.</p> <p>SC32 Seek to develop a sports campus, expanding on the existing sports facility at the Castle, to deliver greater recreational opportunities for existing and new residential communities and for the wider park user.</p> <p>SC33 The public open space to be provided as part of future proposals for residential development shall be fully accessible to the public with linkages to Shanganagh Park and may be incorporated into the future Park Master Plan.</p> <p>Infrastructure</p> <p>SC34 Water Supply & Drainage: All planning applications to demonstrate that there is sufficient water supply and drainage capacity to serve a particular phase(s) of development with confirmation of same by Irish Water.</p> <p>SC35 Surface Water Drainage: SuDS measures to be incorporated as part of all proposals.</p> <p>SC35 Each phase to demonstrate contribution to the public realm as part of proposals for residential development.</p> <p>Development Plan Compliance</p> <p>SC36 Development proposals to comply with the policies and objectives of the current Dun Laoghaire-Rathdown County Development Plan, including those set out in the Development Management Section.</p>				
<p>Commentary:</p> <p><i>The Shanganagh Castle Site Framework Strategy Key Site Objectives reflects the selected alternatives for the Draft Plan and the evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings.</i></p> <p><i>These objectives provide for the future development of the Shanganagh Castle development parcel and will, in combination with the implementation of other provisions from the Plan, contribute towards the overall development of the LAP area.</i></p> <p><i>Most objectives would contribute towards sustainable development/the protection and management of the environment. Examples of these provisions include:</i></p> <ul style="list-style-type: none"> • <i>Objective SC3 "scale of buildings responds to the varying character areas"</i> • <i>Objective SC4 "provide for a sensitive boundary treatment and to safeguard the residential amenity of existing properties"</i> • <i>Objective SC10 "Ensure that new development respects the significance of Shanganagh Castle (Protected Structure) and represents an appropriate response to its historic spatial context and landscape setting"</i> • <i>Objective SC11 "overall average minimum net density of 60 units per hectare"</i> • <i>Objective SC13 "higher sustainable densities, subject to design and layout"</i> • <i>Objective SC17 "Provide for publicly accessible community, recreational and/or cultural uses at Shanganagh Castle as a focal point for the neighbourhood and wider area, creating a synergy with Shanganagh Park and complementary to the Neighbourhood Centre at Woodbrook"</i> • <i>Objective SC18 "high quality public realm that reflects the demesne and landscape character of the site"</i> • <i>Objective SC19 "Ensure an appropriate setting for Shanganagh Castle as a Protected Structure"</i> • <i>Objective SC20 "new north-west / south-east linkages through the Park"</i> • <i>Objective SC21 "new linkages between Castle Farm and Shanganagh Castle in the interest of permeability"</i> • <i>Objective SC23 "reinforce the recreational potential of the Park and to enhance the potential for continuous recreational routes between the two sites"</i> • <i>Objective SC24 "Reinstate historic views towards the coastline from Shanganagh Castle"</i> • <i>Objective SC25 "native broadleaf species"</i> • <i>Objective SC26 "Retain the water pond or wetland area as an historic landscape feature and also for visual amenity and biodiversity value"</i> • <i>Objective SC27 "Ensure passive surveillance of the central spine route by overlooking and an element of own-door access so as to create a safe and secure route"</i> • <i>Objective SC28 "retain and protect the tree copses or substantial tree belts"</i> • <i>Objective SC29 "in the interest of residential, visual and landscape amenity"</i> • <i>Objective SC31 "most appropriate new uses for Shanganagh Castle"</i> 				

- *Objective SC33* “linkages to Shanganagh Park”
- *Objective SC34* “All planning applications to demonstrate that there is sufficient water supply and drainage capacity to serve a particular phase(s) of development with confirmation of same by Irish Water”
- *Objective SC35* “SuDS measures to be incorporated as part of all proposals”
- *Objective SC35* “contribution to the public realm”
- *Objective SC36* “Development proposals to comply with the policies and objectives of the current Dun Laoghaire-Rathdown County Development Plan, including those set out in the Development Management Section.”

Any Master Plan would have to comply with the provisions of the Local Area Plan including the mitigation measures detailed at Section 9 of this report. Any proposed changes to the Local Area Plan that may arise from the preparation of a Master Plan would have to be subject to their own public consultation and environmental assessment processes as relevant.

8.5.4 Section 5: Implementation and Phasing

For an explanation of SEO codes e.g. **B1**, **B2**, **B3**, **PHH1**, etc. refer to Table 8.2 on page 64.

	Likely to Improve status of SEOs	Likely to Potentially Conflict with status of SEOs - likely to be mitigated	Probable Conflict with status of SEOs - unlikely to be mitigated	No Likely interaction with status of SEOs
This section provides additional detail on implementation and phasing.	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	B1 B2 B3 PHH1 PHH2 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		
<p>Commentary:</p> <p><i>Implementation of the Plan and phasing of development within the Plan area will, in combination with the implementation of other provisions from the Plan, towards the overall development of the Woodbrook-Shanganagh area. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with both: the evaluation of the selected alternatives which is provided in Section 7; and the likely significant environmental effects detailed under Section 8.4 Overall Findings. In combination with the land uses and other provisions contained within the Plan, phasing will ensure that infrastructure, services, facilities and amenities are provided together with residential, community and employment and economic development. This will contribute towards the timely and appropriate provision of transport/movement infrastructure and services, water services infrastructure and capacity and drainage infrastructure, indirectly contributing towards the protection of the status of water bodies and ecology.</i></p> <p><i>As detailed in the Plan, given the greenfield nature of the two development parcels, it will be essential to ensure that critical enabling infrastructure is delivered to unlock the development potential of these lands. In this regard, water supply and drainage are the most fundamental infrastructure impediments to development proceeding at Woodbrook and Shanganagh Castle. Accordingly, an adequacy of the water supply and drainage network to cater for any proposed development will be an essential prerequisite and should be demonstrated as part of any planning application for lands within the Plan Area.</i></p> <p><i>Thereafter, the primary purpose and focus of any phasing imperatives will be to ensure that key elements of infrastructure are delivered in tandem with residential development as necessary to ensure the proper planning and sustainable development of the area. The phasing approach will also include social infrastructure elements to ensure a commensurate level of community facilities for the emerging residential neighbourhood. Notwithstanding, the Council is cognisant of the over-arching imperative to deliver new homes and as such it is not the intention to apply a prohibitively restrictive phasing schedule.</i></p> <p><i>Woodbrook and Shanganagh Castle, as the two key development parcels, may progress independently of each other. However, given the scale and development potential of these parcels, it is considered that an element of sequential phasing should apply within each as key sites. A Phasing Schedule for each of the key sites is set out in the Draft Plan, and whilst specific requirements apply in certain instances, flexibility or a roll-over mechanism to a subsequent phase may apply at the discretion of the Planning Authority if considered appropriate. This is to facilitate flexibility and to allow for changing market conditions over time whilst ensuring that the key objectives are still realised.</i></p>				

Section 9 Mitigation Measures

9.1 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 Draft Plan. Various environmental sensitivities and issues have been communicated to the Council through the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. By integrating all related recommendations into the Draft Plan, the Council have ensured that both the beneficial environmental effects of implementing the Draft Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Mitigation was achieved through the:

- Consideration of alternatives;
- Early and strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development; and
- Integration of individual SEA, AA and SFRA provisions into the text of the Draft Plan.

9.2 Consideration of Alternatives

A number of potential alternatives for the Plan were identified at an early stage in the process and evaluated for their likely significant environmental effects (see Sections 6 and 7).

The environmental baseline and the Strategic Environmental Objectives (see Section 4 and Section 5) were used in order to predict and evaluate the environmental effects of implementing the alternatives.

Communication of the findings of this evaluation facilitated an informed choice with respect to the type of Plan that was prepared and placed on public display.

9.3 Early and strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Draft Plan (and associated SEA, AA and SFRA) on public display, Dún Laoghaire-Rathdown County Council undertook various works in order to inform the preparation of the Draft Plan. This included beginning the SEA, AA and SFRA processes early in the process as possible so that these assessments could inform the Plan. It also included the undertaking of background work in relation to various issues covered by the Plan's Development Strategy (Delivering Homes & Creating Sustainable Residential Communities, Community & Social Infrastructure, Sustainable Infrastructure, Sustainable Movement & Transport, Built Heritage, Open Space, Recreation & Green Infrastructure and Urban Structure, Design & Public Realm Qualities).

The findings of this strategic work have been integrated into the Draft Plan and will be implemented when it is adopted, contributing towards both environmental protection and management and sustainable development within the Woodbrook-Shanganagh area and wider County.

9.4 Integration of individual SEA, AA and SFRA provisions into the text of the Draft Local Area Plan and the County Development Plan

Various provisions have been integrated into the text of the Draft Plan over multiple iterations through the Plan-preparation and SEA, AA and SFRA processes.

In addition to the mitigation measures that have been integrated into the Plan, all development is required to comply with the mitigation measures that have already been integrated into the existing Dún Laoghaire Rathdown County Development Plan 2016-2022.

Table 9.1 links key mitigation measure(s) to the potential adverse effects of implementing the Plan, if unmitigated.

The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

Table 9.1 Integration of Environmental Considerations

Potentially Significant Effect, if unmitigated	Environmental considerations that have integrated into the Draft Local Area Plan (LAP) or Dún Laoghaire-Rathdown County Development Plan (CDP)
<p>Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna.</p> <p>Habitat loss, fragmentation and deterioration, including patch size and edge effects.</p> <p>Disturbance and displacement of protected species.</p>	<p>LAP Provision</p> <ul style="list-style-type: none"> Policy WS6: It is the Policy of Dún Laoghaire-Rathdown County Council: To continue to protect and enhance the landscape, green spaces, recreational amenities and the green infrastructure network, through sustainable planning and design for both existing and new communities in accordance with the policies and objectives of the County Development Plan and the objectives of this LAP. OR8: To protect and enhance biodiversity throughout the Plan Area by protecting habitats and creating new habitat opportunities through native planting and landscaping schemes. OR11: That all plans or projects within the Local Area Plan will be subject to Appropriate Assessment Screening in accordance with Article (3) of the Habitats Directive. SC26 Retain the water pond or wetland area as an historic landscape feature and also for visual amenity and biodiversity value as part of the public open space provision on the site. SC28 Seek to retain and protect the tree copses or substantial tree belts at the two locations as shown on the Site Framework Map and to undertake additional tree planting in the form of tree belt along the Dublin Road boundary. Design of vehicular access to the new residential neighbourhood shall minimise the loss of mature trees, whilst meeting road safety standards. <p>CDP Provision Policy LHB19: Protection of Natural Heritage and the Environment* Policy LHB20: Habitats Directive* Policy LHB22: Designated Sites* Policy LHB27: Geological Sites Development Management 8.2.2 (v) Appropriate Assessment Development Management 8.2.9.4 Appropriate Assessment Development Management 8.2.7.1 Biodiversity Policy LHB16: National Park* Appropriate Assessment & Coastal Cycling Infrastructure Objective Policy E11: Water Supply & Appropriate Assessment Policy E12: Wastewater Treatment & Appropriate Assessment* Policy E13: Surface Water Drainage & Appropriate Assessment* Policy E14: Groundwater Protection & Appropriate Assessment Policy LHB23: Non-Designated Areas of Biodiversity Importance* Policy LHB 24: County-Wide Ecological Network* Policy LHB25 Rivers and Waterways* Policy LHB26: Hedgerows* Policy LHB29: Invasive Species</p>
<p>Spatially concentrated deterioration in human health/interactions if effects upon environmental vectors such as water and air are not mitigated.</p>	<p>CDP Provision Policy CC10: Radon Gas Policy E125: Major Accidents Policy E120: Air and Noise Pollution Also see measures related to soil, water quality, flooding, wastewater treatment and drinking water supply and quality.</p>
<p>Damage to soil function.</p>	<p>LAP Provision Objective SI8: That future development within the Plan Area shall comply with the requirements of Section 8.2.9: Environmental Management of the County Development Plan.</p> <p>CDP Provision Development Management 8.2.9.7 New Developments–Environmental Impacts Also see measures related to water quality and wastewater treatment.</p>
<p>Adverse impacts upon the status and quality of water bodies, including bathing waters, arising from changes in quality, flow and/or morphology.</p>	<p>LAP Provision</p> <ul style="list-style-type: none"> SI2: To ensure that water quality is protected and that future development meets the requirements of the Water Framework Directive. SI4: To achieve best-practice and innovations in SuDS design as part of the Local Area Plan, including the successful co-ordination of surface water management with ecology and the amenity functions of open space and landscaped areas. All planning applications shall be accompanied by a surface water drainage plan which will include proposals for the management of surface water within sites and the protection of the water quality of existing water bodies and groundwater sources. <p>CDP Provision Policy E122: Water Pollution Policy E123: Rathmichael Ground and Surface Water Protection Policy E13: Surface Water Drainage & Appropriate Assessment*</p>

Potentially Significant Effect, if unmitigated	Environmental considerations that have integrated into the Draft Local Area Plan (LAP) or Dún Laoghaire-Rathdown County Development Plan (CDP)
	<p>Policy E14: Groundwater Protection & Appropriate Assessment Policy E16: Integrated Water Management Plans* Policy E17: Water Quality Management Plans Policy E18: Sustainable Drainage Systems* Policy E110: Storm Overflows of Sewage to Watercourses* Policy LHB10: Beaches Also see measures related to water quality and wastewater treatment.</p>
Increase in the risk of flooding	<p>LAP Provision</p> <ul style="list-style-type: none"> • SI3: To require all proposed developments to carry out a Site-Specific Flood Risk Assessment (SSFRA) that shall demonstrate compliance with: <ul style="list-style-type: none"> ◦ The Planning System and Flood Risk Management, Guidelines for Planning Authorities (DEHLG / OPW, 2009), as may be revised and/or updated ◦ The prevailing Dún Laoghaire-Rathdown County Development Plan. ◦ Any SSFRA shall not be required to carry out a Justification Test, given that this exercise was already carried out at County Development Plan-level. A review of this process was also undertaken as part of the preparation of this Local Area Plan (LAP). ◦ The SSFRA shall pay particular emphasis to site-specific mitigation measures and any necessary management measures, as per Appendix B4 of the above 2009 National Guidelines. ◦ Attention shall be given in the SSFRA to the incorporation of SuDS design measures into the public realm and open space provision. • SI4: To achieve best-practice and innovations in SuDS design as part of the Local Area Plan, including the successful co-ordination of surface water management with ecology and the amenity functions of open space and landscaped areas. All planning applications shall be accompanied by a surface water drainage plan which will include proposals for the management of surface water within sites and the protection of the water quality of existing water bodies and groundwater sources. • SI5: To pilot and test new green infrastructure installations in the public realm to boost biodiversity and improve surface water management, including the use of permeable materials for surfaces, green roofs and the provision of storm water tree trenches / pits. • SI6: To support the development of soft landscaping in public open spaces, where feasible in accordance with the principles of Sustainable Drainage Systems (SuDS). • SI7: That green roofs shall be provided in accordance with the County Development Plan Green Roofs Guidance Document. • SI8: That future development within the Plan Area shall comply with the requirements of Section 8.2.9: Environmental Management of the County Development Plan. <p>CDP Provision Policy CC14: Catchment Flood Risk Assessment and Management (CFRAM)*. Policy CC15: Flood Risk Management*. Policy CC16: Cross-Boundary Flood Management Policy CC17: Coastal Defence*. Policy E18: Sustainable Drainage Systems* Policy E19: Stormwater Impact Assessments* Policy LHB23 Rivers and Waterways*</p>
<p>Failure to provide adequate and appropriate wastewater treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts).</p> <p>Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity ensures the mitigation of potential conflicts).</p>	<p>LAP Provision</p> <ul style="list-style-type: none"> • Policy WS3: It is the Policy of Dún Laoghaire- Rathdown County Council: To support Irish Water in the facilitation of the timely delivery of the water services – including adequacy of water supply and wastewater network design – as required to realise the development objectives for Woodbrook-Shanganagh as a new residential growth node as set out in the Development Plan Core Strategy and this LAP. • SI1: To actively liaise and co-operate with Irish Water to expedite the delivery of water supply and wastewater infrastructure throughout the Plan Area. <p>CDP Provision Policy E15: Water Supply and Wastewater* Policy E111: Water Services Investment Programme* Development Management 8.2.9.3 Environmental Impact Assessment</p>
Increases in waste levels.	<p>LAP Provision</p> <ul style="list-style-type: none"> • SI10: That adequate provisions shall be made for suitable waste disposal and recycling in accordance with the requirements of the County Development Plan.

Potentially Significant Effect, if unmitigated	Environmental considerations that have integrated into the Draft Local Area Plan (LAP) or Dún Laoghaire-Rathdown County Development Plan (CDP)
	CDP Provision Policy EI12: Waste Management Strategy* Policy EI13: Waste Plans Policy EI14: Private Waste Companies Policy EI15: Waste Prevention and Reduction* Policy EI16: Waste Re-use and Re-cycling* Policy EI17: Refuse Disposal* Policy EI18: Hazardous Waste Policy EI19: Rehabilitation of the Former Ballyogan Landfill
Failure to contribute towards sustainable transport and associated impacts (emissions to air, including greenhouse gas emissions and energy usage).	LAP Provision All Sustainable Movement & Transport provisions. CDP Provision See Sustainable Communities Strategy in Section 2 of the Plan. Also: Policy CC1: National Climate Change Adaptation Framework.* Policy CC2: Development of National Climate Change Policy and Legislation.* Policy CC3: Development of National Energy Policy and Legislation.* Policy CC4: Sustainable Energy Action Plan* Policy CC5: Limiting Emissions of Greenhouse Gases.*
Effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.	LAP Provision All Built Heritage provisions. CDP Provision Policy AH1: Protection of Archaeological Heritage Policy AH2: Protection of Archaeological Material in Situ Policy AH3: Protection of Historic Towns Policy AH4: Carrickmines Castle Site Policy AH5: Historic Burial Grounds Policy AH6: Underwater Archaeology Policy AR1: Record of Protected Structures Policy AR2: Protected Structures Applications and Documentation Policy AR3: Protected Structures and Building Regulations Policy AR4: National Inventory of Architectural Heritage (NIAH) Policy AR5: Buildings of Heritage Interest Policy AR6: Protection of Buildings in Council Ownership Policy AR7: Energy Efficiency of Protected Structures Policy AR8: Nineteenth and Twentieth Century Buildings, Estates and Features Policy AR9: Protection of Historic Street Furniture Policy AR10: Protection of Coastline Heritage Policy AR11: Industrial Heritage Policy AR12: Architectural Conservation Areas Policy AR13: Demolition within an ACA Policy AR14: Shopfronts within an ACA Policy AR15: Public Realm and Public Utility works within an ACA Policy AR16: Candidate Architectural Conservation Areas (cACA) Policy AR17: Development within a cACA
Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including open space, parklands, playing fields and the coast.	LAP Provision All Open Space, Recreation & Green Infrastructure provisions. CDP Provision Policy LHB2: Preservation of Landscape Character Areas* Policy LHB3: Seascape Policy LHB4: High Amenity Zones* Policy LHB5: Historic Landscape Character Areas Policy LHB6: Views and Prospects Policy LHB7: Coastal Zone Management and Dublin Bay* Policy EI21: Light Pollution

Section 10 Monitoring Measures

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures which will be used in order to monitor the likely significant effects of implementing the Plan.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

10.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 5 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions.

Table 10.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators

and targets on a *grant of permission*³⁷ basis. Where significant effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

10.4 Reporting and Responsibility

A stand-alone Monitoring Report on the significant environmental effects of implementing the Plan will be prepared in advance of the beginning of the review of the Plan. This report should address the indicators set out below.

The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action.

Dún Laoghaire-Rathdown County Council are responsible for the implementation of the SEA Monitoring Programme.

10.5 Thresholds

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Arts, Heritage, Regional, Rural and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;

³⁷ The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination (e.g. whether a proposed development will impact upon a Protected Structure or whether a proposed development can be adequately served with water services) while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan can be achieved.

- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the Plan;
- Boil notices on drinking water; and
- Fish kills.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source(s):
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ³⁸	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). Department of Arts, Heritage and the Gaeltacht's National Monitoring Report for the Birds Directive under Article 12 (every 3 years). Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). CORINE mapping resurvey (every c. 5 years). Review of Council Ecological Network Mapping
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	<ul style="list-style-type: none"> Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 10.4).
	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): To avoid and minimise disruption to use of and access to amenities including parklands, playing fields and the coast	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Parks Department (at monitoring evaluation - see Section 10.4).
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).

³⁸ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source(s):
Water	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ³⁹	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual). EPA <i>The Quality of Bathing Water in Ireland</i> reports.
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with wastewater treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by wastewater treatment over the lifetime of the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter).
	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	<ul style="list-style-type: none"> EPA National Waste Reports EPA Ireland's Environment Reports
Air and Climatic Factors	C1: Percentage of resident and employment populations travelling to work, school or college by public transport or non-mechanical means	C1: Maximise the percentage of the resident and employment populations travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years).
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - and the context of these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).
	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and their context from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).

³⁹ Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA: Q4 in the biological classification of rivers; and Unpolluted status in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI).

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source(s):
Landscape	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast	PHH2 (and L1): To avoid and minimise disruption to use of and access to amenities including parklands, playing fields and the coast	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Consultation with Parks Department (at monitoring evaluation - see Section 10.4).

Appendix I Relationship with Legislation and Other Plans and Programmes

This appendix is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each.

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
UN Kyoto Protocol (2ND Kyoto Period), the Second European Climate Change Programme (ECCP II), Paris climate conference (COP21) 2015	<p>The UN Kyoto Protocol set of policy measures to reduce greenhouse gas emissions</p> <p>The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol</p> <p>At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.</p>	<ul style="list-style-type: none"> The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II) EU member states implement measures to improve on or complement the specified measures and policies arising from the ECCP <p>Under COP21, governments agreed to come together every 5 years to set more ambitious targets as required by science; report to each other and the public on how well they are doing to implement their targets; track progress towards the long-term goal through a robust transparency and accountability system</p>	National Policy Position and final Heads of the Climate Action and Low-Carbon Development Act	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
EU 2020 climate and energy package	<ul style="list-style-type: none"> Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020 Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels Aims to raise the share of EU energy consumption produced from renewable resources to 20% Achieve a 20% improvement in the EU's energy efficiency 	<p>Four pieces of complimentary legislation:</p> <ul style="list-style-type: none"> Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps Member States have agreed national targets for non-EU ETS emissions from countries outside the EU Meet the national renewable energy targets of 16% for Ireland by 2020 Preparing a legal framework for technologies in carbon capture and storage 	<p>The Framework for Climate Change Bill</p> <p>European Communities (Renewable Energy) Regulations 2011 (S.I. No. 147/2011)</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Habitats Directive (92/43/EEC)	<ul style="list-style-type: none"> Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora Contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of Community interest Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. 	<ul style="list-style-type: none"> Propose and protect sites of importance to habitats, plant and animal species Establish a network of Natura 2000 sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range Carry out comprehensive assessment of habitat types and species present Establish a system of strict protection for the animal species and plant species listed in Annex IV 	<p>European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)</p> <p>The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Birds Directive (2009/147/EC)	<ul style="list-style-type: none"> Conserve all species of naturally occurring birds in the wild state including their eggs, nests and habitats Protect, manage and control these species and comply with regulations relating to their exploitation The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution 	<ul style="list-style-type: none"> Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1. Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas); ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance. 	European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
European Union Biodiversity Strategy to 2020	<ul style="list-style-type: none"> Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible 	<ul style="list-style-type: none"> Outlines six targets and twenty actions to aid European in halting the loss to biodiversity and eco-system services The six targets cover: <ul style="list-style-type: none"> Full implementation of EU nature legislation to protect biodiversity Maintaining, enhancing and protecting for ecosystems, and green infrastructure Ensuring sustainable agriculture, and forestry Sustainable management of fish stocks Reducing invasive alien species Addressing the global need to contribute towards averting global biodiversity loss 	Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
<p>The Clean Air for Europe Directive (2008/50/EC)</p> <p>Fourth Daughter Directive (2004/107/EC)</p>	<ul style="list-style-type: none"> The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive) Sets new air quality objectives for PM_{2.5} (fine particles) including the limit value and exposure related objectives Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values Allows the possibility for time extensions of three years (PM₁₀) or up to five years (NO₂, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air 	<ul style="list-style-type: none"> Sets objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole Aims to assess the ambient air quality in Member States on the basis of common methods and criteria; Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and Community measures; Ensures that such information on ambient air quality is made available to the public; Aims to maintain air quality where it is good and improving it in other cases; Aims to promote increased cooperation between the Member States in reducing air pollution. 	<p>Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)</p> <p>Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
Noise Directive 2002/49/EC	<p>The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - 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 Community policy on noise reduction from source.</p>	<p>The Directive requires competent authorities in Member States to:</p> <ul style="list-style-type: none"> 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. <p>The Directive 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.</p>	<p>Environmental Noise Regulations 2006 (S.I. No. 140 of 2006)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Floods Directive (2007/60/EC)	<ul style="list-style-type: none"> Establishes a framework for the assessment and management of flood risks Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community 	<ul style="list-style-type: none"> Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3 Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above Inform the public and allow the public to participate in planning process 	<p>European Communities (Assessment and Management of Flood Risks) Regulations (S.I. 122/2010)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Water Framework Directive (2000/60/EC)	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats Preserve and prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies Promote sustainable water usage The Water Framework Directive repealed the following Directives: <ul style="list-style-type: none"> The Drinking Water Abstraction Directive Sampling Drinking Water Directive Exchange of Information on Quality of Surface Freshwater Directive Shellfish Directive Freshwater Fish Directive Groundwater (Dangerous Substances) Directive Dangerous Substances Directive 	<ul style="list-style-type: none"> Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive Achieve "good status" for all waters Manage water bodies based on identifying and establishing river basins districts Involve the public and streamline legislation Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas Establish a programme of monitoring for surface water status, groundwater status and protected areas Recover costs for water services 	European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Groundwater Directive (2006/118/EC)	<ul style="list-style-type: none"> Protect, control and conserve groundwater Prevent the deterioration of the status of all bodies of groundwater Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals. 	<ul style="list-style-type: none"> Meet minimum groundwater standards listed in Annex 1 of Directive Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II 	European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Drinking Water Directive (98/83/EC)	<ul style="list-style-type: none"> • Improve and maintain the quality of water intended for human consumption • Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean 	<ul style="list-style-type: none"> • Set values applicable to water intended for human consumption for the parameters set out in Annex I • Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a) • Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5 • Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause • Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action • Undertake remedial action to restore the quality of the water where necessary to protect human health • Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial 	<p>European Union (Drinking Water) Regulations 2014 (S.I. No. 106 of 2007) (as amended)</p> <p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations
Urban Waste Water Treatment Directive (91/271/EEC)	<ul style="list-style-type: none"> • This Directive concerns the collection, treatment and discharge of urban wastewater and the treatment and discharge of wastewater from certain industrial sectors • The objective of the Directive is to protect the environment from the adverse effects of wastewater discharges 	<ul style="list-style-type: none"> • Urban wastewater entering collecting systems shall before discharge, be subject to secondary treatment • Annex II requires the designation of areas sensitive to eutrophication which receive water discharges • Establishes minimum requirements for urban wastewater collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors 	European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Environmental Liability Directive (2004/35/EC)	<ul style="list-style-type: none"> Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage 	<ul style="list-style-type: none"> Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities; damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7. The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive The competent authority shall be entitled to initiate cost recovery proceedings against the operator The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met 	European Communities (Environmental Liability) Regulations, 2008	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
SEA Directive (2001/42/EC)	<ul style="list-style-type: none"> Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment 	<ul style="list-style-type: none"> Carry out an environmental assessment for plans or programmes referred to in Articles 2 to 4 of the Directive Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects Inform relevant authorities and stakeholders on the decision to implement the plan or programme Issue a statement to include requirements detailed in Article 9 of the Directive Monitor and mitigate significant environmental effects identified by the assessment 	<p>European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435/ 2004) (as amended)</p> <p>Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436/2004) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
EIA Directive (2011/92/EU as amended by 2014/52/EU)	<ul style="list-style-type: none"> Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4 	<ul style="list-style-type: none"> All projects listed in Annex I are considered as having significant effects on the environment and require an EIA For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made The information to be provided by the developer in accordance with paragraph 1 shall include at least: <ul style="list-style-type: none"> a description of the project comprising information on the site, design and size of the project; a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; the data required to identify and assess the main effects which the project is likely to have on the environment; an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects; a non-technical summary of the information referred to each of the above 	<p>European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349/1989) (as amended)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework	<ul style="list-style-type: none"> Reviews infrastructure and capital spending over a medium timeframe to ensure investment is made in the best areas Identifies gaps in existing infrastructure that require addressing to aid economic recovery, social cohesion and environmental sustainability 	<p>The approach identifies four main components of the investment strategy as follows:</p> <ul style="list-style-type: none"> Economic infrastructure – encompassing transport networks, energy provision and telecommunications capacity Investment in the productive sector and human capital – such as direct supports for enterprise development; science, technology and innovation advancement; supports for tourism, agriculture, fisheries and forestry; and capital investment in education infrastructure Environmental infrastructure – including our waste and water systems and investment for environmental sustainability Critical social investment – such as the health service and social housing programmes 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)	<ul style="list-style-type: none"> Outlines a policy for how a sustainable travel and transport system can be achieved Sets out five key goals: <ul style="list-style-type: none"> To reduce overall travel demand. To maximise the efficiency of the transport network. To reduce reliance on fossil fuels. To reduce transport emissions. To improve accessibility to transport. 	<ul style="list-style-type: none"> Others lower level aims include: <ul style="list-style-type: none"> reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies strengthening institutional arrangements to deliver the targets 	not applicable	In combination with this Policies the Plan will contribute towards smarter travel and associated positive environmental effects.
Ireland's First National Cycle Policy Framework (2009)	<ul style="list-style-type: none"> Outlines objectives and actions aimed at developing a strong cycle network in Ireland Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed 	<ul style="list-style-type: none"> Sets a target where 10% of all journeys will be made by bike by 2020 Proposes the planning, infrastructure, communication, education and stakeholder participations measures required to implement the initiative 	not applicable	In combination with this Framework the Plan will contribute towards smarter travel and associated positive environmental effects.
Scoping Study for a National Cycle Network (NCN)	<ul style="list-style-type: none"> Investigated the feasibility of developing a National Cycle Network for recreational routes in rural areas, urban areas and connecting larger urban areas The scoping study and subsequent workshops resulted in a recommended National Cycle Network 	not applicable	not applicable	In combination with this Study the Plan will contribute towards smarter travel and associated positive environmental effects.

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Strategic Framework for Integrated Land use and Transport (SFILT) – Department of Transport, Tourism And Sport	<ul style="list-style-type: none"> Presents the findings and conclusions of a steering group which was convened and tasked with overseeing the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions. 	<p>Key features of the framework policy include the following:</p> <ul style="list-style-type: none"> Focus on economic growth Principles to frame future investment 	not applicable	In combination with this Study the Plan will contribute towards smarter travel and associated positive environmental effects.
National Climate Change Strategy 2007 – 2012 (2007)	<ul style="list-style-type: none"> Outlines measures to be undertaken to meet greenhouse gas emission commitments 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Climate Action and Low Carbon Development Act 2015	<ul style="list-style-type: none"> Ireland's national policy in response to climate change is determined, in part, by legislation. 	<p>In particular, Ireland's first-ever dedicated climate change law, the Climate Action and Low Carbon Development Act 2015 , provides for the making of:</p> <ul style="list-style-type: none"> five-yearly National Mitigation Plans to specify the policy measures to reduce greenhouse gas emissions a National Adaptation Framework to specify the national strategy for the application of adaptation measures in different sectors and by local authorities to reduce the vulnerability of the State to the negative effects of climate change. <p>The Act also establishes the Climate Change Advisory Council to advise ministers and the government on climate change matters.</p>	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)	<ul style="list-style-type: none"> White paper setting out a framework for delivering a sustainable energy future in Ireland Outlines strategic Goals for: <ul style="list-style-type: none"> Security of Supply Sustainability of Energy Competitiveness of Energy Supply 	<p>The underpinning Strategic Goals are:</p> <ul style="list-style-type: none"> Ensuring that electricity supply consistently meets demand Ensuring the physical security and reliability of gas supplies to Ireland Enhancing the diversity of fuels used for power generation Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks Creating a stable attractive environment for hydrocarbon exploration and production Being prepared for energy supply disruptions 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
National Climate Change Adaptation Framework (DECLG, 2012)	The National Climate Change Adaptation Framework provides a strategic policy focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change.	<p>Actions include those relating to:</p> <ul style="list-style-type: none"> • Research and Knowledge Base • Governance • Local Plans • Stakeholder Consultation 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Renewable Energy Action Plan	<ul style="list-style-type: none"> • A strategic approach for Ireland including measures to meet European targets for 2020 including Ireland's 16% target of gross final consumption to come from renewables by 2020 	not applicable	Renewable Energy Directive 2009/28/EC	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Energy Efficiency Action Plan for Ireland 2007 – 2020 (2007)	<ul style="list-style-type: none"> • This is the second National Energy Efficiency Action Plan for Ireland 	<ul style="list-style-type: none"> • The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Sustainable Development – A Strategy for Ireland (1997)	<ul style="list-style-type: none"> • Provides an analysis and a strategic framework for sustainable development in Ireland • Identifies the approaches required to support sustainable development 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Wildlife Act of 1976 Wildlife (Amendment) Act, 2000	<ul style="list-style-type: none"> • The act provides protection and conservation of wild flora and fauna 	<ul style="list-style-type: none"> • Provides protection for certain species, their habitats and important ecosystems • Give statutory protection to NHAs • Enhances wildlife species and their habitats • Includes more species for protection 	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	<ul style="list-style-type: none"> Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally 	<ul style="list-style-type: none"> To mainstream biodiversity in the decision making process across all sectors To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity To increase awareness and appreciation of biodiversity and ecosystems services To conserve and restore biodiversity and ecosystem services in the wider countryside To conserve and restore biodiversity and ecosystem services in the marine environment To expand and improve on the management of protected areas and legally protected species To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	<ul style="list-style-type: none"> Sets out comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process Ensures flood risk is a key consideration in preparing development plans and local area plans and in the assessment of planning applications Implementation of the Guidelines is through actions at national, regional, local authority and site-specific levels 	<ul style="list-style-type: none"> Avoid inappropriate development in areas at risk of flooding Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off Ensure effective management of residual risks for development permitted in floodplains Avoid unnecessary restriction of national, regional or local economic and social growth 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. 	<p>Planning and Development Act 2000 (as amended)</p> <p>S.I. No. 122/2010 EC (Assessment and Management of Flood Risks) Regulations 2010</p> <p>S.I. No. 470/2012 European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012.</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of these Guidelines
<p>European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003)</p> <p>European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)</p>	<ul style="list-style-type: none"> Transpose the Water Framework Directive into legislation Outlines the general duty of public authorities in relation to water Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions 	<ul style="list-style-type: none"> Implements River basin districts and characterisation of RBDs and River Basin Management Plans Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies Allows the competent authority to recover the cost of damage/destruction of status of water body Outlines environmental objectives and programme of measures and environmental quality standards for priority substances Outlines criteria for assessment of groundwater 	Water Framework Directive 2000/60/EC	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)	<ul style="list-style-type: none"> Transpose the requirements of the Water Framework Directive into Irish Legislation 	<ul style="list-style-type: none"> Outlines environmental objectives to be achieved for surface water bodies Outlines surface water quality standards Establishes threshold values for the classification and protection of surface waters against pollution and deterioration in quality 	Water Framework Directive 2000/60/EC	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)	<ul style="list-style-type: none"> Transpose the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation 	<ul style="list-style-type: none"> Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality Sets groundwater quality standards Outlines threshold values for the classification and protection of groundwater 	Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC) European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Water Pollution Acts 1977 to 1990	<ul style="list-style-type: none"> The Water Pollution Acts allow Local Authorities the authority regulate and supervise actions relating to water in their division 	The Water Pollution Acts enable local authorities to: <ul style="list-style-type: none"> prosecute for water pollution offences; attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters; issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution; issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices; seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects; prepare water quality management plans for any waters in or adjoining their functional areas 	Water Services Act 2013	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)	<ul style="list-style-type: none"> Transpose the Urban Waste Water Treatment Directive into Irish Legislation Aims to protect receiving waters from environmental damage arising from Urban Wastewater 	<ul style="list-style-type: none"> Sets out the legislative requirements for urban wastewater collection and treatment systems Provides for monitoring programmes of discharges Specifies threshold values and minimum standards for water quality 	Urban Waste Water Treatment Directive (91/271/EEC)	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Water Services Act 2007 Water Services (Amendment) Act 2012 Water Services Act (No. 2) 2013	<ul style="list-style-type: none"> Provides the water services infrastructure Outlines the responsibilities involved in delivering and managing water services Identifies the authority in charge of provision of water and wastewater supply Irish Water was given the responsibility of the provision of water and wastewater services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland 	<p>Key strategic objectives include:</p> <ul style="list-style-type: none"> Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector. Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced. Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards Ensuring the provision of the remaining infrastructure needed to provide secondary wastewater treatment, for compliance with the requirements of the EU Urban Wastewater Treatment Directive. Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures. Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems. Ensuring a fair funding model to deliver water services. Overseeing the establishment of an economic regulation function under the CER. 	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	<ul style="list-style-type: none"> This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term. 	<p>Six strategic objectives as follows:</p> <ul style="list-style-type: none"> Meet Customer Expectations. Ensure a Safe and Reliable Water Supply. Provide Effective Management of Wastewater. Protect and Enhance the Environment. Support Social and Economic Growth. Invest in Our Future. 	The Water Services (No. 2) Act (2013)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Spatial Strategy 2002-2020 (2002)	<ul style="list-style-type: none"> Planning framework for Ireland Aims to achieve a better balance of social, economic and physical development across Ireland, supported by effective planning 	<ul style="list-style-type: none"> Proposes that areas of sufficient scale and critical mass will be built up through a network of gateways, hubs and key town 	Planning and Development Act 2000 (as amended)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Grid25 Implementation Programme	<ul style="list-style-type: none"> Framework for the development of the electricity transmission grid in the short, medium and long terms, to support a long-term sustainable and reliable electricity supply 	<ul style="list-style-type: none"> Seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Landscape Strategy 2015	<ul style="list-style-type: none"> Aims to implement the European Landscape Convention in Ireland by providing for specific measures to promote the protection, management and planning of the landscape. 	<p>The objectives of the National Landscape Strategy are to:</p> <ul style="list-style-type: none"> Recognise landscapes in law Develop a National Landscape Character Assessment; Develop Landscape Policies; Increase Landscape Awareness; Identity Education, Research and Training Needs; and Strengthen Public Participation. 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Forestry Programme 2014-2020	<ul style="list-style-type: none"> Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020. 	<p>Measures include the following:</p> <ul style="list-style-type: none"> Afforestation and Creation of Woodland NeighbourWood Scheme Forest Roads Reconstitution Scheme Woodland Improvement Scheme Native Woodland Conservation Scheme Knowledge Transfer and Information Actions Producer Groups Innovative Forest Technology Forest Genetic Reproductive Material Forest Management Plans 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Peatlands Strategy (draft/in preparation)	<ul style="list-style-type: none"> This Draft Strategy, prepared by the National Parks and Wildlife Service, will, when finalised, establish principles in relation to Irish peatlands in order to guide Government policy. The Draft Strategy aims to provide a framework for which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution. 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
National Biodiversity Action Plan	<ul style="list-style-type: none"> This Action Plan sets out an integrated strategy for collective delivery of the potential benefits of bioenergy resources across the agriculture, enterprise, transport, environment and energy sectors. 	Includes detailed actions for the electricity sector, transport fuel sector, heat sector, research and development sector.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme (draft/in preparation)	<ul style="list-style-type: none"> The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland. 	<p>CFRAM Studies are being undertaken for all River Basin Districts.</p> <p>The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. Flood Maps have been published and Draft Flood Risk Management Plans are being consulted on.</p>	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Regional Planning Guidelines for the Greater Dublin area 2010-2022 (RPGs)	<ul style="list-style-type: none"> Provide a long-term strategic planning framework for the development of regions 	<ul style="list-style-type: none"> Aim to give regional effect to the National Spatial Strategy Guide the Development Plans and lower tier plans of planning authorities 	Requirement of the Planning and Sustainable Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Dún Laoghaire-Rathdown County Development Plan 2016-2022	<ul style="list-style-type: none"> Reinforces higher level plans planning policy with the promotion of the intensification and consolidation of the County. 	<ul style="list-style-type: none"> It sets out the strategic planning and sustainable development of County Dún Laoghaire-Rathdown over its lifetime It incorporates a considerable number of policies and objectives relating to the future development of the Plan area 	Requirement of the Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Development Plans including those for adjoining local authorities Dublin City Council, South Dublin and Wicklow	<ul style="list-style-type: none"> Outlines planning objectives for County/Town development over six year lifespan (including greenway and other transport objectives) Strategic framework for planning and sustainable development including those set out in National Spatial Strategy and Regional Planning Guidelines 	<ul style="list-style-type: none"> Identifies future infrastructure, development and zoning required Protects and enhances amenities and environment Guides planning authority in assessing proposals 	Requirement of the Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Local Area Plans	<ul style="list-style-type: none"> Statutory documents which provide detailed planning policies to ensure proper planning and sustainable development of area Set out objectives for future planning and development 	<ul style="list-style-type: none"> Identifies issues of relevance to the area and outlines principles for future development of area Is consistent with relevant County/Town Development Plans, National Spatial Strategy and Regional Planning Guidelines 	<p>Local Government (Planning and Development) Act, 1963 (as amended)</p> <p>Requirement of the Planning and Development (Amendment) Act (2010)</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
<p>Greater Dublin Area Cycle Network Plan</p> <p>Note that this Plan incorporates the Sutton to Sandycove cycleway and the parts of the National Cycle Route Network, including parts of the Draft Dublin to Galway Greenway Plan</p>	<ul style="list-style-type: none"> Sets out a ten year cycling strategy for Counties Dublin, Kildare, Meath and Wicklow Plan to increase regions cycle network dramatically The Plan refers to the EuroVelo International Cycle Route Network of the European Cyclists Federation is a network of 15 long distance cycle routes connecting and uniting the whole European continent. Two of these routes are in Ireland including EV2 from Galway through Dublin to London, Berlin, Warsaw and Moscow. 	<p>Aims to identify and determine:</p> <ul style="list-style-type: none"> The Urban Cycle Network at the Primary, Secondary and Feeder level The Inter-Urban Cycle Network linking the relevant sections of the Urban Network including the elements of the National Cycle Network within the Greater Dublin Area including linkages to key transport locations outside of urban areas such as airports and ports The Green Route Network being cycle routes for development of tourist, recreational and leisure purposes. 	not applicable	The Greater Dublin Area Cycle Network Plan has been integrated into the Transport Plan.
Regional & County Green Infrastructure Plans/Strategies – including any relevant Waterways Ireland plans/programmes	<ul style="list-style-type: none"> Promotes the maintenance and improvement of green infrastructure in an area Aims to protect and enhance biodiversity and habitats 	not applicable	not applicable	In combination with these plans/strategies / programmes the Transport Plan will contribute towards smarter travel and associated positive environmental effects.
River Basin Management Plans and associated Programmes of Measures Including Eastern CFRAMS	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies at River Basin District (RBD) level Preserve, prevent the deterioration of water status and where necessary improve and maintain “good status” of water bodies in that RBD Promote sustainable water usage 	<ul style="list-style-type: none"> Aims to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive Identifies and manages water bodies in the RBD Establishes a programme of measures for monitoring and improving water quality in the RBD Involves the public through consultations 	<p>Requirement of the Water Framework Directive (2000/60/EC)</p> <p>European Communities (Water Policy) Regulations, 2003 (SI No. 722) (as amended)</p> <p>Guidelines for the Establishment of River Basin District Advisory Councils (RBDAC)</p>	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Water Quality Management Plans	<ul style="list-style-type: none"> Ensure that the quality of waters covered by the plan is maintained Maintain and improve the quantity and quality of water included in the Plan scope 	<ul style="list-style-type: none"> Monitoring of water bodies against quality standards Outlines management programmes for water catchments Purpose is to maintain and improve the quantity and quality of groundwater 	Water Pollution Acts 1977 to 1990	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Management Plans for European sites	Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for Special Area of Conservation involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans.	Integrated Management Plans can be practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities.	Habitats Directive	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Greater Dublin Area Transport Strategy 2016 Investing in our Transport Future – A Strategic Investment Framework for Land Transport Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009) Ireland's First National Cycle Policy Framework (2009)	Outlines policies for how a sustainable travel and transport systems can be achieved	<ul style="list-style-type: none"> Others lower level aims include: <ul style="list-style-type: none"> reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies strengthening institutional arrangements to deliver the targets 	not applicable	In combination with this Policy the Plan will contribute towards smarter travel and associated positive environmental effects.
Outputs from the South Eastern and Shannon Catchment Flood Risk Assessment and Management Programme	<ul style="list-style-type: none"> The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland. 	CFRAM Studies are being undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. In 2014, draft Flood Maps will be published. The final output from the studies will be CFRAM Plans, to be finalised in 2017. The Plans will define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

Directive/ Protocol/ Strategy/Plan/	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the Local Area Plan
Waste Management Plan for Dublin Region	The regional plan provides the framework for waste management for a period of six years and sets out a range of policies and actions in order to meet specified mandatory and performance targets. The strategic vision of the regional waste plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy.	Strategic objectives: <ul style="list-style-type: none"> • Policy & Legislation • Prevention • Resource Efficiency • Coordination • Infrastructure Planning • Enforcement & Regulations • Protection • Other Wastes 	European Directive (2008/98/EC) on Waste (Waste Framework Directive); Council Decision (200/532/EC) establishing a list of wastes; and Regulation (1013/2006) on the shipments of waste	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Freshwater Pearl Mussel Basin Management Plans	<ul style="list-style-type: none"> • Identifies the current status of the species and the reason for loss or decline • Identifies measure required to improve or restore current status 	<ul style="list-style-type: none"> • Identifies pressures on Freshwater Pearl Mussels for each of the designated populations in Ireland • Outlines restoration measures required to ensure favourable conservation status 	Requirement of Water Framework Directive (2000/60/EC) and Habitats Directive (92/43/EEC) European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

SEA ENVIRONMENTAL REPORT

APPENDIX II – NON-TECHNICAL SUMMARY

FOR THE

WOODBROOK-SHANGANAGH DRAFT LOCAL AREA PLAN 2017-2023

for: Dún Laoghaire-Rathdown County Council

Marine Road
Dún Laoghaire
Dublin



by: CAAS Ltd.

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MARCH 2017

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Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report for the Woodbrook-Shanganagh Draft Local Area Plan 2017-2023. The purpose of the Environmental Report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan.

What is an SEA?

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 appropriate stage of decision-making on a par with economic, social and other considerations.

Why is it needed?

The SEA has been carried out in order to comply with the provisions of the SEA Regulations and in order to improve planning and environmental management within Woodbrook-Shanganagh. The output of the process is an Environmental Report that should be read in conjunction with the Plan.

How does it work?

All of the main environmental issues in the area were assembled and presented to the team who prepared the Draft Plan. This helped them to devise a Draft Plan that protects whatever is sensitive in the environment. It also helped to identify wherever potential conflicts between the Draft Plan and the environment exist and enabled these conflicts to be mitigated.

The SEA was scoped in consultation with designated environmental authorities.

What is included in the Environmental Report that accompanies the Draft Plan?

The Environmental Report contains the following information:

- A description of the environment and the key environmental issues;
- A description and assessment of alternatives for the Plan;
- An assessment of the provisions of the Plan; and,
- Mitigation measures which set out to aid compliance with important environmental protection legislation - e.g. the Water Framework Directive, the Habitats Directive - and which will avoid/reduce the environmental effects of implementing the Plan.

What happens at the end of the process?

An SEA Statement is prepared which summarises, inter alia, how environmental considerations have been integrated into the Plan.

Section 2 The Draft Local Area Plan

2.1 Vision

The vision of the Draft Local Area Plan is to create a new compact sustainable residential community at Woodbrook-Shanganagh. The following elements will help deliver this vision:

- *To create an attractive residential neighbourhood at Woodbrook-Shanganagh where people will want to live through all stages of life.*
- *To create a walkable neighbourhood with key facilities within a 5-10min walk from future residential properties.*
- *To improve pedestrian and cycle connections to, and through, Shanganagh Park providing both strategic and local routes through the LAP area and into the wider area.*
- *To create a distinctive and vibrant community offering an attractive place to live and visit underpinned by a high standard of urban design.*
- *To achieve a thriving community with high-quality residential, community, civic and recreational amenities.*
- *To promote a modal shift to more sustainable modes of transportation – with priority afforded to walking and cycling – to include the provision of a new DART Station at Woodbrook.*
- *To facilitate and accelerate the delivery of key infrastructure that will, in turn, enable development.*
- *To enhance the landscape, environmental and architectural heritage within the Plan Area.*
- *To implement the Site Framework Strategies for the two identified residential areas at Shanganagh Castle and Woodbrook and the objectives pertaining to the wider Plan Area.*

2.2 Relationship with other relevant Plans and Programmes

The Draft Plan sits within a hierarchy of land use forward planning strategic actions. The Plan must comply with relevant higher-level strategic actions and may, in turn, guide lower level strategic actions. The following sections identify a number of these strategic actions, further details of which are contained in the main Plan document. The Plan is at the lower level of the hierarchy in the context of national, regional and county level plans. The preparation of the Draft Local Area Plan has also been informed and influenced by various local government, national and international policy documents including (but not limited to) the following:

International

- Agenda 2000
- Local Agenda 21
- The European Spatial Development Perspective
- Various EU Directives

National

- National Spatial Strategy 2002 – 2020 (currently in the process of being replaced by a National Planning Framework)
- Ministerial Guidelines issued under Section 28 of the Planning and Development Act 2000 (as amended)
- Smarter Travel 2009
- Catchment Flood risk Assessment and Management Studies
- Grid 25 and associated Implementation Plan

Regional

- Regional Planning Guidelines for the Greater Dublin Area 2010-2022
- Eastern River Basin Management Plan

County

- Dún Laoghaire-Rathdown County Development Plan 2016-2022

Regional Planning Guidelines

Dún Laoghaire-Rathdown, including Woodbrook-Shanganagh, is subject to the Regional Planning Guidelines for the Greater Dublin Area¹ 2010-2022 that provide a framework for the long-term strategic development of the Greater Dublin Area Region. The Guidelines do this through setting out goals, policies and objectives in relation to population targets, housing, infrastructure, economic development, environment, amenities, social infrastructure and community development, ensuring the successful implementation of the NSS at regional, county and local level.

Dún Laoghaire-Rathdown County Development Plan 2016-2022

The Dún Laoghaire-Rathdown County Development Plan 2016-2022 sets out the strategic planning and sustainable development of County Dún Laoghaire-Rathdown over its lifetime and is consistent with the Regional Planning Guidelines.

Environmental Protection Objectives

The Local Area Plan is subject to a number of high-level environmental protection policies and objectives with which it must comply. 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 Directive - 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 a good status.

¹ The Greater Dublin Area includes the geographical area of Dublin City, Dun Laoghaire- Rathdown, Fingal, South Dublin, Kildare, Meath, and Wicklow.

Section 3 The Environmental Baseline

3.1 Introduction

The environmental baseline of Woodbrook-Shanganagh is described in this section. This baseline together with the Strategic Environmental Objectives, which are identified further in the document, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Draft Plan and in order to determine appropriate monitoring measures. The environmental baseline is described in line with the legislative requirements encompassing the following components – biodiversity, flora and fauna, population, human health, soil, water, air and climatic factors, material assets, cultural heritage, landscape and the interrelationship between these components.

The lack of a centralised data source that could make all environmental baseline data for the Draft Plan area both readily available and in a consistent format posed a challenge to the SEA process. This difficulty is one that has been encountered while undertaking SEAs at local authorities across the Country and was overcome by investing time in the collection of data from various sources and through the use of Geographical Information Systems.

3.2 Likely Evolution of the Environment in the Absence of the Draft Plan

The 2006-2016 Woodbrook-Shanganagh Draft Local Area Plan contains provisions that contribute towards environmental protection and sustainable development within Woodbrook and Shanganagh. If the 2006 Plan was to expire and not be replaced by the new 2017 Plan, this would result in a deterioration of the planning and environmental protection framework. Although higher-level environmental protection objectives – such as those of the new 2016-2022 Dún Laoghaire-Rathdown County Development Plan and various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be less coordinated and controlled. Such development would have the potential to result in an increase in the occurrence of adverse effects on all environmental components, especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact.

Such adverse effects could include:

- Loss of biodiversity with regard to European Sites and Annexed habitats and species;
- Loss of biodiversity with regard to ecological connectivity and stepping stones;
- Loss of biodiversity with regard to designated sites including Wildlife Sites and species listed on Schedule 5 of the Wildlife Act 1976;
- Spatially concentrated deterioration in human health;
- Adverse impacts on the hydrogeological and ecological function of the soil resource;
- Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology;
- Increase in the risk of flooding;
- Failure to provide adequate and appropriate wastewater treatment;
- Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean;
- Increases in waste levels;
- Failure to contribute towards sustainable transport and associated impacts;
- Effects on entries to the Record of Monuments and Places and other archaeological heritage;
- Effects on entries to the Records of Protected Structures and other architectural heritage; and
- Occurrence of adverse visual impacts.

3.3 Biodiversity and Flora and Fauna

European Sites

Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the (former) Department of the Environment, Heritage and Local Government due to their conservation value for habitats and species of importance in the European Union.

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) due to their conservation value for birds of importance in the European Union. SPAs, along with SACs, comprise Ireland's Natura 2000 network – part of an EU-wide network of protected areas established under the Habitats Directive.

There are no European Sites occurring inside the Plan boundary; however, four SPAs and ten cSACs are located in vicinity of the Plan area (as shown on Table 3.1 and Figure 3.1).

Table 3.1 European Sites within 15km of the Plan area

European Sites		
Designation	Code	Site Name
cSAC	000713	Ballyman Glen
	000714	Bray Head SAC
	000725	Knocksink Wood
	003000	Rockabill to Dalkey Island
	002122	Wicklow Mountains
	000719	Glen Of The Downs
	000210	South Dublin Bay
	002249	The Murrough Wetlands
	000716	Carriggower Bog
	000206	North Dublin Bay
SPA	004172	Dalkey Islands
	004040	Wicklow Mountains
	004024	South Dublin Bay and River Tolka Estuary
	004186	The Murrough

Proposed Natural Heritage Areas

Natural Heritage Areas (NHAs) are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000.

Proposed NHAs (pNHA) were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated.

There are no NHAs or pNHAs occurring inside the Plan boundary. pNHAs in the vicinity of the Plan area are listed on Table 3.2 and mapped on Figure 3.2.

Table 3.2 pNHAs in the vicinity of the Plan area

Proposed Natural Heritage Areas		
Designation	Code	Site Name
pNHA	000714	Bray Head
	000719	Glen of Downs
	000730	The Murrough
	000716	Carrigower Bog
	001771	Vartry Reservoir
	001769	Great Sugar Loaf
	000724	Kilmacanoge Marsh
	001209	Glensamole Valley
	000991	Dodder Valley
	001754	Dargle River Valley
	000725	Knocksink Wood
	001202	Ballybetagh Bog
	000713	Ballyman Glen
	001755	Glanree Valley
	001768	Powerscourt Woodland
	001202	Ballybetagh Bog
	001207	Dingle Glen
	001211	Loughlinstown Woods
	001206	Dalkey Coastal Zone and Killiney
	001753	Fitzsimon's Wood
	000210	South Dublin Bay
	000206	North Dublin Bay

Overview of High Value Biodiversity

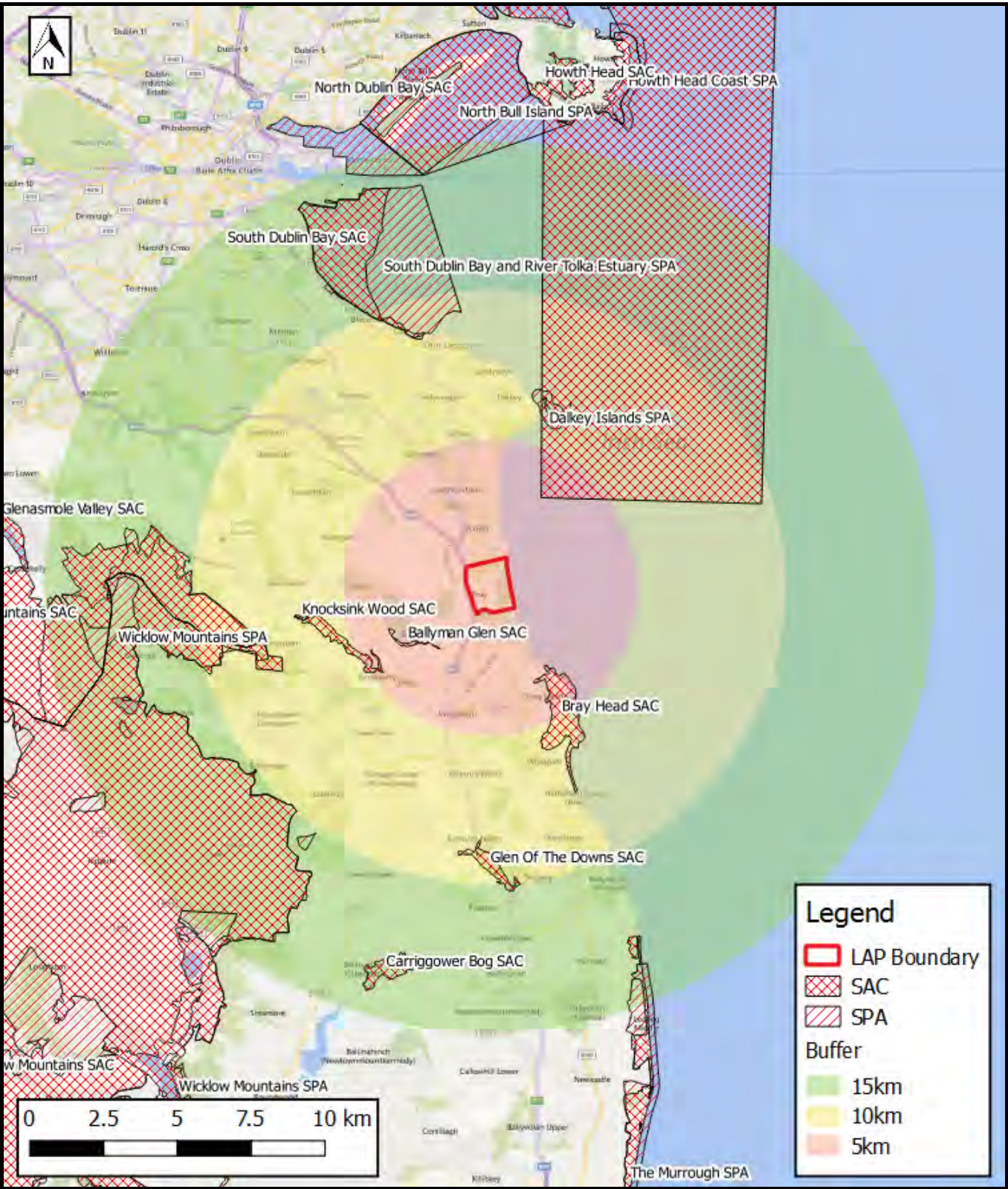
Much of the Woodbrook-Shanganagh LAP lands comprise undeveloped, greenfield, open space and recreational areas to the east of the M11 Motorway and between Shankill and Bray. This includes Shanganagh Park and Castle in the north, Woodbrook Golf Course in the east, various hedgerows and wooded areas. Other uses include Shanganagh Cemetery, dwellings, such those at Woodbrook Downs, the Wilford Interchange and community/health services.

The Irish Sea coastline along the eastern boundary of the Plan area comprises part of the Killiney Bay shoreline, extending from south of Shankill to just north of Bray in County Wicklow. Killiney Bay is important particularly for its sedimentary cliffs, displaying clear geological time sequences through the quaternary period. The shoreline also has an example of a drowned forest, visible in the sand only at extreme low tide.

Lands within the north of the Plan area, including parts of Shanganagh Park, are identified as being valuable to biodiversity on a County level.

Register of Protected Areas

The coastal waters to the east of the Plan area are included on RPAs (Register of Protected Areas) for surface waters relating to SAC habitats and bathing waters and the River Dargle to the south of the Plan area is included on the RPA for Salmonid species. The groundwater underlying the Plan area that is part of the wider groundwater area relating to bathing waters and drinking water sources.



C

Figure 3.1 SPAs and cSACs within 15km buffer area from the Plan boundary
Source: CAAS (2017)



Figure 3.2 pNHAs in the vicinity of the Plan area

Source: CAAS (2017)

3.4 Population and Human Health

Population

Dún Laoghaire-Rathdown had a population of 206,261 in 2011. This represents 16% of Dublin's population. The population grew by 12,223 persons or 6.3%, between 2006 and 2011, at a time when the National increase was 8.2%.

Preliminary Census data for 2016 indicates that Dún Laoghaire-Rathdown had a population of 217,274 in 2016. This represents 16% of Dublin's population. The population grew by 11,013 persons or 5.3% between 2011 and 2016, at a time when the National increase was 3.7%.

A key feature of population change in the County has been the uneven distribution of growth, with some areas experiencing strong population growth and other areas experiencing stagnation or decline.

Housing densities on the county level are high in the urban regions and comparatively low in the rural uplands. Spatial distribution of the population in the uplands is generally one-off housing, linear in parts. The majority of the population located in the lower-lying north, west, north, eastern and central parts of the county area.

There is currently a relatively low population density within the Plan area, in comparison with other parts of Dún Laoghaire-Rathdown, excluding the more rural areas to the south-west of the M11 Motorway.

The Plan area comprises undeveloped, greenfield, open space and recreational areas to the east of the M11 and between Shankill and Bray. This includes Shanganagh Park and Castle in the north, Woodbrook Golf Course in the east, various hedgerows and wooded areas. Other uses include Shanganagh Cemetery, dwellings, such those at Woodbrook Downs, the Wilford Interchange and community/health services.

Human Health

Human health has the potential to be impacted upon by environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to: the description of the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

The greatest health risk from radiation in Ireland is caused by radon. The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, occurs across the country. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer. Exposure to radon for long periods or at high concentrations can lead to lung cancer.

The number of homes within the Dún Laoghaire-Rathdown area with Radon levels above the reference level is within the normal range experienced in other locations across the country².

² Mapping available at <http://www.epa.ie/radiation/radonmap>

3.5 Soil

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. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action. Much of the Plan area is covered by soils that have not been sealed off by built development.

The audit of County Geological Sites (CGSs) in Dún Laoghaire - Rathdown was completed in 2014. County Geological Sites do not receive statutory protection like Natural Heritage Areas but receive an effective protection from their inclusion in the planning system. CGSs identified by this audit are included in Dún Laoghaire-Rathdown County Development Plan 2016-2022. Killiney Bay CGS (identified by this audit) is located along the eastern boundary of the Plan area.

Soil contamination has the potential to affect water quality, biodiversity, flora and fauna and human health. There are no known contaminated sites within the Plan area however there are two potentially contaminated sites to the south of the Plan area (at Corke Abbey and Corke Great).³

The Council are aware of the recent exposure of parts of a former dump to the north of Bray, south of the Plan area and are currently assessing remedial options for this issue.

3.6 Water

Potential Pressures on Water Quality and the Water Framework Directive

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following: sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants; discharges arising from diffuse or dispersed activities on land; abstractions from waters; and structural alterations to water bodies. Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving "good status". All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies that are currently unpolluted and improve polluted water bodies to a good status. 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 is on these River Basin Districts (RBDs). Woodbrook-Shanganagh falls within the Eastern RBD.

Surface Water

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. 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. 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 Crinken Stream is not attributed with a status as part of the current data on water quality available from the EPA (WFD Status 2010-2015). The Loughlinstown (north of Plan area) and Dargle (south of Plan area) Rivers are both identified as being of *good* status. The coastal waters to the east of the Plan area are identified as being of *high* status.

³ County Council's *Survey of Waste Contaminated Lands in County Dublin* (1988)

The coastal waters to the east of the Plan area are identified as being of *high* status.

Groundwater

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.

The status of the groundwater underlying the area of Woodbrook-Shanganagh is identified as being of *good* status.

The Geological Survey of Ireland (GSI) rates aquifers according to both their productivity and vulnerability to pollution. The Plan area is underlain by a locally important sand/gravel aquifer.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. The aquifer underlying the Plan area is classified as being of high vulnerability.

Flooding

Flooding is an environmental phenomenon that, as well have causing economic and social impacts, could in certain circumstances pose a risk to human health.

European Directive 2007/60/EC on the assessment and management of flood risks requires Member States to carry out a preliminary assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding. The Office of Public Works has prepared Preliminary Flood Risk Assessment (PFRA) maps that identify areas where the risks associated with flooding might be significant. These areas, Areas for Further Assessment (AFAs), are where more detailed assessment is required to more accurately assess the extent and degree of flood risk. Flood hazard and flood risk maps for AFAs were made available in 2015 and Flood Risk Management Plans⁴ are currently being finalised.

In 2009 the DEHLG published The Planning System and Flood Risk Management Guidelines for Planning Authorities. These are aimed at ensuring a more consistent, rigorous and systematic approach which will fully incorporate flood risk assessment and management into the planning system. Planning authorities are required to undertake flood risk identification, assessment and management processes as appropriate when preparing land use plans and in the consideration of applications for planning permission. A Strategic Flood Risk Assessment (SFRA) has been prepared that has informed the Plan. The OPW's PFRA mapping shows an elevated level of predicted fluvial flood risk in the west of the Plan area along the Crinken Stream as well as an elevated level of predicted coastal risk along the edge of the coast along the Plan's eastern boundary. Compatible zoning (Green Belt) is provided for in these areas. The OPW's historical flood mapping also shows a recurring flood event within the Plan area to the south of Woodbrook Downs.

3.7 Air and Climatic Factors

Ambient Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

In order to comply with air quality standards directives, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002).

⁴ <http://maps.opw.ie/floodplans/>

Woodbrook-Shanganagh is located within Zone A where air quality is currently identified as being “good”. The EPA’s (EPA, 2016) Air Quality in Ireland 2015 identifies that air quality in Ireland continues to be good, with no exceedances for the pollutants measured.

Noise - The Environmental Noise Directive

Noise is unwanted sound. 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. 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 statutory limit values.

The EPA’s noise mapping⁵ shows that the main sources of noise within the Plan area are transport generated and from the M11 Motorway, R119 Regional Road and DART line.

Climatic Factors

The key issue involving the assessment of the effects of implementing the plan on climatic factors relates to greenhouse gas emissions arising from transport. It is noted that the Plan contains a number of actions that respond to potential threats to environmental components arising from a changing climate.

Flooding (see Section 3.6) is influenced by climatic factors and the implications of climate change with regard to flood risk in relevant locations have been considered by the SFRA that has been undertaken for the Plan.

Ireland’s emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998. Travel is a source of:

1. Noise;
2. Air emissions; and
3. Energy use (42.2% of Total Final Energy Consumption in Ireland in 2015 was taken up by transport, the largest take up of any sector)⁶.

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development - and its associated impacts - can be minimised and the cost of service provision can be reduced. Maximising sustainable mobility will help Ireland meet its emission target for greenhouse gases under the 2020 EU Effort Sharing target which commits Ireland to reducing emissions from those sectors that are not covered by the Emissions Trading Scheme (e.g. transport, agriculture, residential) to 20% below 2005 levels. Subsequently, by 2030, Ireland is required to reduce its carbon emissions by up to 30% compared to 2005 levels.

3.8 Material Assets

Wastewater

The majority of existing properties within the Plan area are served by individual wastewater treatment systems/septic tanks. The future development of the Plan area is contingent upon the timely delivery of improved water infrastructure. Irish Water has responsibility for water supply and foul drainage within the Plan area and is progressing projects for the Plan area under the Old Conna/Woodbrook Water Supply and Drainage Scheme. Wastewater performance information published by the EPA⁷

⁵ <http://gis.epa.ie/Envision>

⁶ Sustainable Energy Ireland (2016) *Energy in Ireland 1990 – 2015*

⁷ EPA (2016) *Urban Waste Water Treatment in 2015*

identified that the Shanganagh WWTP passed all mandatory Wastewater Treatment Directive related requirements.

Drinking Water

The EPA's 'Drinking Water Report for Public Water Supplies 2015' (2016) Reports identify that microbiological compliance levels in Public Water Supplies in Dún Laoghaire-Rathdown were 100% in 2015. The most recent EPA Remedial Action List (Q4 of 2016) identified one water supply within the County (Roundwood) in need of improvement with respect to "treatment and management issues". The Remedial Action List identifies "Replacement of Callow Hill Tunnel, use of covered storage reservoir and upgrade of disinfection system" for solving these issues.

Waste Management

The total collected and brought household waste in Dún Laoghaire-Rathdown in 2012 amounted to 66,453(t). This is a reduction on 2011 figures where 66,707(t) was collected and brought⁸. The County Development Plan commits the Council to continue to work in tandem with EU and National policy and the Environmental Protection Agency in the implementation and execution of its waste management responsibilities and duties throughout the duration of the lifetime of the Plan. Development under the LAP will be subject to these provisions.

3.9 Cultural Heritage

Archaeological Heritage

Dún Laoghaire-Rathdown's archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts. The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped. The following are entries to the Record of Monument and Places within the Plan area as identified by the National Monuments Service: Burial site (DU026-067), in the south west of the Plan area; Shanganagh Castle (DU026-120), in the north of the Plan area; Martello Tower (DU026-070), in the south east of the Plan area; and Fulacht Fiadh at Shanganagh (DU026-116).

Architectural 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) included in the Plan is legislated for under Section 12 and Section 51 of the Planning and Development Act 2000 as amended. Protected Structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. These structures within the Plan area include: Beauchamp House, Corke Lodge and The Coach House, Woodbrook House, Woodbrook House Lodge, Woodbrook Front Lodge, Wilford, Woodbrook Side Lodge, Shanganagh Marble and Stone Centre and railings, Askefield House, Saint James Church and railings, The Aske, Shanganagh Castle and Crinken Lodge.

3.10 Landscape

There is one Landscape Character Area (Shanganagh LCA) identified within the Plan area as described below.

There is a commitment given in the Plan 2016-2022 to review the Landscape Character Areas when new National guidance is issued.

⁸ EPA (2014) National Waste Report 2012

Key Characteristics of Dún Laoghaire-Rathdown LCA 12: Shanganagh⁹

This enclosure is essentially the area between Shankill and Bray which takes in the cemetery at Shanganagh, Shanganagh Park and Woodbrook golf course. This enclosure also includes the land to the west between the Dublin Road and the N11. The Dublin Road from Shankill to Bray traverses this enclosure. Big houses include The Aske, Beauchamp, Wilford, Woodbrook and Shanganagh House. When viewed from Killiney Hill and also from Carrickgollogan this area is effectively indistinguishable from the overall plain. The entire expanse appears to be dominated by low-density housing. When viewed from the Dublin Road, the trees prevent any sense of a vista but instead provide for a tree line Avenue.

The LAP promotes the sylvan historic landscape character of the Woodbrook-Shanganagh Area as an important element in creating a distinct identity and sense of place for the new residential developments. In this regard, it seeks to protect the visual amenity of heritage sites and features, as well as key historic views and vistas from within and without the plan area in order to conserve its integrity. The historic boundary walls and mature trees along the Old Dublin Road are considered an intrinsic quality and the council will endeavour to retain these features as part of any development proposals or road improvement schemes, subject to safety considerations.

The Council will seek to ensure high quality public realm that subtly embodies the essence of the demesne landscape character which defines the area. Particular attention will be at key entrances to Shanganagh Castle, Park and Cemetery, the new civic space or village green to be delivered as part of a neighbourhood centre on the Woodbrook lands and also key nodal points in the residential lands, the latter in the interests of legibility.

Efforts will also be made to re-establish the historic walking routes and key views which were an important element of the overall landscape approach of an historic estate. These efforts will help to safeguard the identity of the area and improve permeability or connectivity between the key residential lands, Shanganagh Castle and the Park.

There are a number of existing long distance views from the LAP towards the mountains and the sea, as well as a more localised vistas. This includes the prospect to be preserved towards Carrickgollogan as listed in Policy LHB6: Views and Prospects in the County Development Plan. In addition, the Development Plan also includes protected views eastwards over the LAP Area from Ferndale Road and Quarry Road.

3.11 Appropriate Assessment and Flood Risk Assessment

Appropriate Assessment (AA) Screening has been undertaken alongside the preparation and adoption of the Draft Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The AA Screening concluded that the Draft Plan is not foreseen to give rise to any significant adverse effects on designated European sites, alone or in combination with other plans or projects. A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the Draft Plan. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG, 2009). Various policies and objectives have been integrated into the Plan through the SEA, AA and SFRA processes. The preparation of the Plan, SEA, AA Screening and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Draft Plan and the SEA.

3.12 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the Draft Plan can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from implementation of the Plan. The SEOs are set out under a range

⁹ Dún Laoghaire-Rathdown Landscape Character Areas

of topics and are used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which potential adverse impacts may occur. SEOs are distinct from the objectives of the Plan and are developed from international and national policies that generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and which are intended to be implemented within the Plan area.

Table 3.3 Strategic Environmental Objectives

Environmental Component	Strategic Environmental Objectives
Biodiversity, Flora and Fauna	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ¹⁰
	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ¹¹ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
Population and Human Health	To protect human health from exposure to incompatible landuses
	To protect use of and access to amenities including open space, parklands, playing fields and the coast
Soil	To avoid damage to the hydrogeological and ecological function of the soil resource
Water	To maintain and improve, where possible, the quality and status of surface waters
	To prevent pollution and contamination of groundwater
	To comply as appropriate with the provisions of the Flood Risk Management Guidelines for Planning Authorities
Material Assets	To serve new development with adequate and appropriate wastewater treatment
	To serve new development with adequate drinking water that is both wholesome and clean
	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
Air and Climatic Factors	To contribute towards sustainable mobility and help to facilitate the achievement of higher level targets relating to air pollution greenhouse gas emission targets
Cultural Heritage	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	To protect architectural heritage including entries to the Record of Protected Structures and their context
Landscape	To protect use of and access to amenities including open space, parklands, playing fields and the coast

¹⁰ 'Annexed habitats and species' refer to those listed under Annex I, II and IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

¹¹ The Planning and Development Act 2000 as amended defines a 'wildlife site' that includes Natural Heritage Areas (NHAs) and proposed NHAs.

Section 4 Alternatives

4.1 Introduction

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

The description of the environmental baseline (both maps and text) and Strategic Environmental Objectives (SEOs) are used in the evaluation of alternatives for the Draft Local Area Plan (LAP) for Woodbrook-Shanganagh.

4.2 Description of Alternatives

4.2.1 Density Alternatives

There are a number of alternatives available to the LAP for density of Residential units within the Shanganagh Castle and Woodbrook lands.

The selection of densities has implications for:

- The type (apartments, houses) and mix of residential units which will be provided for;
- The height of residential blocks; and
- The likelihood of development occurring on the site after adoption of the LAP.

Taking into account the need to comply with the parameters set down by the County Plan, available alternatives for the LAP relating to densities were identified as follows:

- **High (Res3)** density mix resulting in an average net density of 80-100+ units/hectare;
- **Medium (Res2)** density mix resulting in an average net density of 60-80 units/hectare; and
- **Low (Res1)** density mix resulting in an average net density of 45-60 units/hectare.

4.2.2 Shanganagh Castle Site Framework Alternatives

Two site framework alternatives for development at Shanganagh Castle were identified during the Plan-preparation process as follows:

Shanganagh Castle Site Framework Alternative 1 (see Figure 4.1), which aligns with the 2006 Woodbrook/Shanganagh Local Area Plan, provides for:

- Residential development throughout most of the Shanganagh Castle Site and the Castle building;
- The retention of Shanganagh Park in its current form including pitches for sports;
- Mixed use commercial/community/retail/residential area at park edge; and
- A bus connection through the park.

Shanganagh Castle Site Framework Alternative 2 (see Figure 4.2) provides for:

- Provides for reduced residential development within the Shanganagh Castle Site development parcel;
- Development is informed by the setting of the Castle and residential development is not provided for adjacent to the Castle building;
- Provides for existing and improved uses at Shanganagh Park (including pitches for sports) as well as providing for areas for playgrounds and biodiversity areas where maintenance is managed to maximise benefit to biodiversity;
- Restores views towards the coast from the Castle;
- Incorporates public open space at pond into the Park; and

- Facilitates the Castle to become a publically accessible community hub.

Shanganagh Castle Site Framework Alternative 3 (see Figure 4.3) provides for:

- Provides for reduced residential development within the Shanganagh Castle development parcel;
- Development is informed by setting of the Castle and residential development is not provided for adjacent to the Castle building
- Site Framework Alternative 3 has been prepared with a lower density of development than Alternatives 1 or 2; and,
- A significant quantum of undeveloped land and public open space provision.

4.2.3 Woodbrook Site Framework Alternatives

Two site framework alternatives for development at Woodbrook were identified during the Plan-preparation process as follows:

Woodbrook Site Framework Alternative 1 (see Figure 4.4), which aligns with the 2006 Woodbrook/Shanganagh Local Area Plan:

- Provides for two commercial centres within the Woodbrook area; and
- Two distinct neighbourhood nodes.

Woodbrook Site Framework Alternative 2 (see Figure 4.5):

- Provides for one neighbourhood centre within the Woodbrook area;
- Reduction in commercial activity; and
- One central distinct neighbourhood / village green area.

Woodbrook Site Framework Alternative 2 (see Figure 4.6) provides for:

- Site Framework Alternative 3 has been prepared with a lower density of development than Alternatives 1 or 2;
- This alternative provides significant levels of the lower (Res1) density band zoning;
- A higher quantum of public open space; and
- A higher quantum of undeveloped land surrounding the proposed school site and village green area.



Figure 4.1 Shanganagh Castle Site Framework Alternative 1

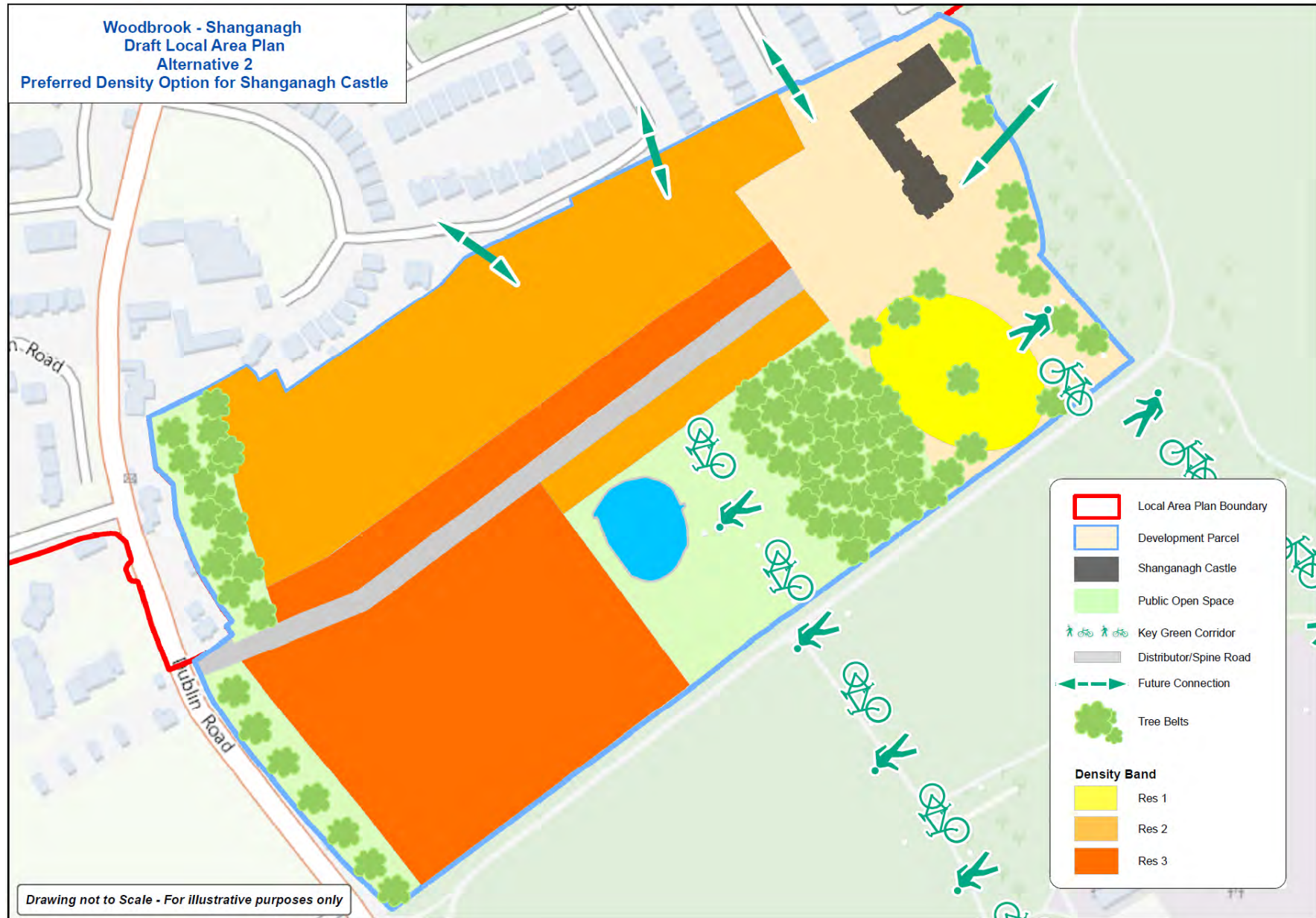


Figure 4.2 Shanganagh Castle Site Framework Alternative 2

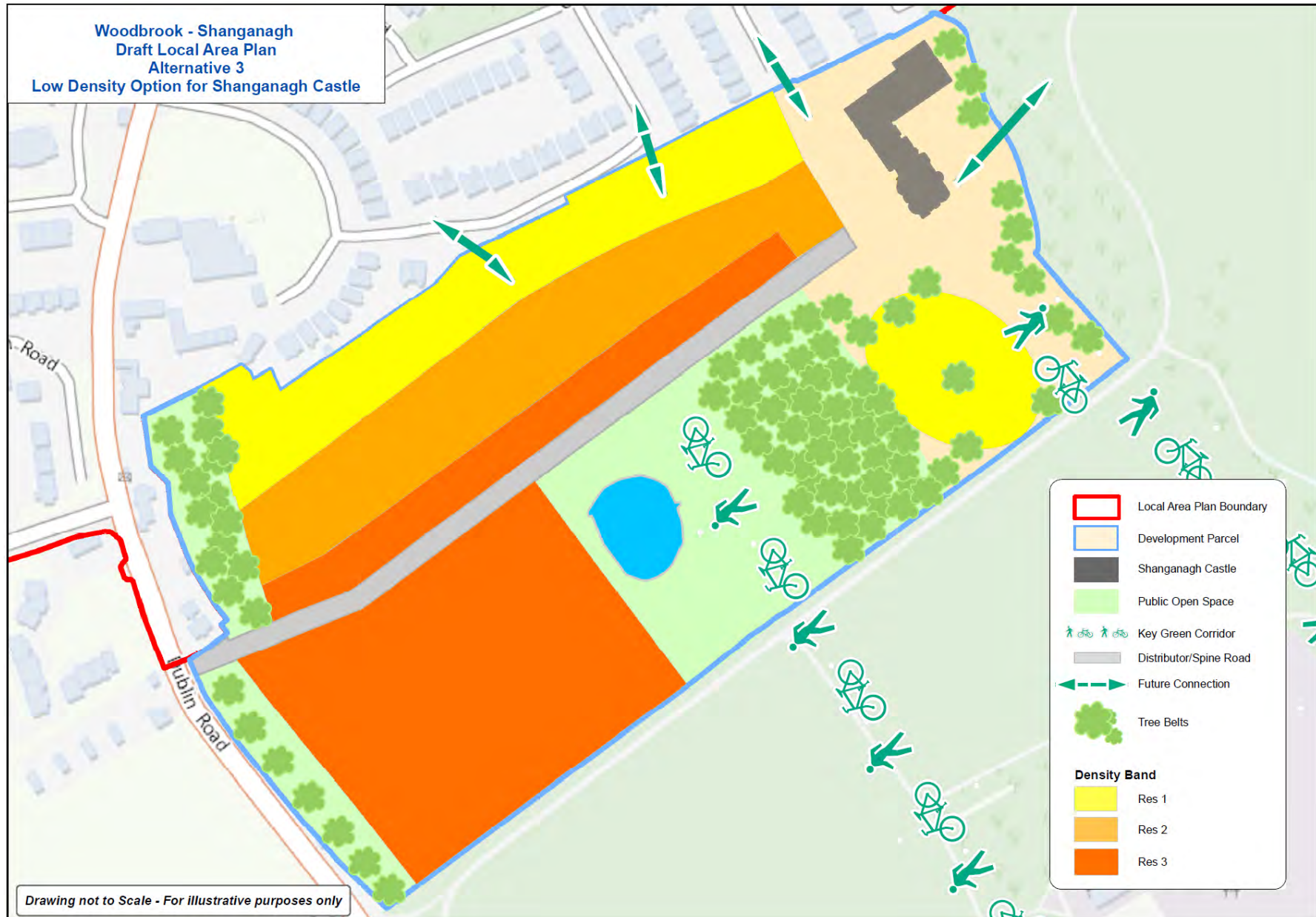


Figure 4.3 Shanganagh Castle Site Framework Alternative 3

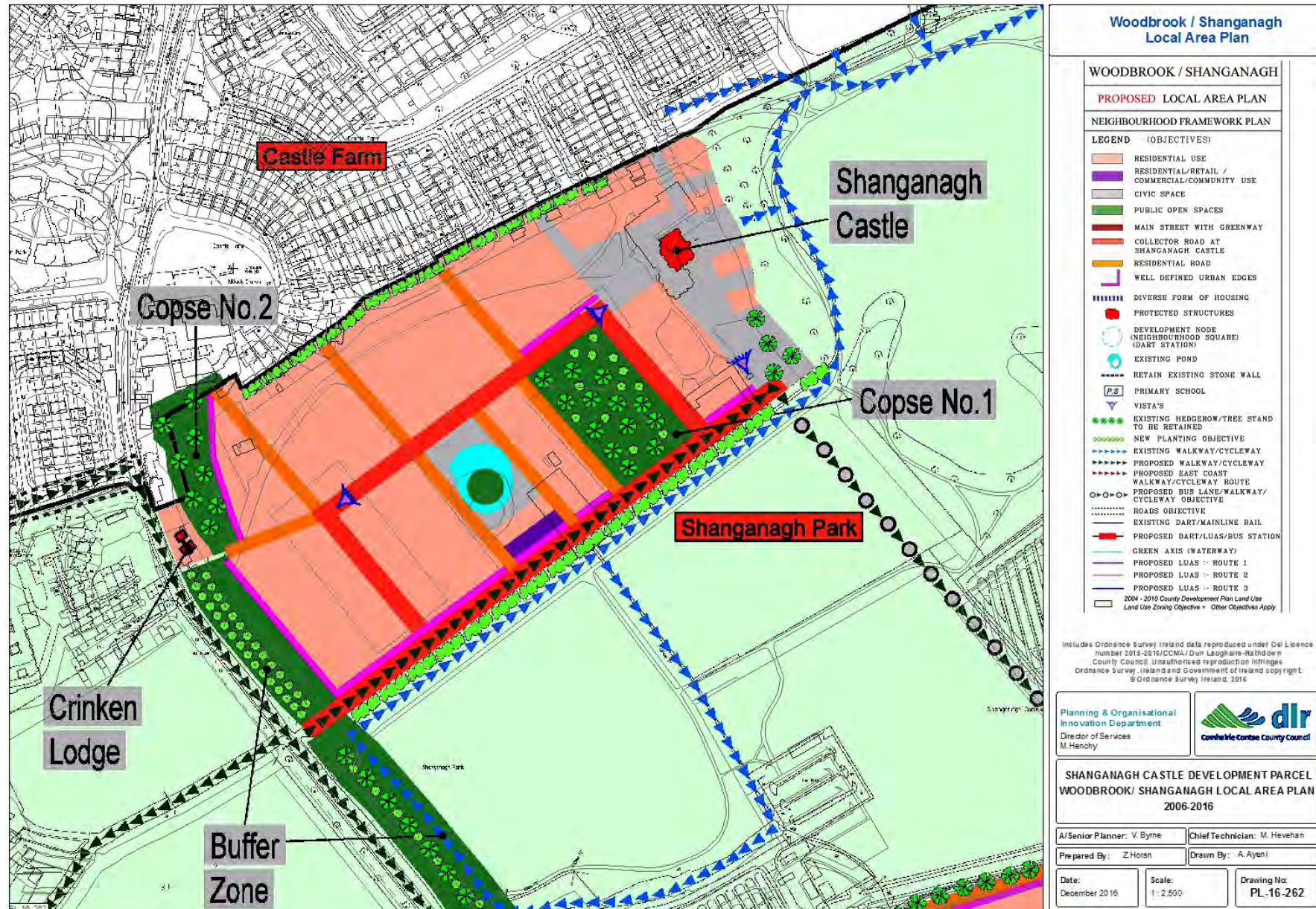


Figure 4.4 Woodbrook Site Framework Alternative 1



Figure 4.5 Woodbrook Site Framework Alternative 2

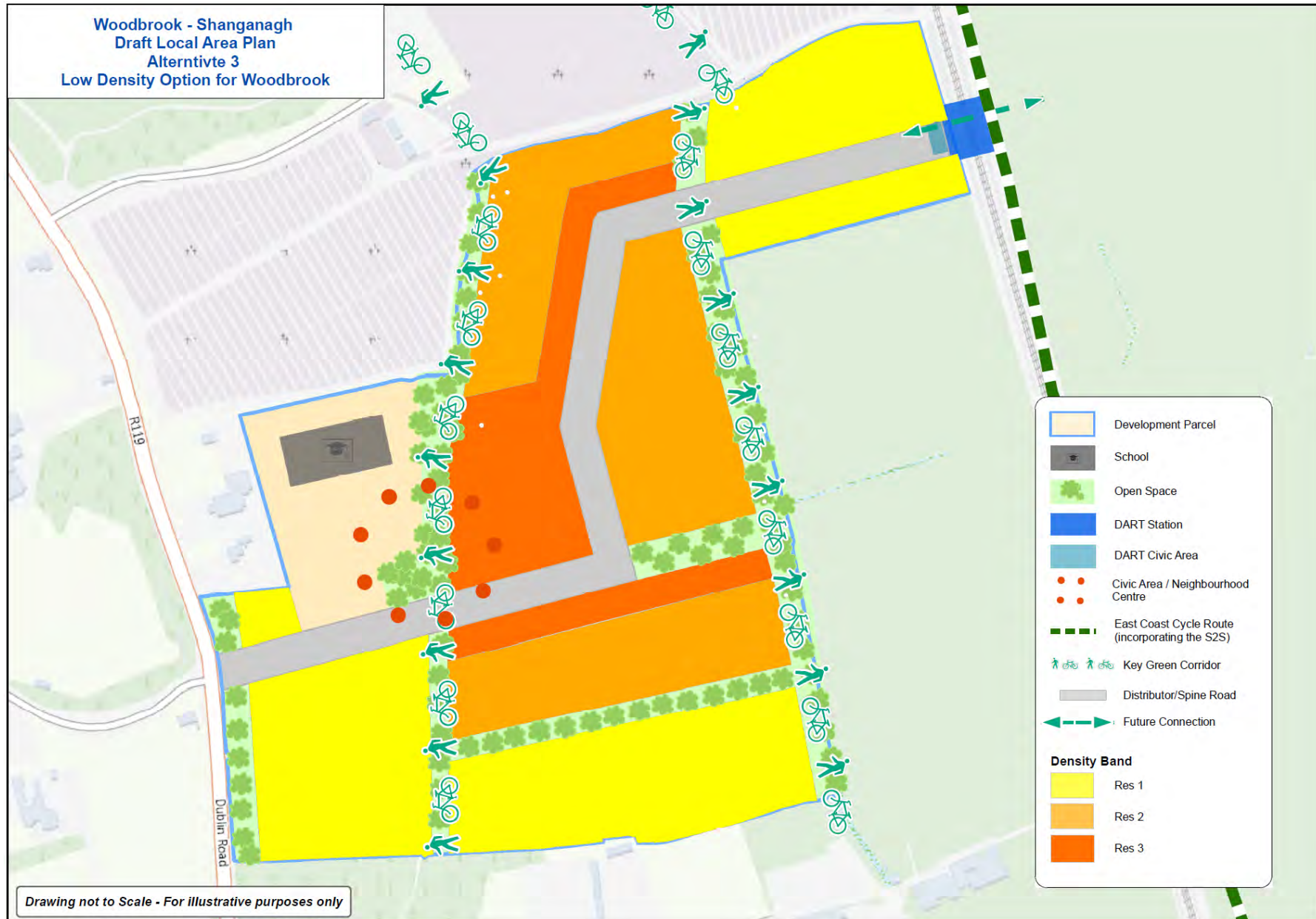


Figure 4.6 Woodbrook Site Framework Alternative 3

4.3 Evaluation of Alternatives

4.3.1 Significant Positive Effects Common to all Alternatives

There are a number of environmental benefits that are provided for by the parameters set down by the County Development Plan within which the LAP must be prepared.

There is an established need for residential and associated development within Dún Laoghaire-Rathdown and the wider Greater Dublin Area.

The Shanganagh Castle and Woodbrook A1-zoned lands at which development within the LAP area will be primarily focused:

- Contain relatively low levels of environmental sensitivities and designations, in comparison to, for example, other lands within the County and beyond including coastal fringes and upland areas (such as in the more rural areas of the County and parts of County Wicklow);
- Are adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145); and
- Are located within a wider area that contains services and employment opportunities.

By providing for growth and development in this area, each of the alternative scenarios would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on the following environmental components:

- Biodiversity and flora and fauna;
- Population and human health;
- Soil;
- Water (status of rivers and groundwater);
- Flood risk, including risk from rising sea levels and eroding coasts;
- Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases);
- Material Assets (provision of adequate and appropriate wastewater and drinking water services and waste management);
- Cultural Heritage (architectural and archaeological heritage); and
- Landscape and amenities.

4.3.2 Potentially Significant Adverse Effects Common to all Alternatives

All of the alternatives provide for the development of the site to some extent. Such development would have the potential to conflict with environmental components – to different degrees. Potentially significant adverse environmental effects arising from this conflict are common to all alternatives and are described on Table 4.1 below. For the Plan, these effects will be mitigated by measures that have been integrated into the Plan.

Table 4.1 Potentially Significant Adverse Environmental Effects common to all alternatives

Environmental Component	Potential Effect
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. o Habitat loss, fragmentation and deterioration, including patch size and edge effects. o Disturbance and displacement of protected species.
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health/interactions if effects upon environmental vectors such as water and air are not mitigated. o Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including open space, parklands, playing fields and the coast.
Soil	<ul style="list-style-type: none"> o Damage to soil function.
Water	<ul style="list-style-type: none"> o Adverse impacts upon the status and quality of water bodies, including bathing waters, arising from changes in quality, flow and/or morphology. o Increase in the risk of flooding.
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (emissions to air, including greenhouse gas emissions and energy usage).
Material Assets	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate wastewater treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity ensures the mitigation of potential conflicts). o Increases in waste levels.
Cultural Heritage	<ul style="list-style-type: none"> o Effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including open space, parklands, playing fields and the coast.

4.3.3 Density Alternatives

Three alternatives for average net density bands within the Shanganagh Castle and Woodbrook lands were identified as follows:

- **Higher (Res3)** (80-100+ units/hectare);
- **Medium (Res2)** (60-80 units/hectare); and
- **Lower (Res1)** (45-60 units/hectare).

The selection of densities has implications for the type (apartments, houses) and mix of residential units which will be provided for; the height of residential blocks; and the likelihood of development occurring on the site after adoption of the LAP. Differences in average net densities are most likely to result in differences in environmental effects across the following environmental components:

- Cultural heritage (including designated archaeology and architecture) and its setting e.g. Shanganagh Castle and its setting. The **higher (Res3)** average net density band would present the greatest amount of potential conflicts in this regard.
- Landscape and amenity issues including the sylvan setting of Shanganagh Castle, the use of open space and parklands surrounding Woodbrook and Shanganagh for recreation, views to the coast. The **higher (Res3)** average net density band would present the greatest amount of potential conflicts in this regard.

Differences are also likely to arise with respect to the extent to which each alternative would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced (see positive effects arising described under Section 4.3.1). Given the location of the LAP lands and existing and planned public transport infrastructure and services, including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145), it is considered that the **lower (Res1)** average net density band would not facilitate a sufficiently high level of development taking into account the development potential of the site whereas the **higher (Res3)** and **medium (Res2)** bands would.

4.3.4 Shanganagh Castle Site Framework Alternatives

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. Open space provision would be excessive - when taken together with undeveloped space around the Castle this would be in the region of 40% of the overall site area which would impact upon the delivery of the required densities within appropriate height parameters.

Two site framework alternatives for development at Shanganagh Castle were given further consideration. Differences between these two alternatives and resultant differences in environmental effects are as follows:

- Extent of residential development nearby Shanganagh Castle

Alternative 1 provides for residential development throughout most of the Shanganagh Castle Site, thereby presenting potential adverse effects upon the protection of architectural and archaeological heritage (including setting) that would be difficult to mitigate. **Alternative 2** provides for a reduced amount of residential development within the Castle Site thereby making effects less difficult to mitigate. **Alternative 2** provides for greater public open space in this area, including for the protection of the pond and surrounding lands, and facilitates the restoration of views towards the coast. Through these provisions, **Alternative 2** directly benefits the protection of architectural and

archaeological heritage (including setting), ecological connectivity and use of and access to amenities.

- Plans for Shanganagh Castle

Alternative 2 facilitates Shanganagh Castle to become a publically accessible community hub close to existing and new residential development. This would contribute towards sustainable mobility and associated reductions in energy usage and transport emissions. By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, **Alternative 2** makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage.

- Treatment of Shanganagh Park

Alternative 1 provides for the retention of Shanganagh Park in its current form (including pitches for sports) – this would help to protect use of and access to amenities – however it would provide a bus link through the park that could conflict with the amenity of the park. **Alternative 2** provides for existing and improved uses at Shanganagh Park (including pitches for sports) as well as providing for areas for playgrounds and biodiversity areas where maintenance is managed to maximise benefit to biodiversity. Therefore **Alternative 2** enhances and expands amenity uses as well as contributing towards the enhancement of biodiversity.

4.3.5 Woodbrook Site Framework Alternatives

Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration as the resultant densities would be too low and would not achieve the required residential units as set out within the CDP core strategy. There would be excessive provision of the lower/Res 1 density band, excessive 'undeveloped' land around the school resulting in inefficient use of land within the site and limited community / non-residential use provision (only the school is indicated in this option).

Two site framework alternatives for development at Woodbrook were given further consideration. Differences between these two alternatives and resultant differences in environmental effects are as follows:

- Neighbourhood/Commercial Centres

Alternative 1 provides for two Neighbourhood/Commercial Centres within the Woodbrook area while **Alternative 2** provides for one Neighbourhood/Commercial Centre. It was considered by the Council that one centre would be more likely to ensure the viability of any retail or commercial component.

Therefore **Alternative 2** would be more likely to achieve the successful development of the site and associated positive environmental effects¹².

- Public Open Space

Both alternatives provide for public open space, including green corridors, throughout the site thereby contributing towards the enhancement and protection of amenity and biodiversity.

¹² By providing for growth and development in this area, each of the alternative scenarios would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on various environmental components (see Section 4.3.1).

4.4 The Selected Alternatives

The Plan was developed by the Planning Team and placed on public display as the Draft Plan having regard to both:

1. The environmental effects which were identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects which also considered by the Council.

Regarding **density alternatives**, the Plan applies an absolute minimum net density of 60 units per hectare and encourages higher densities within each development parcel. The approach provides for a specified range of different density bands that allow for flexibility and the attainment of higher densities if required or appropriate. Densities greater than 60 units per hectare would be encouraged however the Plan allows for exceptional circumstances for variations or deviations to be considered.

Regarding **Shanganagh Castle Site Framework** Alternatives, **Alternative 2** was selected over Alternative 1¹³.

Regarding **Woodbrook Site Framework** Alternatives, **Alternative 2** was selected over Alternative 1¹⁴.

Table 5.1 in details the overall findings of the assessment with respect to the Plan that was developed from the selected alternatives for the Plan.

By complying with appropriate mitigation measures – these are identified at Section 9 of this report - potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Residual effects are those that arise after mitigation. Mitigation measures are applied to potential adverse effects as indicated by Table 9.1 in Section 9.

¹³ Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration – see Section 4.3.4.

¹⁴ Note that Site Framework Alternative 3 was discounted at an earlier stage and not given further consideration – see Section 4.3.5.

Section 5 Overall Findings of Evaluation of Policies and Objectives

Table 5.1 details the overall findings of the SEA of Draft Plan provisions. This table details: significant positive effects, likely to occur; potential effects, if unmitigated; residual adverse effects (considering the extent of detail provided by the Draft Plan and assuming that all mitigation measures are complied with by development). Environmental impacts which occur, if any, will be determined by the nature and extent of multiple or individual projects and site specific environmental factors. Avoidance of conflict with SEOs and the environment is dependent upon compliance with the mitigation measures which have emerged through the SEA, AA and SFRA processes and which have been integrated into the Draft Plan.

In summary:

- There are a number of environmental benefits that are provided for by the parameters set down by the County Development Plan within which the LAP must be prepared.
- The Shanganagh Castle and Woodbrook A1-zoned lands at which development within the LAP area will be primarily focused:
 - Contain relatively low levels of environmental sensitivities and designations, in comparison to, for example, other lands within the County and beyond including coastal fringes and upland areas (such as in the more rural areas of the County and parts of County Wicklow);
 - Are adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145); and
 - Are located within a wider area that containing services and employment opportunities.
- By providing for growth and development in this area, the Plan would be likely to reduce the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. This would be likely to result in significant positive environmental effects on the following environmental components:
 - Biodiversity and flora and fauna;
 - Population and human health;
 - Soil;
 - Water (status of rivers and groundwater);
 - Flood risk, including risk from rising sea levels and eroding coasts;
 - Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases);
 - Material Assets (provision of adequate and appropriate wastewater and drinking water services and waste management);
 - Cultural Heritage (architectural and archaeological heritage); and
 - Landscape and amenities.
- The Plan protects and enhances amenity uses at Woodbrook-Shanganagh and facilitates the restoration of views towards the coast from Shanganagh Castle.
- By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, the Plan makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage.

- As the Plan provides for development at this site, potential conflicts with environmental components would arise, including those relating to the environmental components listed above (biodiversity and flora and fauna etc.). These conflicts will be mitigated to the extent that the only adverse effects occurring will be those detailed on Table 5.1 overleaf.

Table 5.1 Overall Findings – Effects arising from the Selected Alternatives for the Draft Plan

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> • Facilitates lower overall effects on ecology (including designated sites, ecological connectivity and habitats) – by reducing the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. • Protects biodiversity areas in Shanganagh Park where maintenance is managed to maximise benefit to biodiversity. • Provides for the protection of public open space including trees and ecological connectivity • Facilitates protection of ecology with respect to the provision of wastewater services. • Facilitates contribution towards the protection of ecology as a result of contributing towards the protection of environmental vectors, including water. 	<ul style="list-style-type: none"> • Arising from both construction and operation of development and associated infrastructure: loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna. • Habitat loss, fragmentation and deterioration, including patch size and edge effects. • Disturbance and displacement of protected species. 	<ul style="list-style-type: none"> • Loss of an extent of non-protected habitats and species arising from the replacement of semi-natural land covers with artificial surfaces.
Population and Human Health	<ul style="list-style-type: none"> • Facilitates contribution towards the protection of human health as a result of contributing towards the protection of environmental vectors, including water. • Facilitates protection of human health with respect to the provision of wastewater services and the provision of transport infrastructure integrated with land use planning – and associated interactions with sustainable mobility, emissions and energy usage. • Amenity uses and areas are protected and enhanced with new areas for playgrounds. • Facilitates the restoration of views from the Castle towards the coast. • Building heights and densities close to open space areas contribute towards the protection of amenity. • Green corridors would contribute towards amenity and efforts to encourage walking and cycling. 	<ul style="list-style-type: none"> • Spatially concentrated deterioration in human health/interactions if effects upon environmental vectors such as water and air are not mitigated. 	<ul style="list-style-type: none"> • None

Appendix II: Non-Technical Summary

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Soil	<ul style="list-style-type: none"> Facilitates lower overall effects on soil – by reducing the need to develop more sensitive lands elsewhere within Dún Laoghaire-Rathdown and the wider Greater Dublin region that are further from the existing development envelope of the County and less well serviced. 	<ul style="list-style-type: none"> Damage to soil function. 	<ul style="list-style-type: none"> Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces.
Water	<ul style="list-style-type: none"> Facilitates lower effects on ground and surface waters due to utilisation of already developed but vacant lands and use of existing utilities. 	<ul style="list-style-type: none"> Adverse impacts upon the status and quality of water bodies, including bathing waters, arising from changes in quality, flow and/or morphology. Increase in the risk of flooding. 	<ul style="list-style-type: none"> Any increase in loadings as a result of development (these would be in compliance with River Basin Management Plans). Development will: avoid areas of elevated flood risk; and not increase areas of elevated flood risk. Flood related risks remain due to uncertainty with regard to extreme weather events.
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> Support Irish Water in the facilitation of the timely delivery of the water services – including adequacy of water supply and wastewater network design. Makes use of existing water services. Potential to connect existing dwellings currently on WWTS to new mains. 	<ul style="list-style-type: none"> Failure to provide adequate and appropriate wastewater treatment (water services infrastructure and capacity ensures the mitigation of potential conflicts). Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity ensures the mitigation of potential conflicts) Increases in waste levels. 	<ul style="list-style-type: none"> Residual wastes (these would be disposed of in line with higher level waste management policies).
Air and Climatic Factors/ Sustainable mobility and associated effects (energy usage and emissions to air including noise and greenhouse gases)	<ul style="list-style-type: none"> Facilitates contribution towards reducing increases in travel related greenhouse gas and other emissions to air that would occur by developing lands adjacent to existing and planned public transport infrastructure and services including the DART Line (and planned future DART Station) and a number of bus routes (45, 45A, 84, 84A, 145). Facilitates contribution towards a shift from car to more sustainable and non-motorised transport modes. Green corridors would contribute towards amenity and efforts to encourage walking and cycling. Efforts to improve sustainable mobility and associated interactions (energy usage and emissions to air including noise and greenhouse gases) would be further contributed towards by the development of the Castle as a publically accessible community hub. 	<ul style="list-style-type: none"> Failure to contribute towards sustainable transport and associated impacts (emissions to air, including greenhouse gas emissions and energy usage). 	<ul style="list-style-type: none"> An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility.

Appendix II: Non-Technical Summary

Environmental Component	Significant Positive Effect, likely to occur	Potential Significant Adverse Effect, if unmitigated	Residual Non-Significant Adverse Effects
Cultural Heritage	<ul style="list-style-type: none"> • Contribution towards the protection of cultural heritage by facilitating compliance with protection legislation. • Facilitates the restoration of views from the Castle towards the coast. • Through these provisions, the Plan directly benefits the protection of architectural and archaeological heritage (including setting), ecological connectivity and use of and access to amenities. • By providing for both community uses at Shanganagh Castle and the development of the wider Woodbrook-Shanganagh area, the Plan makes the rehabilitation and continued maintenance of the Castle more likely thereby contributing towards the protection of archaeological and architectural heritage. 	<ul style="list-style-type: none"> • Effects on protected and unknown archaeology and protected architecture arising from construction and operation activities. 	<ul style="list-style-type: none"> • Potential alteration to the context and setting of architectural heritage (this would occur in compliance with legislation). • Potential alteration to the context and setting of archaeological heritage (this would occur in compliance with legislation). • Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan.
Landscape /Amenities	<ul style="list-style-type: none"> • Amenity uses and areas are protected and enhanced with new areas for playgrounds. • Facilitates the restoration of views from the Castle towards the coast. • Building heights and densities close to open space areas contribute towards the protection of amenity. • Green corridors would contribute towards amenity and efforts to encourage walking and cycling. 	<ul style="list-style-type: none"> • Occurrence of adverse impacts upon and conflicts with the usage of and access to amenities including parklands, playing fields and the coast. 	<ul style="list-style-type: none"> • The Plan contributes towards the protection of access to amenities and their use. These semi natural amenities will change overtime as a result of natural changes in vegetation cover combined with new developments.

Section 6 Mitigation and Monitoring Measures

6.1 Mitigation

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Draft Plan. Various environmental sensitivities and issues have been communicated to the Council through the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes. By integrating all related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Consideration of Alternatives

A number of potential alternatives for the Plan were identified at an early stage in the process and evaluated for their likely significant environmental effects. The environmental baseline and the Strategic Environmental Objectives (were used in order to predict and evaluate the environmental effects of implementing the alternatives. Communication of the findings of this evaluation facilitated an informed choice with respect to the type of Plan that was prepared and placed on public display.

Early and strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development

Far in advance of the placing of the Draft Plan (and associated SEA, AA and SFRA) on public display, Dún Laoghaire-Rathdown County Council undertook various works in order to inform the preparation of the Draft Plan. This included beginning the SEA, AA and SFRA processes early in the process as possible so that these assessments could inform the Plan. It also included the undertaking of background work in relation to various issues covered by the Plan's Development Strategy (Delivering Homes & Creating Sustainable Residential Communities, Community & Social Infrastructure, Sustainable Infrastructure, Sustainable Movement & Transport, Built Heritage, Open Space, Recreation & Green

Infrastructure and Urban Form, Design & Public Realm Qualities).

The findings of this strategic work have been integrated into the Draft Plan and will be implemented when it is adopted, contributing towards both environmental protection and management and sustainable development within the Woodbrook-Shanganagh area and wider County.

Integration of individual SEA, AA and SFRA provisions into the text of the Draft Local Area Plan and the 2016 County Development Plan

Various provisions have been integrated into the text of the Draft Plan over multiple iterations through the Plan-preparation and SEA, AA and SFRA processes. In addition to the mitigation measures that have been integrated into the Plan, all development is required to comply with the mitigation measures that have already been integrated into the existing Dún Laoghaire Rathdown County Development Plan 2016-2022. The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

6.2 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The monitoring programme is detailed in the SEA Environmental Report will be undertaken alongside the implementation of the Plan. A Monitoring Report on the significant environmental effects of implementing the Plan will be prepared on an annual basis following the adoption of the Plan. This report will address the indicators set out on Table 6.1. The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action..

Table 6.1 Indicators from the SEA Monitoring Programme

Environmental Component	Indicator(s)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan
	B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency
	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast
Soil	S1: Soil extent and hydraulic connectivity
Water	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk
Air and Climatic Factors	C1: Percentage of resident and employment populations travelling to work, school or college by public transport or non-mechanical means
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with wastewater treatment over the lifetime of the Plan
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan
	M3i: Total collected and brought household waste
	M3ii: Packaging recovered (t) by self-complying packagers
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan
	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan
Landscape	PHH2 (and L1): Disruption to use of and access to amenities including parklands, playing fields and the coast

