

STRATEGIC ENVIRONMENTAL ASSESSMENT ENVIRONMENTAL REPORT

FOR

**VARIATION No. 2
(SANDYFORD URBAN FRAMEWORK PLAN)**

TO THE

**DÚN LAOGHAIRE-RATHDOWN
COUNTY DEVELOPMENT PLAN 2010-2016**

for: Dún Laoghaire-Rathdown County Council

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List of Abbreviations

AA	Appropriate Assessment
CSO	Central Statistics Office
DAHG	Department of Arts, Heritage and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DEHLG	Department of the Environment, Heritage and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GSi	Geological Survey of Ireland
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NSS	National Spatial Strategy
RBD	River Basin District
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
WFD	Water Framework Directive (2000/60/EC)

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment (AA) 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 plan or project, alone and in combination with other plans and projects, on the integrity of Natura 2000 sites in view of their 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.

Biotic Index Values (Q Values)

The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the Environmental Protection Agency.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 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 Act of 2000 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 Department of the Environment, Heritage and Local Government 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 the appropriate bodies.

Strategic Actions

Strategic actions include: *Policies*, 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 which are developed from international, national and regional policies which generally govern environmental protection objectives and against which the environmental effects of the Variation can be tested. The SEOs are used as standards against which the objectives of the Variation can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if not mitigated.

Preamble

Variation No. 2 (Sandyford Urban Framework Plan) to the Dún Laoghaire-Rathdown CDP 2010-2016 together with this accompanying SEA Environmental Report will need to be read in the context of other relevant plans and policies which relate to the area. It is important to understand that the control and care of the environment falls within the jurisdiction of a very wide range of departments and agencies. It is important to note that other agencies make plans for the development of road, rail and energy infrastructure which must be accommodated by development and local area plans. Such agencies are responsible for the separate environmental assessment of the adoption of these plans.

Spatial plans are principally about the arrangement of landuses to avoid conflicts and to protect amenities. Such plans exist as a series of layers that range from broad national policies – that have little spatial specificity – through regional, development and local area plans. Each level of planning is subject to separate levels of assessment.

There are significant bodies of legislation that regulate how environmental resources are to be cared for. These exist and are implemented at a national level – with no local discretion. Such regulations cover the quality of air and water [surface, ground, drinking, marine and bathing waters], they cover River Basin Districts, they cover the protection of ecological resources [habitats, species] and they cover the protection of archaeology and national monuments.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report of Variation No. 2 (Sandyford Urban Framework Plan) to the Dún Laoghaire-Rathdown County Development Plan (CDP) 2010-2016. The purpose of the report is to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of development in Sandyford. 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) and in order to improve planning and environmental management of future development in the Sandyford. This report should be read in conjunction with the adopted Variation.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment which is limited to individual projects such as waste incinerators, housing developments or roads while *Strategic Environmental Assessment*, or SEA, is the term which has been given to the environmental assessment of plans, and other strategic actions, which help determine what kind of individual projects take place.

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 insure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

The kind of development that occurs in Sandyford and where it occurs will be partly determined by varying the County Development Plan and implementing the Urban Framework Plan as part of the County

Development Plan. By anticipating the effects and avoiding areas in which growth cannot be sustainably accommodated and by directing development towards more compatible and robust receiving environments real improvements in environmental management and planning can occur. Also, the scope of EIAs which may be required for individual projects within the Variation lands in Sandyford may be reduced.

1.3 Legislative Context

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 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 (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 21 July 2004.

1.4 Implications for the Council and the Elected Members

The above legislation requires Variations to Development Plans to be screened at an early stage in order to ascertain whether implementation of Variations would be likely to result in significant environmental effects and would thus warrant SEA to be undertaken. As Variation No. 2 (Sandyford Urban Framework Plan) was screened as having the potential to give rise to effects on the environment - if unmitigated – the Council decided to apply the precautionary principle and to undertake SEA of the Variation.

The findings of the SEA are expressed in this Environmental Report which was submitted to the Elected Members and placed on public display alongside the Proposed Variation in

January 2011. The Elected Members took account of the Environmental Report before they adopted the Variation. When the Variation is adopted a statement must be made public, summarising, inter alia: how environmental considerations have been integrated into the Variation; and, the reasons for choosing the Variation as adopted over other alternatives detailed in the Environmental Report.

Section 2 SEA Methodology

2.1 Introduction

This section details how the SEA for the Variation has been undertaken alongside the preparation of the Variation. The SEA process

started in March 2010 and this report has been produced in September 2011.

Figure 2.1 lays out the main stages in the Variation/SEA process.

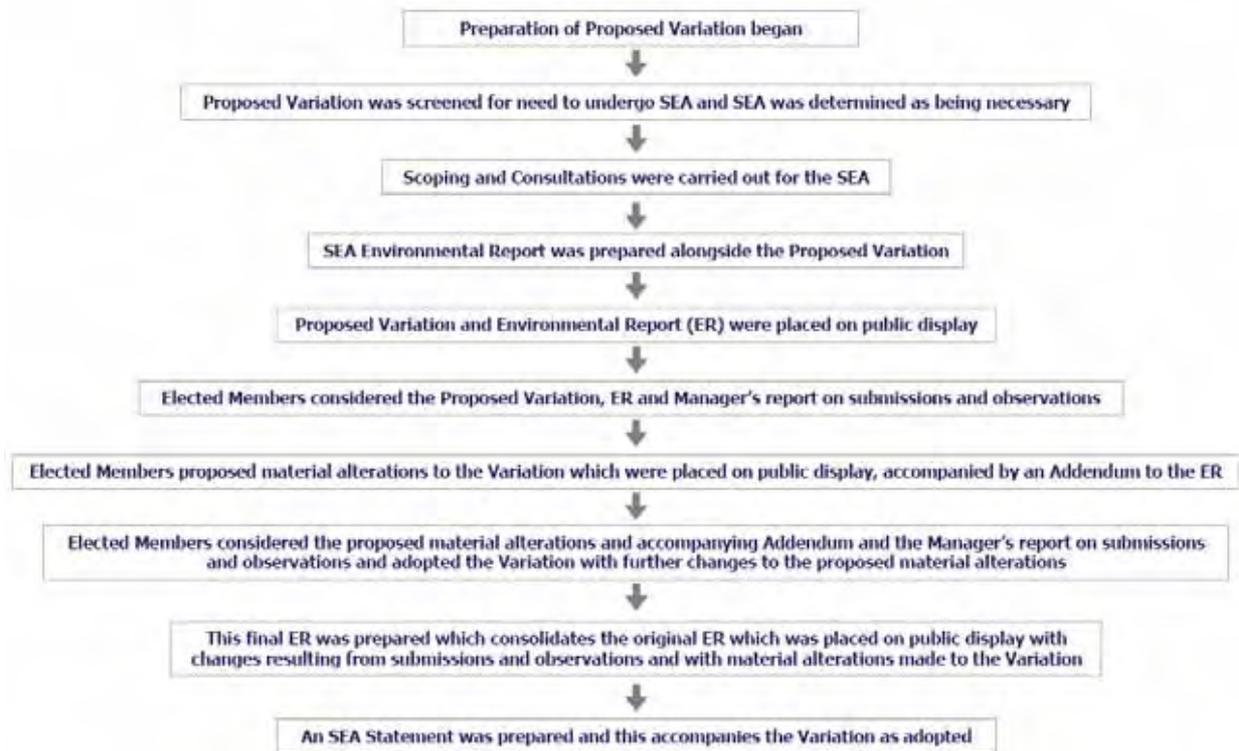


Figure 2.1 Variation and SEA Stages

2.2 Screening

Taking into account the criteria set out in Schedule 2A of the SEA Regulations, the Council screened the Proposed Variation in order to evaluate the requirement to undertake SEA. The Council determined that implementation of the Proposed Variation would have the potential to give rise to effects on the environment - if unmitigated - and decided to apply the precautionary principle and to undertake SEA of the Proposed Variation.

2.3 Scoping

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 to be addressed was broadly decided on after preliminary data collection. Scoping of the SEA was continuous with certain issues being selected for further examination after certain data was obtained. Scoping helped the SEA to become focused upon the important issues, such as those relating to existing and potential environmental issues and environmental problems¹, thereby avoiding resources being wasted on unnecessary data collection.

Scoping facilitated the selection of issues relevant to the environmental components which are specified under the SEA Directive - biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, and landscape.

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e.

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

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). Impacts upon human beings arising as a result of social and economic conditions are not considered by SEA.

As environmental authorities identified under the SEA Regulations, the Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DEHLG) and the Department of Communications, Energy and Natural Resources (DCENR)² were all sent SEA scoping notices 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. Written submissions on the scope of the SEA were received from each of the environmental authorities and these were taken into account during the formulation of the scope of the SEA.

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

2.4 Environmental Baseline Data and Other Strategic Actions

The SEA process is informed by the environmental baseline (i.e. the current state of the environment - flora and fauna, soil, water, cultural heritage etc.) to facilitate: the identification and evaluation of the likely significant environmental effects of implementing the Variation and the alternatives; and, the subsequent monitoring of the effects of the Variation as made to the County Development Plan. Data was collected to describe the environmental baseline and its likely evolution without implementation of the Variation.

² The Marine function of the Department of Communications, Marine and Natural Resources has been transferred to the Department of Agriculture Food and Fisheries

The SEA Directive requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme'. Information is therefore provided on existing environmental problems which are relevant to the Variation, thus helping to ensure that the Variation does not exacerbate any existing environmental problems.

The SEA Directive requires that information on the baseline environment be 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 strategic action i.e. the Variation. Any information that does not focus upon this is surplus to requirements; therefore the SEA focuses on the significant issues, disregarding the less significant ones. In addition, the SEA Directive aims to avoid duplication of the assessment whereby a strategic action forms part of a hierarchy. Furthermore, if certain matters are more appropriately assessed at different levels of the hierarchy in which the Variation is positioned, or, if certain matters have already been assessed by a different level of the hierarchy then additional assessment is not needed.

In order to describe the baseline (the current state of the environment) at Sandyford, data was collated from currently available, relevant environmental sources.

2.5 Alternatives

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. Taking into account the objectives and the geographical scope of the area to which the Variation relates, alternatives were formulated by the planning team with guidance from CAAS.

2.6 The SEA Environmental Report

In this Environmental Report, an earlier version of which was placed on public display alongside the Proposed Variation, the likely environmental effects of the Variation and the alternatives are predicted and their significance evaluated with regard to the

environmental baseline. The Environmental Report provides the decision-makers, the members of the Dún Laoghaire-Rathdown County Council, who decide whether or not to make the Variation, as well as the public, with a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Sandyford. Mitigation measures to prevent or reduce significant adverse effects posed by the Variation and to maximise any benefits arising are identified - these have been integrated into the Variation. The alternatives are also presented in this report, as are measures concerning monitoring.

The original Environmental Report which was placed on public display alongside the Proposed Variation was required to be altered in order to take account of submissions which were made on both the Variation and SEA documents and in order to take account of amendments which were made to the original Proposed Variation which were not evaluated by the original Environmental Report..

2.7 The SEA Statement

On adoption of the Variation, a document referred to as the SEA Statement was prepared. The SEA Statement accompanies the Variation. It includes information on: how environmental considerations have been integrated into the Variation - highlighting the main changes to the Variation which resulted from the SEA process; how the Environmental Report and consultations were taken into account - summarising the key issues raised in consultations and in the Environmental Report indicating what action was taken in response; and the reasons for choosing the Variation in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Variation was selected.

2.8 Legislative Conformance

This report complies with the provisions of the SEA Regulations and is written in accordance with Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004).

Table 2.1 (overleaf) is a reproduction of the checklist of information to be contained in the Environmental Report (DEHLG, 2004)³ and includes the relevant sections of this report which deal with these requirements.

2.9 Difficulties Encountered

2.9.1 Centralised Data Source

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 County and was overcome by investing time in the collection of data from various sources and through the use of Geographical Information Systems.

2.9.2 Baseline Data

In compliance with the SEA Directive and in order to describe the baseline (the current state of the environment) at Sandyford, data was collated from currently available, relevant environmental sources. In compliance with the European principle of subsidiarity, primary data collection will be undertaken by lower tier environmental assessments as relevant and appropriate. The most recent datasets are used by the assessment and limitations are noted.

With regard to air quality, in compliance with the European principle of subsidiarity, primary data collection will be undertaken by lower tier environmental assessments as relevant and appropriate. Sections 7 and 8 of this report include an assessment of the likely significant environmental effects of the provisions of the Variation, including those on air quality.

There is currently no published local landscape mapping for the Variation lands however available information from the County Development Plan is utilised. This information shows that there are no landscape units, views or prospects which have a recognised county, national, European Union, international protection status within or adjacent to the area.

³ DEHLG (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

Noise mapping which was prepared by Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire-Rathdown County Council in 2008 was included in the ER. However, a complete GIS dataset was not available at the time of writing the ER. Sections 7 and 8 of this report include an assessment of the likely significant environmental effects of the provisions of the Variation, including those on noise.

With regard to architectural heritage, there are no entries to the National Inventory of Archaeological Heritage (NIAH) as an NIAH survey has not been undertaken in the County; however, entries to the Record of Protected Structures included in the County Development Plan were considered by the SEA.

Table 2.1 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, and of its relationship with other relevant plans and programmes	Sections 4 and 5
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the Plan	Section 3 & Section 7
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 3, 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the Plan, particularly those relating to European protected sites	Section 3
(E) List environmental protection objectives, established at international, EU or national level, which are relevant to the Plan and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 4, 6, 7 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	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 2, 6 and 7
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Non Technical Summary (separately Bound)
(K) Interrelationships between each Environmental topic	Addressed as it arises within each Section

Section 3 Environmental Baseline of Sandyford

3.1 Introduction

The environmental baseline of Sandyford is described in this section. This baseline together with the Strategic Environmental Objectives, which are outlined in Section 4, is used in order to identify, describe and evaluate the likely significant environmental effects of varying the County Development Plan and implementing the Urban Framework Plan as part of the County Development Plan.

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. A description is also included of the likely effects upon each environmental component under a do-nothing scenario i.e. the likely evolution of the

environment without the varying of the County Development Plan.

As mapped on Figure 3.1, the Plan area is located in the administrative area of Dún Laoghaire-Rathdown in County Dublin. The Variation area is approximately 190 hectares in size and encompasses the Sandyford Industrial Estate, Stillorgan Industrial Park, the South County Business Park, Central Park, Leopardstown Park Hospital and the Legionaries of Christ, the Stillorgan reservoir and the recreational pitches at St Benildus.

The area is entirely urbanised with a variety of uses including commercial, industrial and residential.

The Sandyford/Carysfort-Maretimo Stream flows through the Variation area. The Variation area falls with the catchment of the Loughlinstown River which drains into the sea at Killiney Bay.

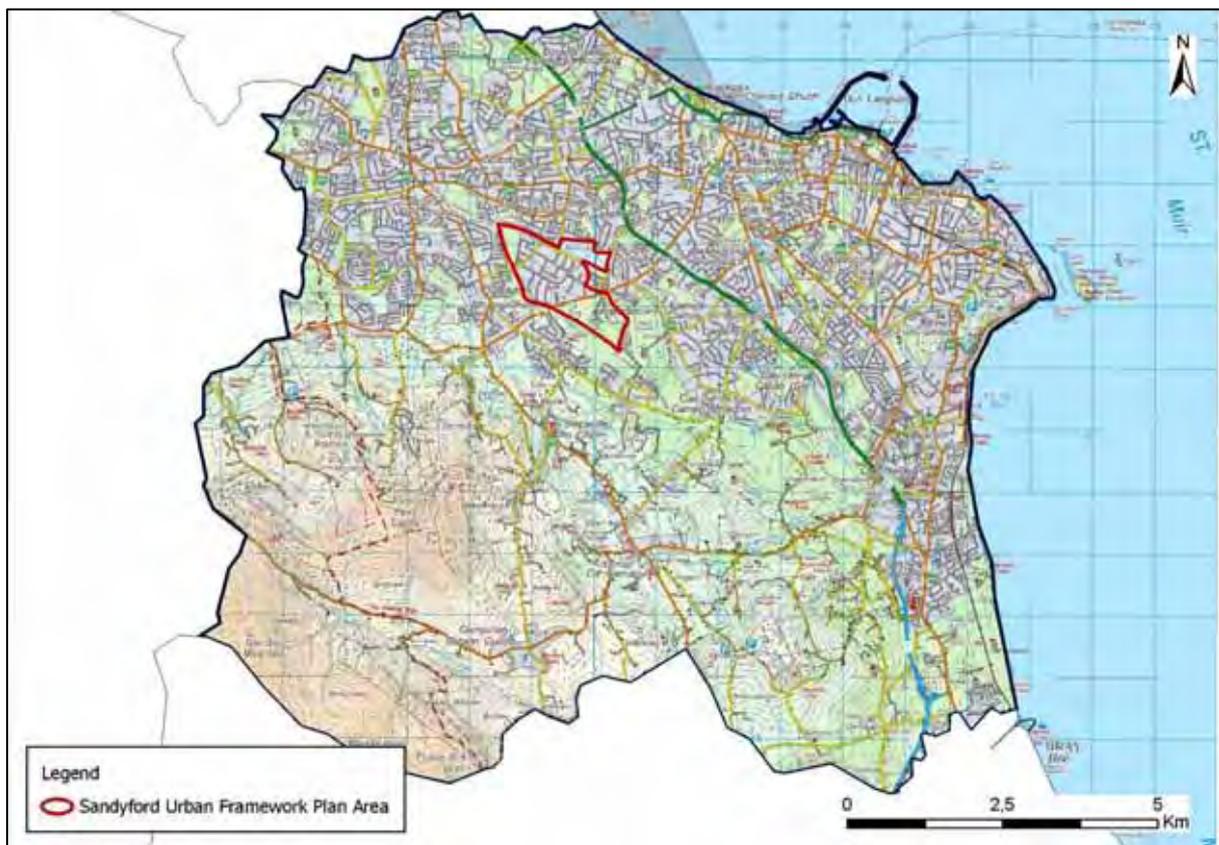


Figure 3.1 Context of Sandyford in relation to Dún Laoghaire-Rathdown

3.2 Evolution of the Environment in the Absence of the Variation

The SEA Directive requires that the Environmental Report includes a description of the likely evolution of the environment in the absence of the Variation.

In the absence of the Variation, the provisions of the current County Development Plan 2010-2016 would apply.

The likely significant environmental effects of a scenario whereby the Variation is not made and the provisions of the current County Development Plan 2010-2016 are applied are detailed under Section 7.3.1.1 of this Report.

3.3 Biodiversity and Flora and Fauna

3.3.1 Introduction

Sandyford supports a range of semi-natural habitats and a number of plant and animal species. Green space, comprising mainly hedgerows, open space and wooded areas in the south east of the Variation area, consists of a variety of habitats and corridors which provide for the movement of wildlife as well as residential amenity. These areas are visible on Figure 3.2.

Man-made habitats are important biodiversity areas. Gardens provide habitats for a range of wildlife including various bird species, invertebrates, such as bees and butterflies and mammals, such as hedgehogs, mice, rats and foxes. These species move around between gardens using hedgerows and vegetated areas. These urban green spaces, however small, are therefore of importance as they form part of a network of green spaces across the Variation area including gardens, parks and patches of woodland and scrub within which animals and plants continue to thrive.

The Variation lands are largely built up with no natural habitats remaining. There are no designated ecological sites at the lands. Much of the existing green spaces are small green areas located alongside roads. There are areas of local biodiversity potential including the reservoir to the north of the area and green space to the east, west and north of the site. A small stream flows through the south west of the Variation area. This joins with the Loughlinstown River which flows into the Sea at Killiney Bay.

Open space in Sandyford includes St. Benildus Parklands to the north west and a number of smaller areas that exist or are proposed as part of permitted developments, including the urban square at Imaginosity, the Plaza and Boulevard areas at the Rockbrook and Central Park developments, lands surrounding the Protected Structure at Burton Hall and the wooded areas in South County Business Park.

3.3.2 CORINE Land Cover Mapping⁴

CORINE land cover mapping⁵ for the area for the year 2006 is shown on Figure 3.3. This is the most up to appropriate, up to date source of information available at present.

The predominant land cover is *Industrial and Commercial Uses* followed by *Discontinuous Urban Fabric* and *Road and Rail Networks*. To the south west of the Variation area, *Pastures*, *Agricultural Lands with Natural Vegetation*, *Coniferous Forests* and *Transitional Woodland Scrub* can be found at the foothills of the Dublin Mountains. Cover comprising *Industrial and Commercial Uses*, *Discontinuous Urban Fabric* and *Green Urban Spaces* for the year 2000 is shown on Figure 3.4.

Land cover differences between the CORINE 2006 data (see Figure 3.3) and the data for the year 2000 (see Figure 3.4) are illustrated on Figure 3.6. It is noted that the Green Urban Area on the western boundary of the Variation area is not illustrated as a change in land cover.

Cover for the year 1990 is shown on Figure 3.4. Within the Variation area, there were no changes to land cover to the year 2000. Some changes occurred in the uplands to the south west of the Variation area. These are mapped on Figure 3.7.

⁴ European Environment Agency Coordination of Information on the Environment (2004) *Ireland's Corine Land Cover 2000 (CLC2000)* Copenhagen: EEA

⁵ CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface. Because of the scale of the CORINE data and the method by which it was collected there are likely to be a number of inaccuracies at the local level. It is noted, however, that the land cover shown on the maps is generally accurate. The European Environment Agency, in conjunction with the European Space Agency, the European Commission and member countries is currently updating the CORINE land cover database.

Land cover differences between the CORINE 2000 data (see Figure 3.4) and the data for the year 1990 (see Figure 3.5) are illustrated on Figure 3.7. This period didn't see any changes within the Variation area but surrounding pastures underwent urbanisation indicating Greenfield development of the area.

3.3.3 Ecological Networks

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the Natura 2000 network of designated ecological sites are maintained and it recognises the need for the management of these areas through land use planning and development policies. Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. Ecological networks are composed of linear features, such as treelines, hedgerows, rivers and streams, and the aforementioned roadside green areas, which provide corridors or stepping stones for wildlife species moving within their normal range. They are particularly important for mammals, especially for bats and small birds.

3.3.4 Tree Preservation Orders

Tree Preservation Orders (TPOs) enable local authorities to preserve any single tree or group of trees and brings them under planning control. TPOs are only made if it appears that a tree or group of trees need to be protected in the interests of amenity in the environment. The Planning and Development Act 2000 has further outlined the legal framework and procedures provided in the 1963 Act to make a TPO.

There are two TPOs to the north of the Variation area, one at Carysfort House, Stillorgan and the other at Kilmacud House, Kilmacud. These are mapped on Figure 3.10.

3.3.5 Habitat Mapping Survey⁶

White Young Green Environmental was commissioned by Dún Laoghaire-Rathdown County Council to prepare a habitat map of the County based on existing GIS data and a ground survey.

The Habitat Mapping Survey was undertaken in accordance with the classification scheme identified in Fossitt (2000)⁷. This classification scheme covers natural, semi-natural and artificial habitats of terrestrial, freshwater and marine environments and of rural and urban areas. Habitat categories are arranged within a series of ordered groupings to produce a hierarchical framework that operates on three levels. The scheme identifies 11 broad habitat groups (Level 1), 30 habitat subgroups (Level 2), and 117 separate habitats (Level 3).

Results of the surveys of the Variation area to Level 2 and Level 3 can be seen on Figure 3.8 and Figure 3.9 respectively.

It is noted that much of the Variation area has not been surveyed to Fossitt Level three. The detailed survey was focused on the southern portion of the County due to the greatest percentage of biodiverse habitats being located there. Also, the open spaces between the suburban zone north of the M50 and that the upland region along the Co. Wicklow border was deemed to be under the greatest development pressure.

At Level Two, highly modified/non-native woodland and improved grassland are the most common habitats identified in the Sandyford area.

At Level Three, only the south east of the area has been surveyed. Habitats identified are conifer plantation, (mixed) broadleaved woodland, scrub, scattered trees and parkland and improved agricultural grassland.

⁶ White Young Green (2007) *Habitat Mapping Survey for Dún Laoghaire-Rathdown County Council*, Dún Laoghaire-Rathdown County Council

⁷ Fossitt, J.A. (2000) *A Guide to Habitats in Ireland* Dublin: The Heritage Council

3.3.6 Designations

3.3.6.1 Introduction

There are no designated ecological sites (Special Protection Areas, candidate Special Areas of Conservation, Natural Heritage Areas and Nature Reserves)⁸ within the Variation area. Fitzsimons Wood proposed National Heritage Area (pNHA) (Site Code: 001753) lies to the south west of the Variation area. This is mapped on Figure 3.10.

3.3.6.2 Special Protection Areas

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

3.3.6.3 Special Areas of Conservation

Special Areas of Conservation (SACs) 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) - referred to as the Habitats Directive - due to their conservation value for habitats and species of importance in the European Union.

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), referred to as the Habitats Directive, by the Department of the Environment, Heritage and Local Government due to their conservation value for habitats and species of importance in the European Union. The sites are *candidate* sites because they are currently under consideration by the Commission of the European Union.

The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000. Figure 3.11 maps and names Natura 2000 Sites within a 15km radius of the Variation area's boundary.

⁸ Site Synopses for SPAs, cSACs and NHAs are available from the National Parks and Wildlife Service at www.npws.ie

3.3.6.4 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 were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. Fitzsimons Wood pNHA (Site Code: 001753) pNHA lies to the south west of the Variation area and can be seen on Figure 3.10.

3.3.7 Existing Biodiversity and Flora and Fauna Problems

Changes in land cover indicated by the CORINE data (see Figure 3.6 for 2000-2006 changes and Figure 3.7 for 1990-2000 changes) indicate that semi natural areas within the Variation area have been replaced by uses which generally include impermeable surfaces. These changes are also likely to result in losses of biodiversity and flora and fauna.

Aquatic flora and fauna is vulnerable to all forms of pollution. Any existing problems with regard to surface water quality in the Variation area (see Section 3.6) are likely to be impacting upon aquatic biodiversity and flora and fauna.

With regard to terrestrial flora and fauna, all greenfield development in the area will cause an impact - the replacement of natural and semi natural habitats with artificial surfaces results in loss of flora and fauna and therefore adversely impacts upon this environmental component.



Figure 3.2 Aerial photo of the Variation area
Source: Dún Laoghaire-Rathdown County Council (2009)

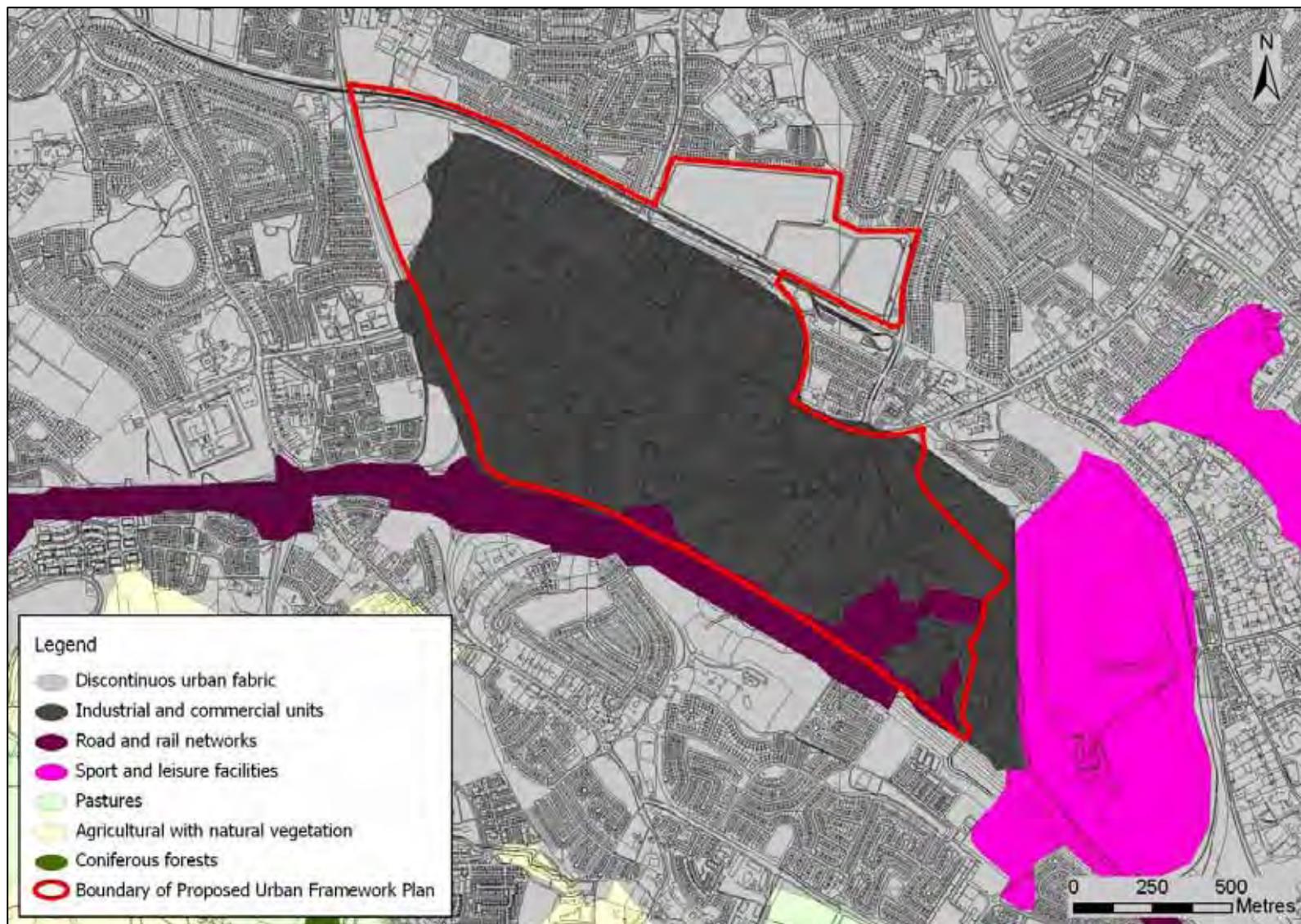


Figure 3.3 CORINE Land Cover 2006

Source: EPA (2009)

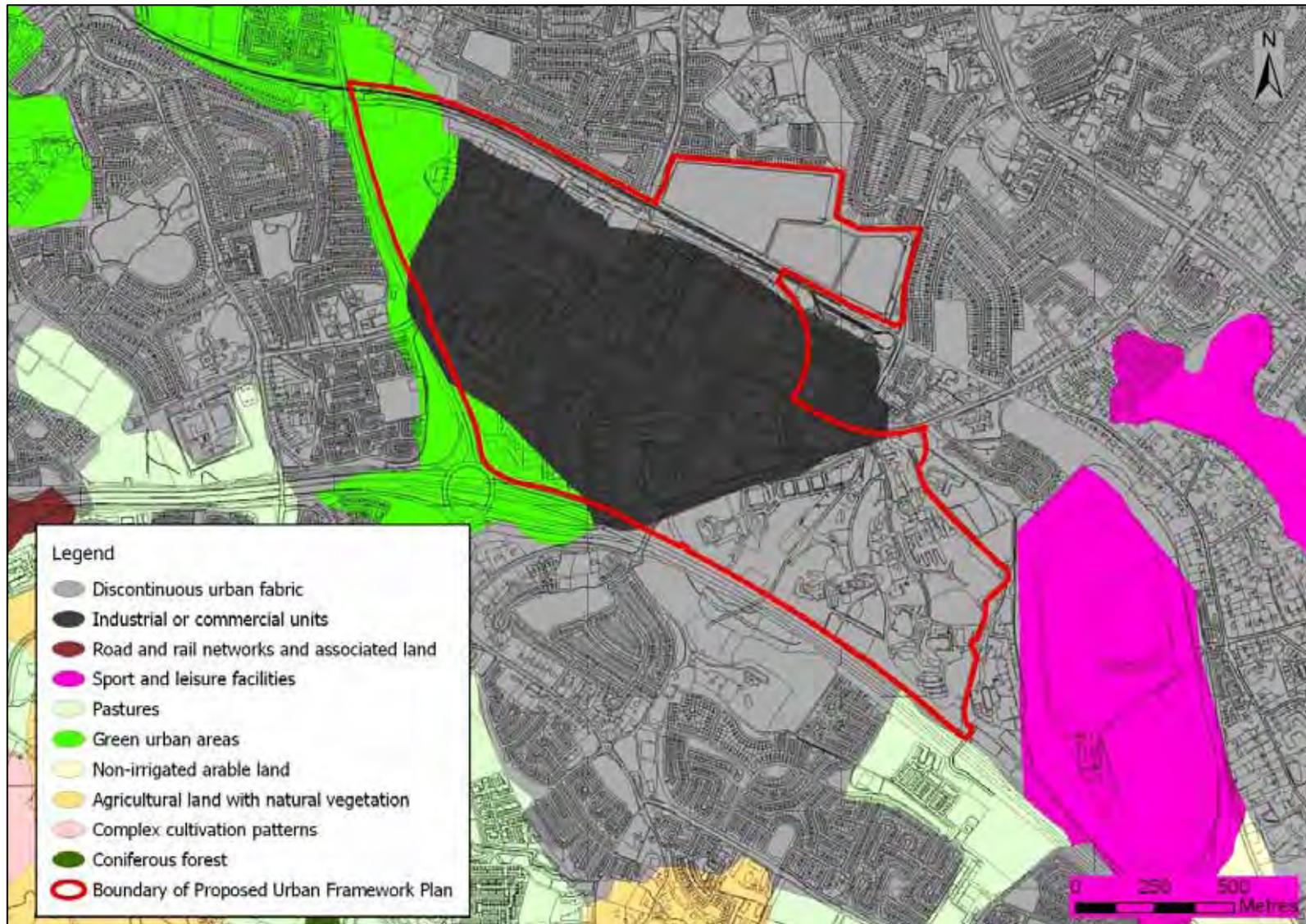


Figure 3.4 CORINE Land Cover 2000

Source: EPA (2009)

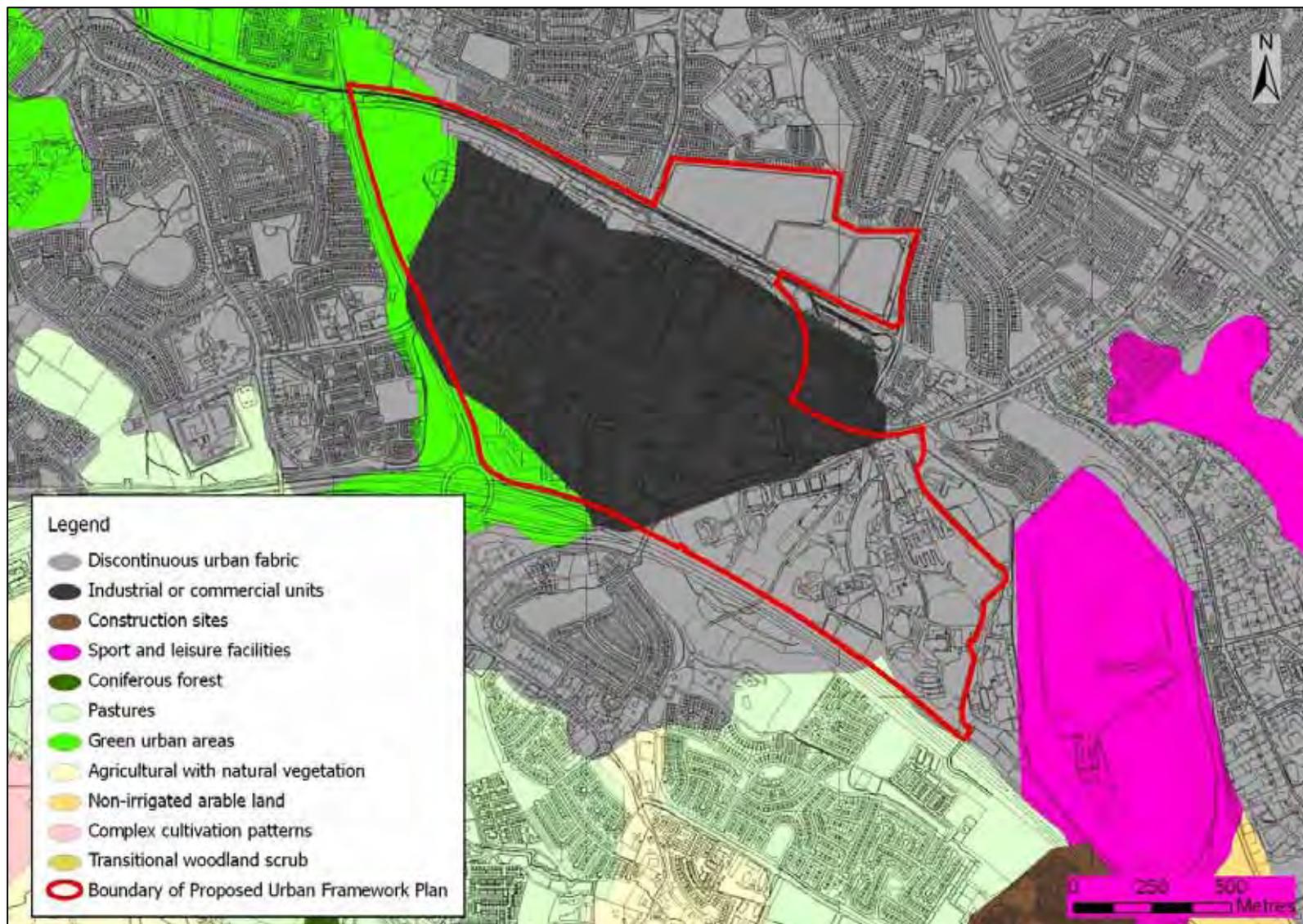


Figure 3.5 CORINE Land Cover 1990

Source: EPA (2004)

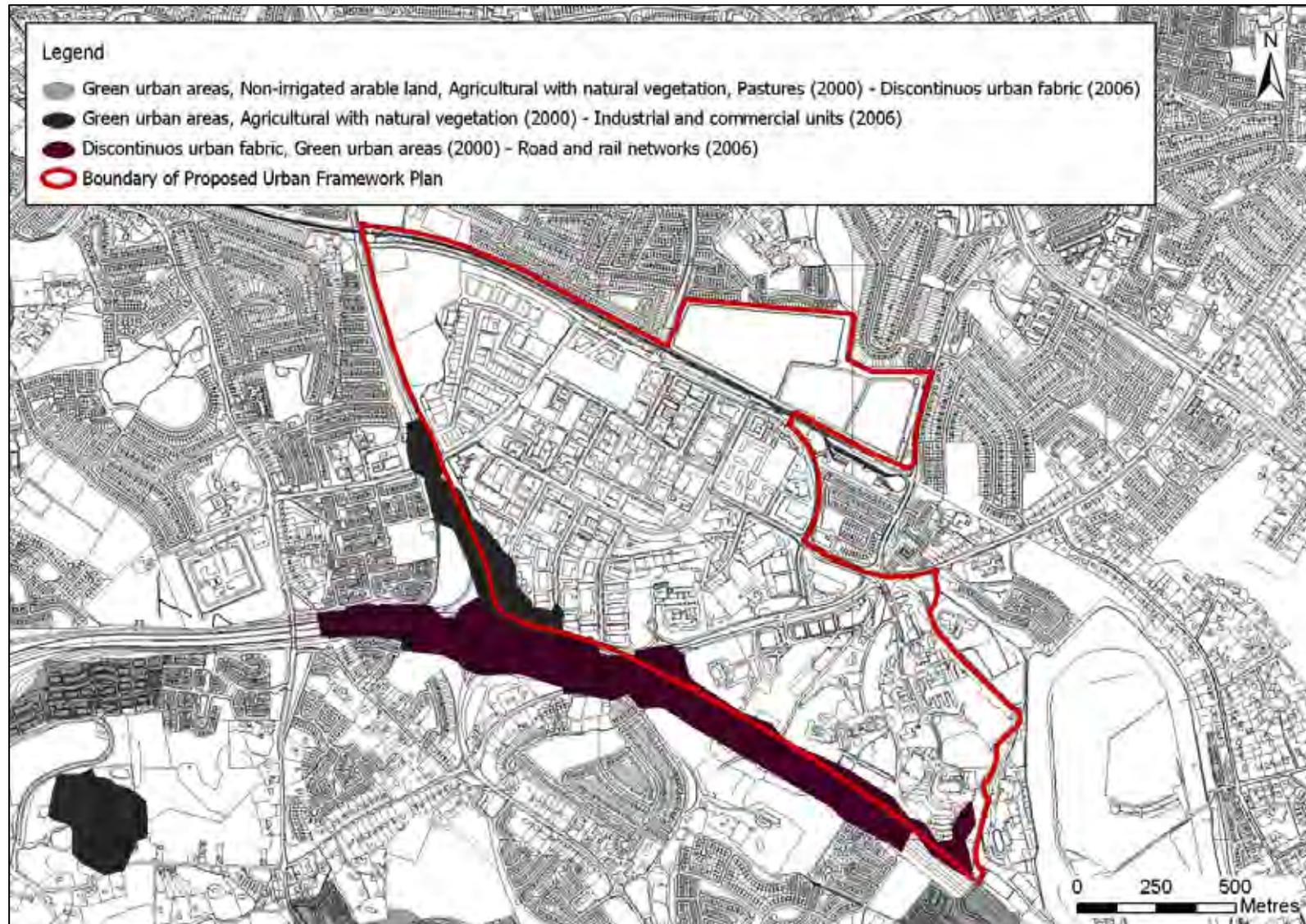


Figure 3.6 CORINE Land Cover Changes 2000-2006 showing their current (2006) cover

Source: EPA (2009)

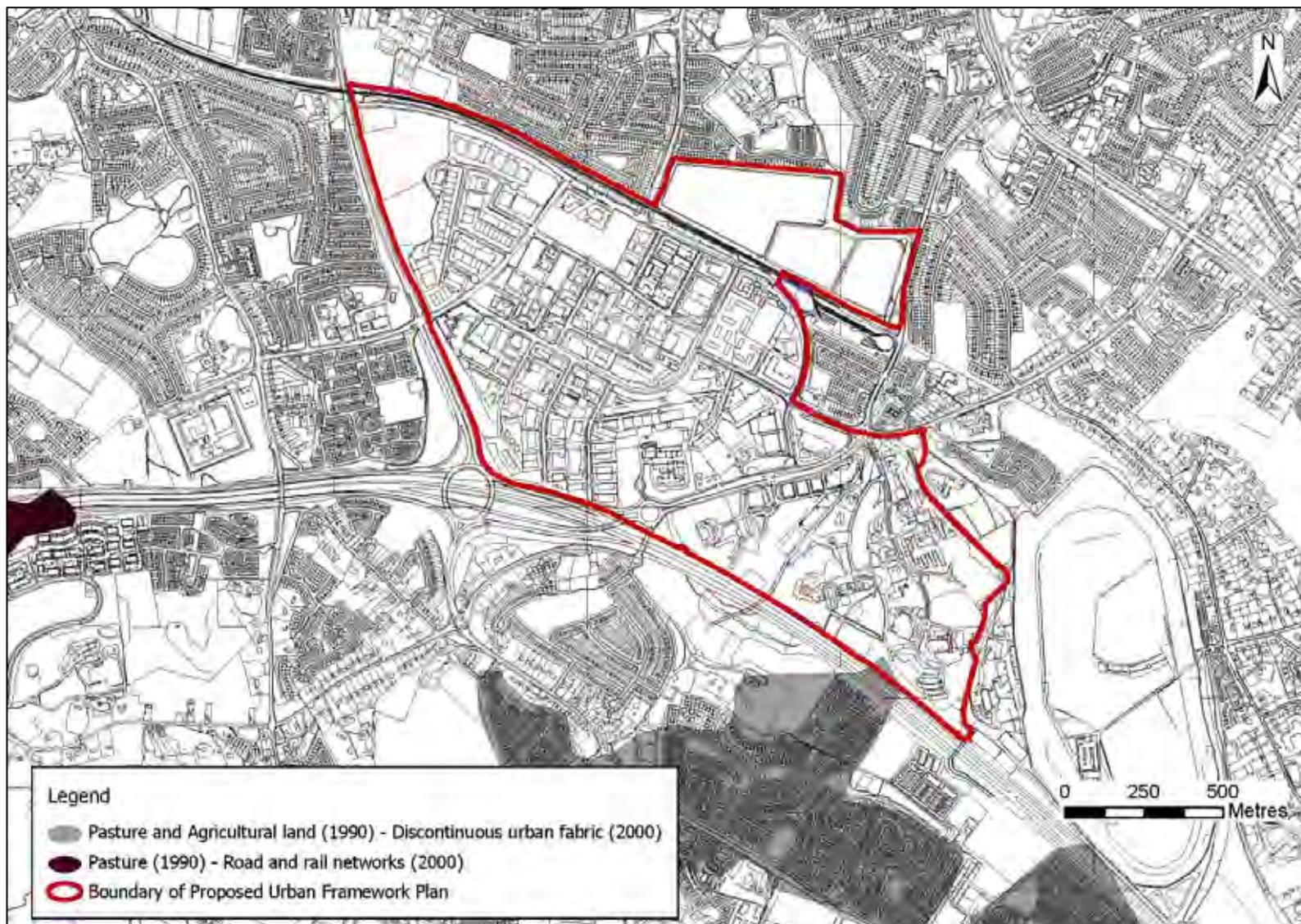


Figure 3.7 CORINE Land Cover Changes 1990-2000

Source: EPA (2004)

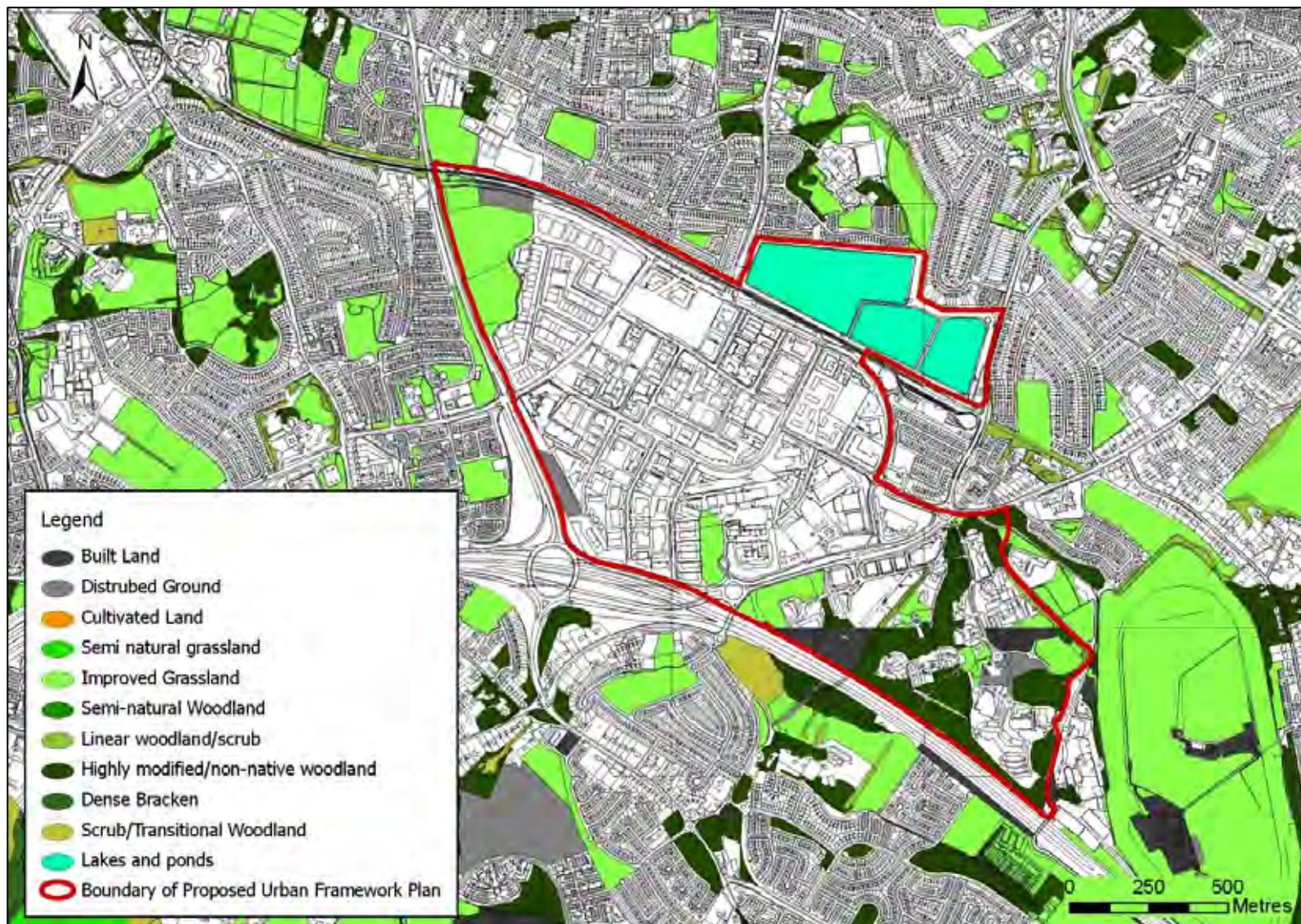


Figure 3.8 Habitat Mapping to Fossitt Level 2
Source: White Young Green (2007)

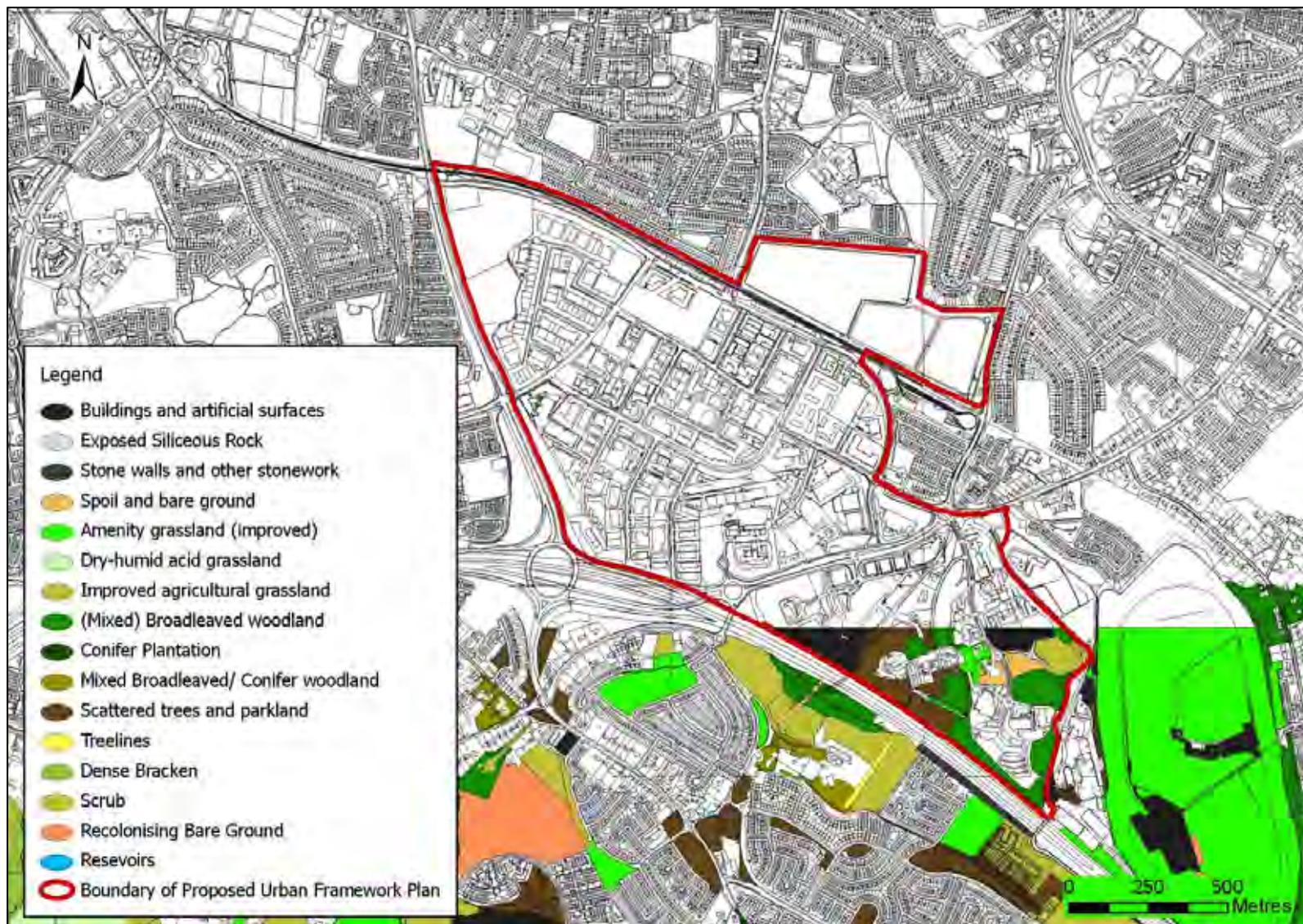


Figure 3.9 Habitat Mapping to Fossitt Level 3

Source: White Young Green (2007)

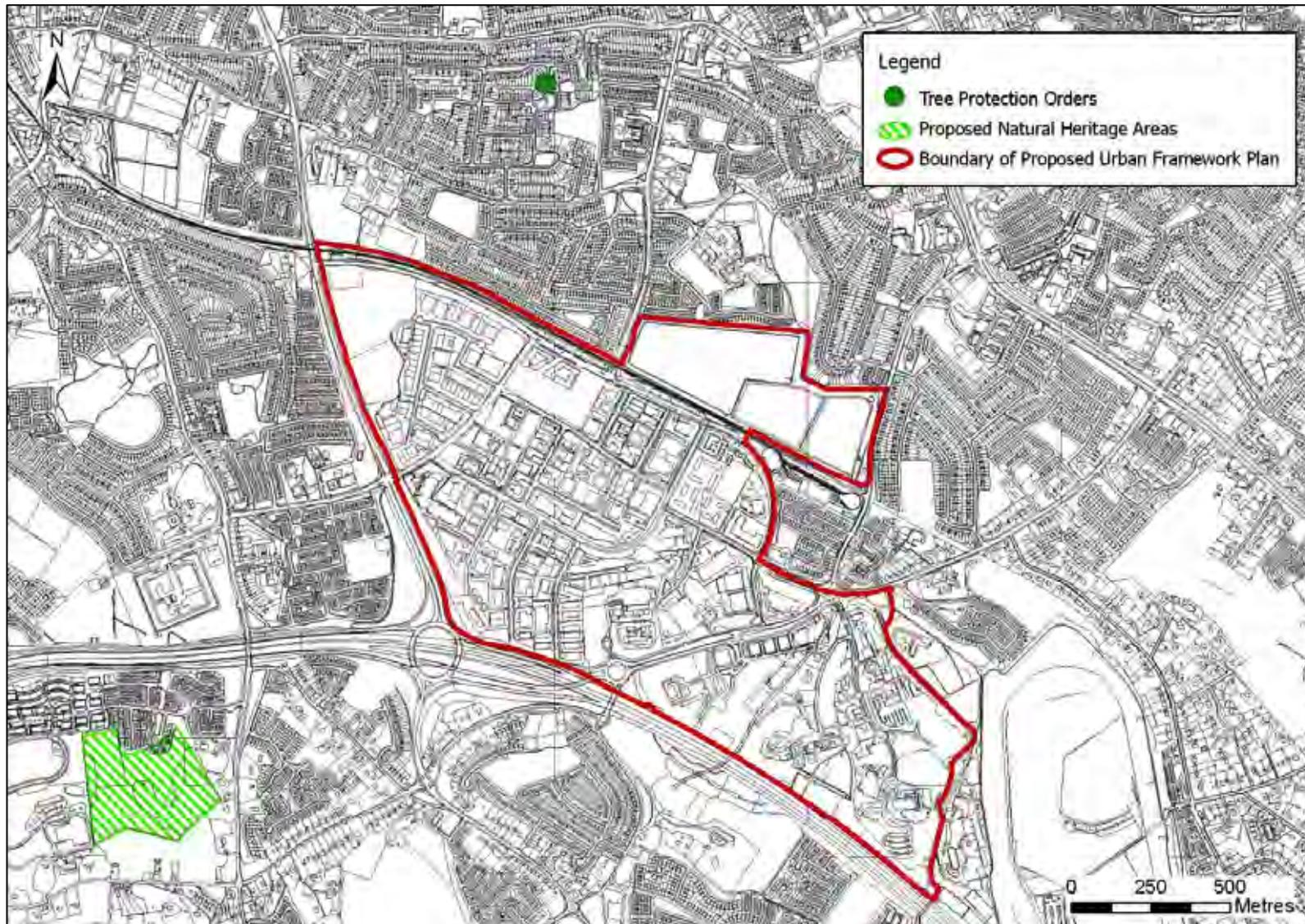


Figure 3.10 Tree Protection Orders and Proposed Natural Heritage Area

Source: Dún Laoghaire-Rathdown County Development Plan (2010-2016) and NPWS (datasets downloaded May, 2010)

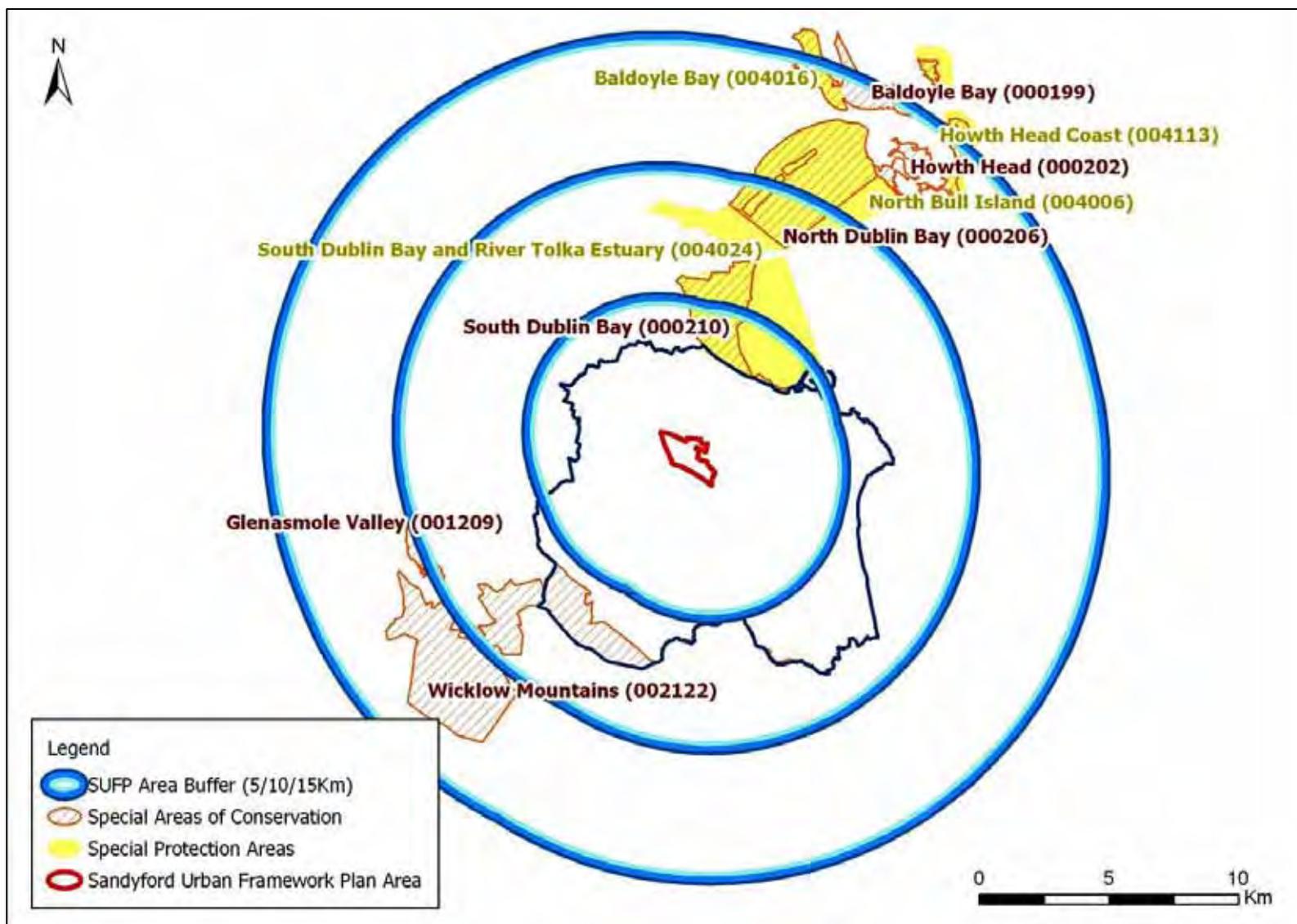


Figure 3.11 Natura 2000 sites within 15km of the Variation area

Source: NPWS (datasets downloaded May, 2010)

3.4 Population and Human Health

3.4.1 Population

Figure 3.12 maps the population of the DEDs relevant to the Variation area at the 2006 Census⁹. In the west of the Variation area, population is between 3,000-5,000 persons. The east of the Variation area has a population of between 6,500-13,925. Figure 3.13 maps density in the Variation area in 2006.

3.4.2 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 Urban Framework Plan to which the Variation relates and the alternatives.

3.4.3 Existing Problems

Certain environmental vectors within the Variation area - such as air, water or soil - have the potential to transport and deposit contaminants or pollutants, which have the potential to cause harm and adversely impact upon the health of the area's population. Issues relevant to this potential in Sandyford are expanded upon in the following sections.

IPPC licensed facilities could be potential polluters to the Variation area if the facilities do not comply with their licenses.

Air quality as assessed by the EPA in the wider Dublin Conurbation Air Quality zone in which

Sandyford is located is assessed as being currently good and meeting relevant standards. However local air quality issues may occur within and adjacent to the Variation lands e.g. traffic "hotspots" may give rise to a harsh sensory environment which may impact upon human health and localised PM10 and PM2.5 air pollution incidences is likely to occur when demolition/construction takes place.

⁹ CSO (various) *Census 2006 Volume 1 - Population Classified by Area*, Cork: CSO.

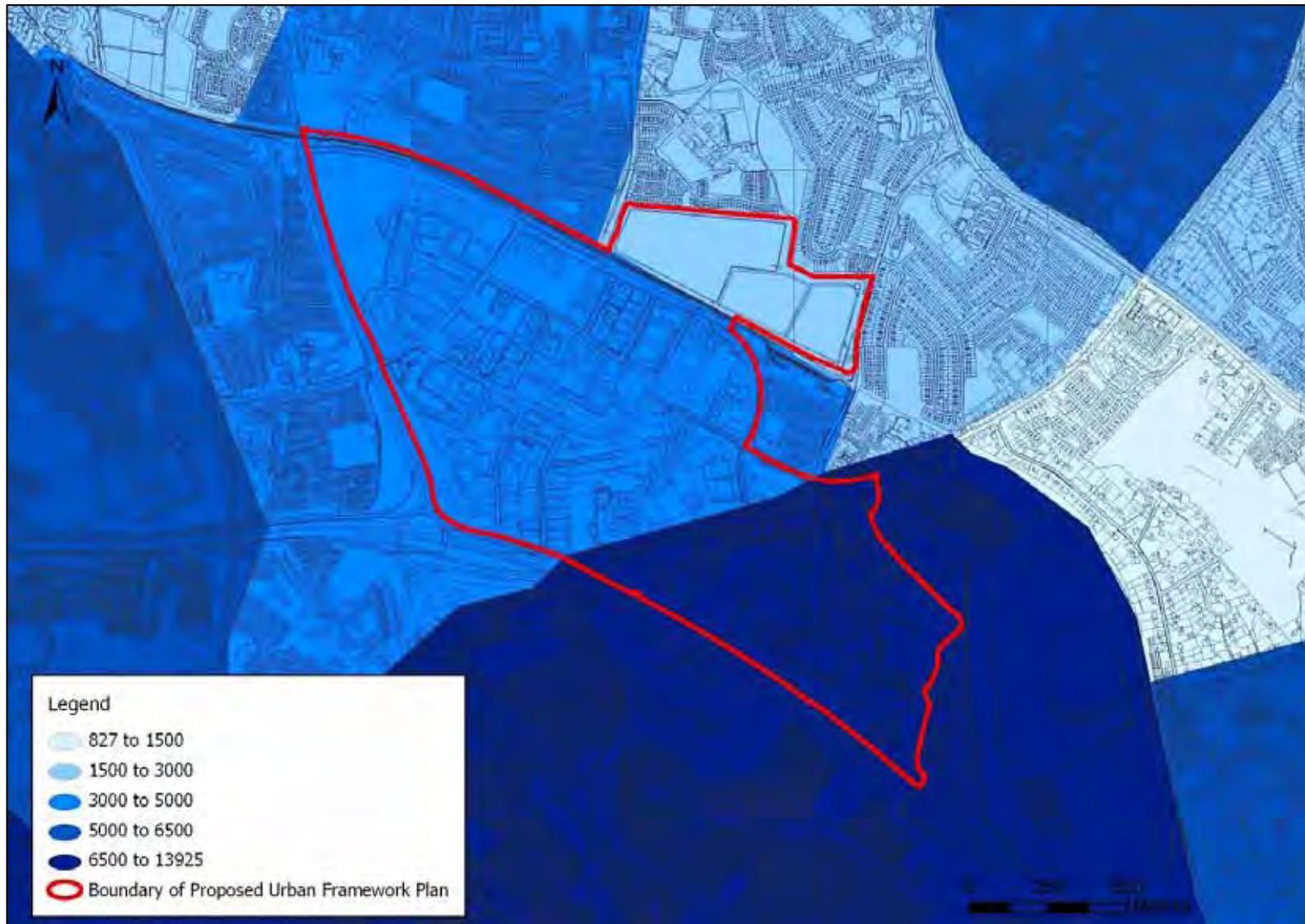


Figure 3.12 Population the Variation area 2006

Source: CSO (2007)

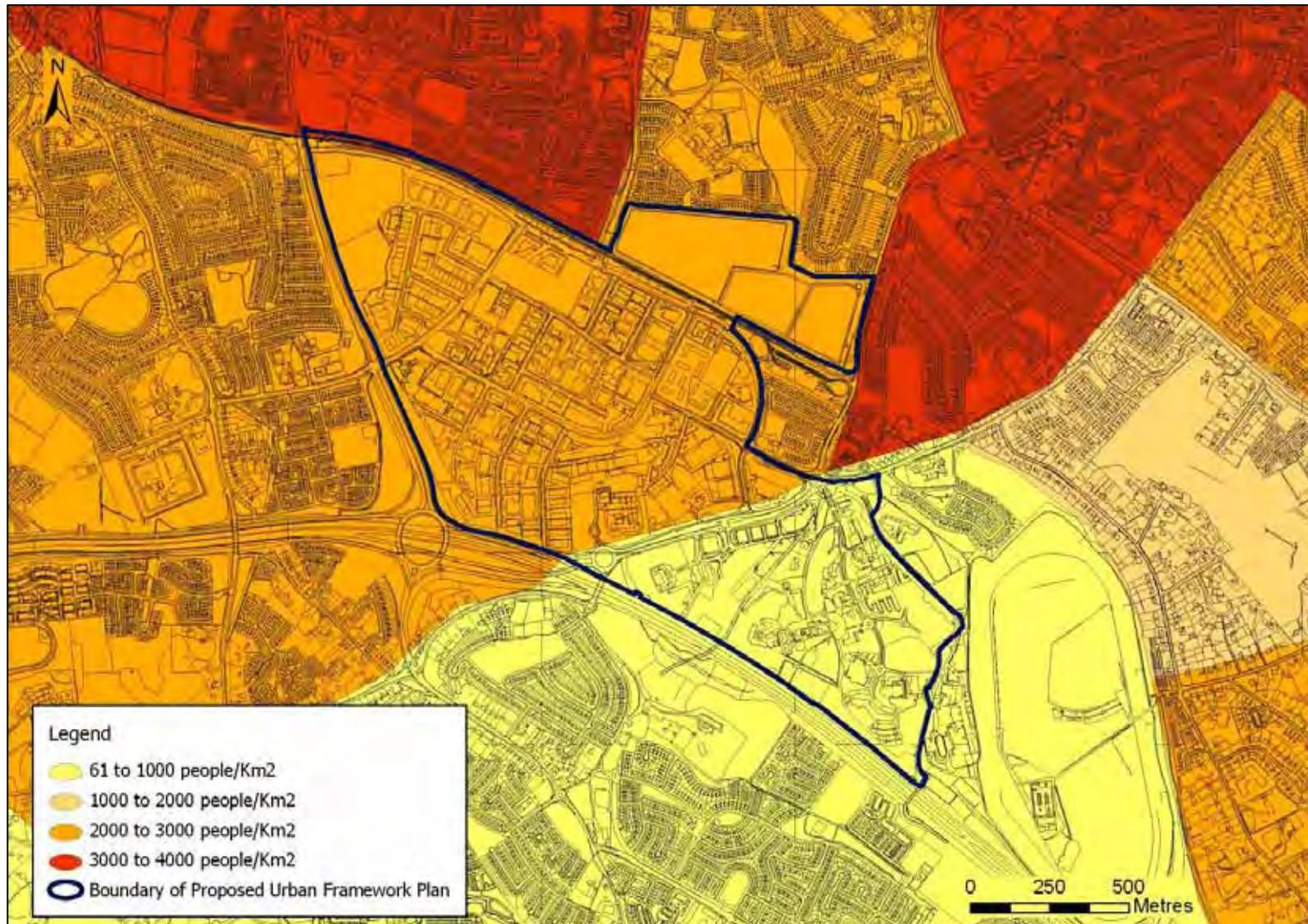


Figure 3.13 Population Density (2006)

Source: CSO (2007)

3.5 Soil

3.5.1 Introduction

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

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.

3.5.2 Soil Types

Soil types, as classified by Teagasc in co-operation with the Forest Service, EPA and GSI¹⁰, are mapped on Figure 3.14. Subsoils in the Variation area are mapped on Figure 3.15.

The majority of the area has been developed and as a result, here is little soil remaining in the area.

Deep and shallow areas of well and poorly drained mineral soils can be found on the western boundary of the Variation area and also in the east of the area.

Figure 3.16 maps "soil sealing" in the Variation area. This map indicates lands that have been built upon, thus sealing off the soil. As is evident from the map, the Variation area is mainly built upon.

3.5.3 Geology and Mineral Sites

The underlying geology of the area is mapped on Figure 3.17. Five classifications of rock are shown on the map.

Calp, a variety of limestone, can be found to the north west of the Variation area. The remaining area, including the Variation area is underlain by igneous formations.

Figure 3.17 maps the location of mineral sites surrounding the Variation area. Two of these sites occur to the east of the Variation area and four sites lie to the south west.

3.5.4 Existing Problems

There are no existing problems relating to soil in the area.

¹⁰ Teagasc, GSI, Forest Service & EPA (2006) *Soils and Subsoils Class* Dublin: DEHLG

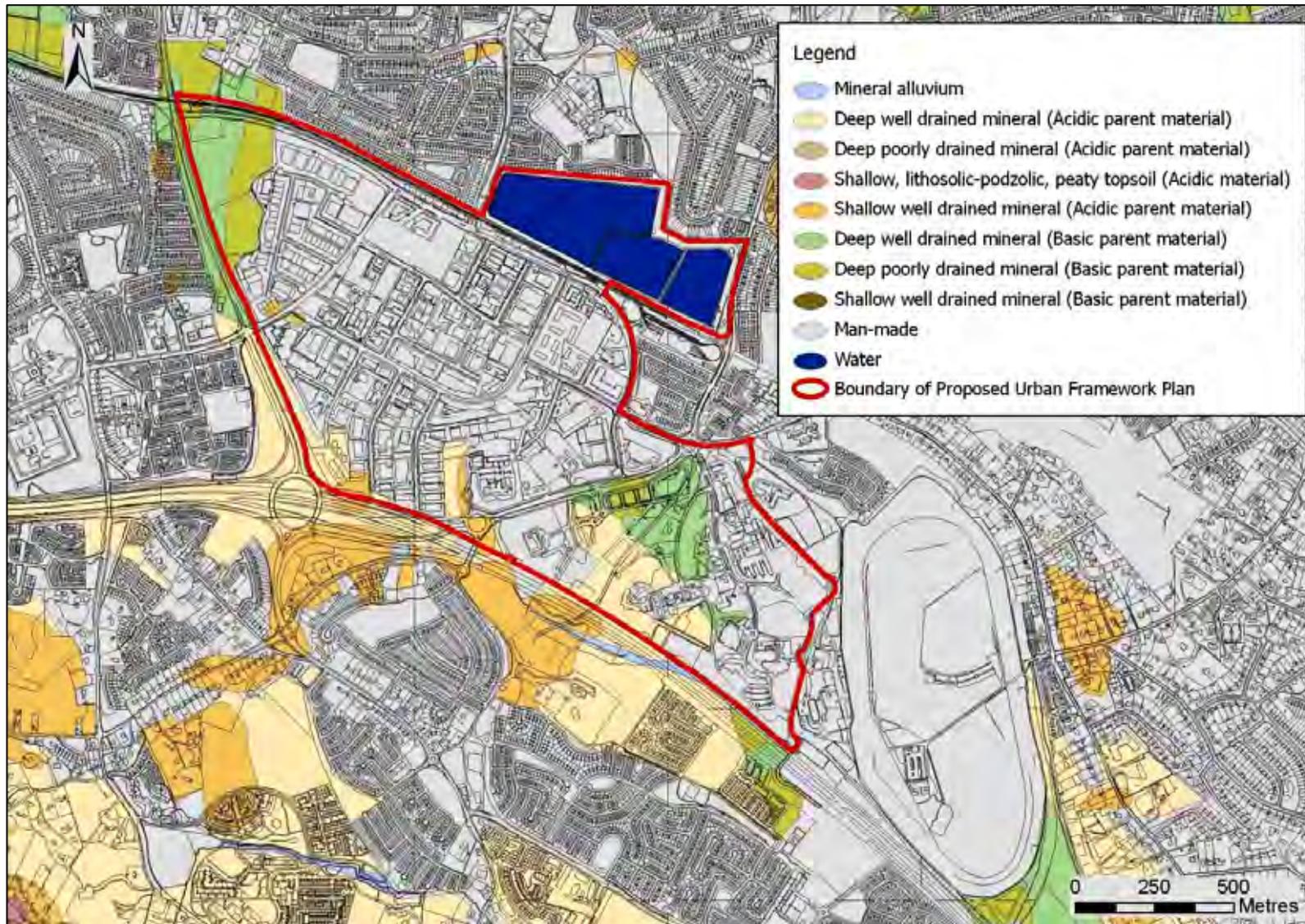


Figure 3.14 Soil Types

Source: Teagasc in co-operation with the Forest Service, EPA and GSI (2006)

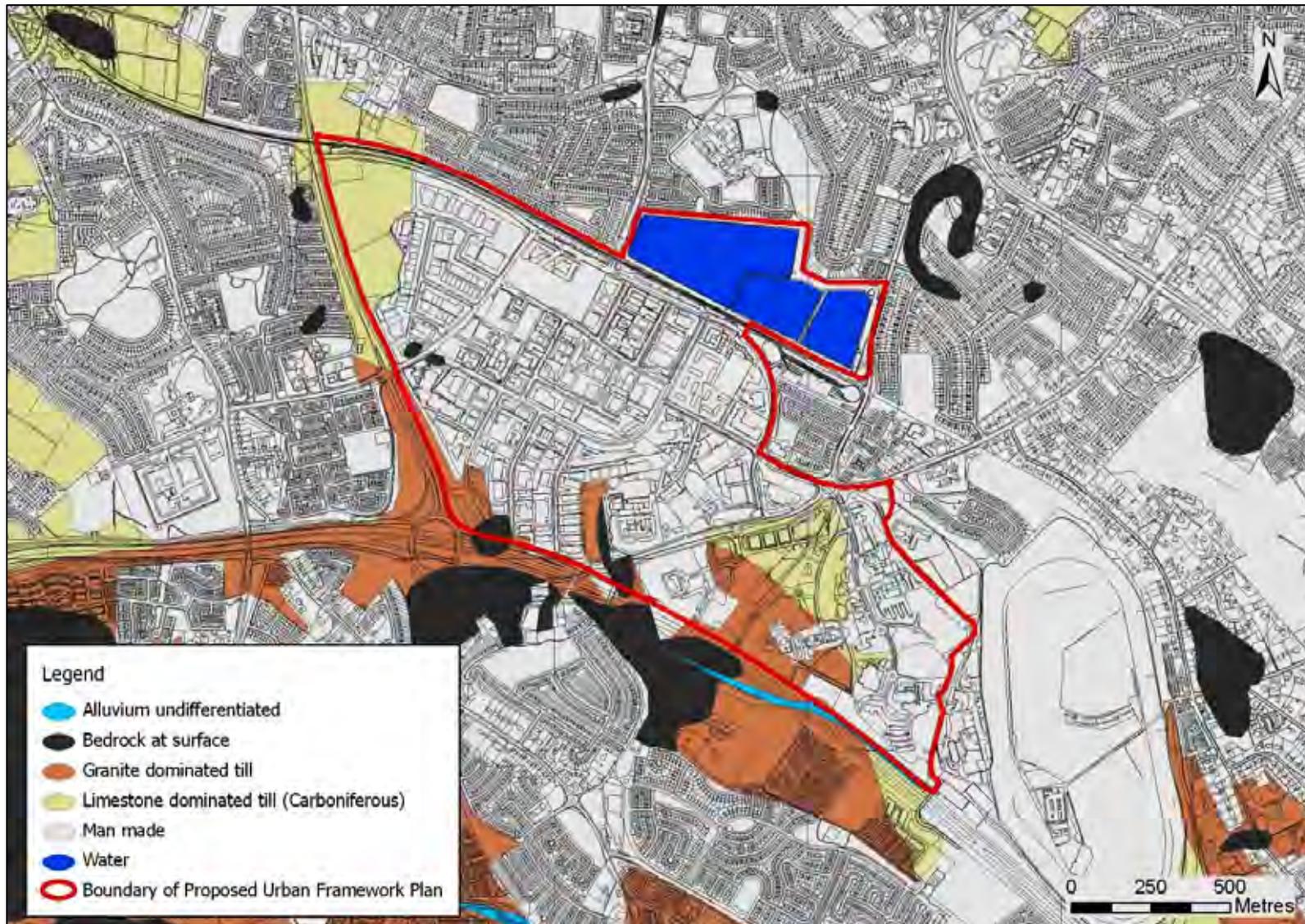


Figure 3.15 Subsoil Types

Source: Teagasc in co-operation with the Forest Service, EPA and GSI (2006)

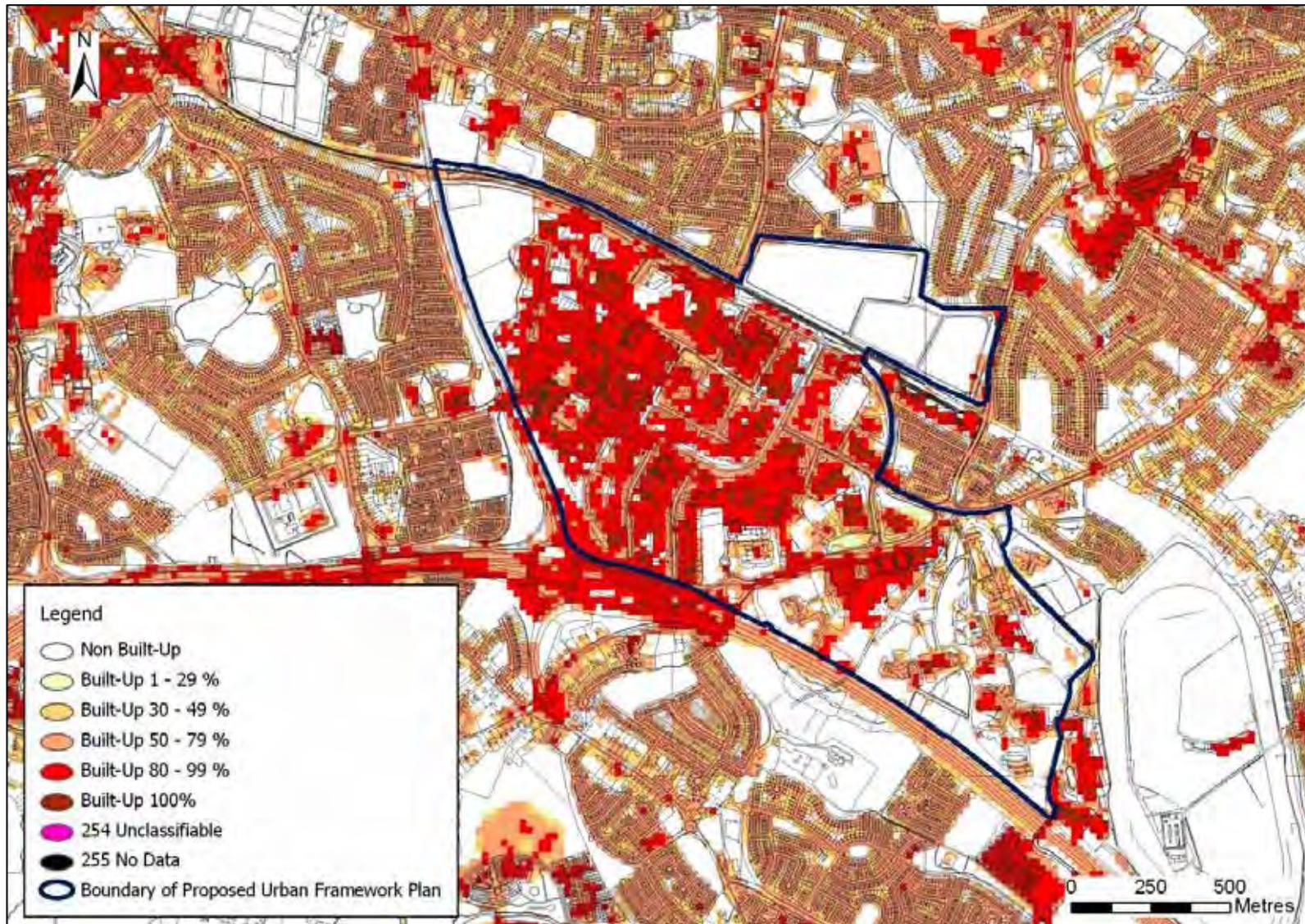


Figure 3.16 Soil Sealing

Source: EPA (2009)

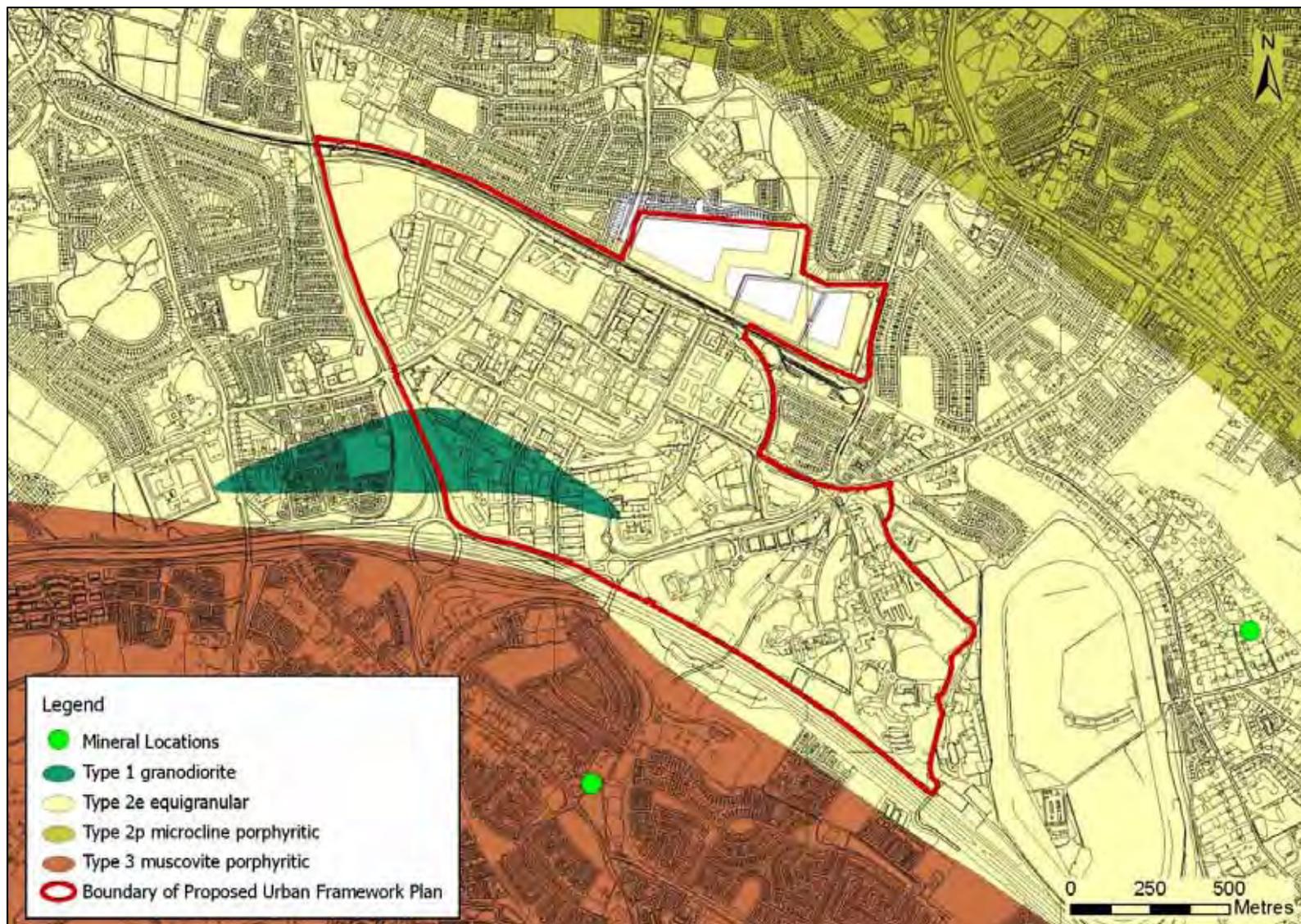


Figure 3.17 Geology and Mineral Locations

Source: GSI (2005) and (2001)

3.6 Water

3.6.1 Introduction

The Sandyford/Carysfort-Maretimo Stream flows through Sandyford although it is culverted for most of the Variation area except for a small stretch at the reservoir. This is mapped on Figure 3.18.

The Variation area falls within the catchment of the Loughlinstown River.

3.6.2 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 waste water 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.

3.6.3 The Water Framework Directive

3.6.3.1 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" by 2015. All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status by 2015.

3.6.3.2 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. The Sandyford area falls within the Eastern River Basin District.

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.

3.6.3.3 River Basin Management Plans

The Local Authorities located in the RBDs have prepared draft River Basin Management Plans which are due to be adopted in the coming months. The Management Plans will provide objectives for river basins in order to implement the requirements of the WFD to help protect and improve all waters in the

RBDs. The Plan for the ERBD has now been adopted by all the constituent Councils.

3.6.4 Surface Water

3.6.4.1 Introduction

Surface water in the Variation area includes the small stream which flows through the south west of the Variation area and the reservoirs in the north of the Variation area.

It is noted that the EPA do not monitor water quality in the vicinity of the Variation area.

3.6.4.2 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".

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.

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.

Figure 3.19 illustrates the status of surface water quality in the Variation area. Within the Variation area, the status of the surface water is moderate. To the east of the site surface water status reduces to poor. The area that appears unclassified is part of a coastal catchment, the status of which is moderate.

3.6.5 Ground Water

3.6.5.1 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.

3.6.5.2 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.

Groundwater underlying the Variation area is classified as being of Good Status. This is mapped on Figure 3.20 below.

3.6.5.3 Aquifer Vulnerability

The Geological Survey of Ireland (GSI) rates aquifers according to their vulnerability to pollution. Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. Figure 3.21 shows aquifer vulnerability data for the area.

Within the Variation area, only an interim study has taken place and so the vulnerability is classified as *High to Low*. To the south west of the Variation area, aquifers are rated as *Extreme* and *Extreme (Karst/Surface Rock)* along with other localised areas throughout the area.

3.6.5.4 Aquifer Productivity

The GSI rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. Ireland's entire land surface is divided into nine aquifer categories, seven of which occur in Sandyford. Figure 3.22 shows aquifer vulnerability data for the area.

3.6.6 Register of Protected Areas

In addition to risk assessments, the WFD requires that Registers of Protected Areas

(RPAs) are compiled for a number water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species e.g. salmonid areas; Special Areas of Conservation (SACs); and, Special Protection Areas (SPAs). Waters within and surrounding the area which are listed on the RPAs are shown on Figure 3.23.

In Ireland, waters intended for human consumption are protected under the Drinking Water Regulations (S.I. 439/2000). The actual protected areas for drinking water are not outlined within these Regulations, so the protected area for drinking waters is represented by the water body from which the water is abstracted, be it groundwater, river or lake. All groundwater underlying the area is listed on the RPA for Drinking Water Groundwater.

3.6.7 Existing Problems

WFD water status to the west of the Variation area is currently "poor".

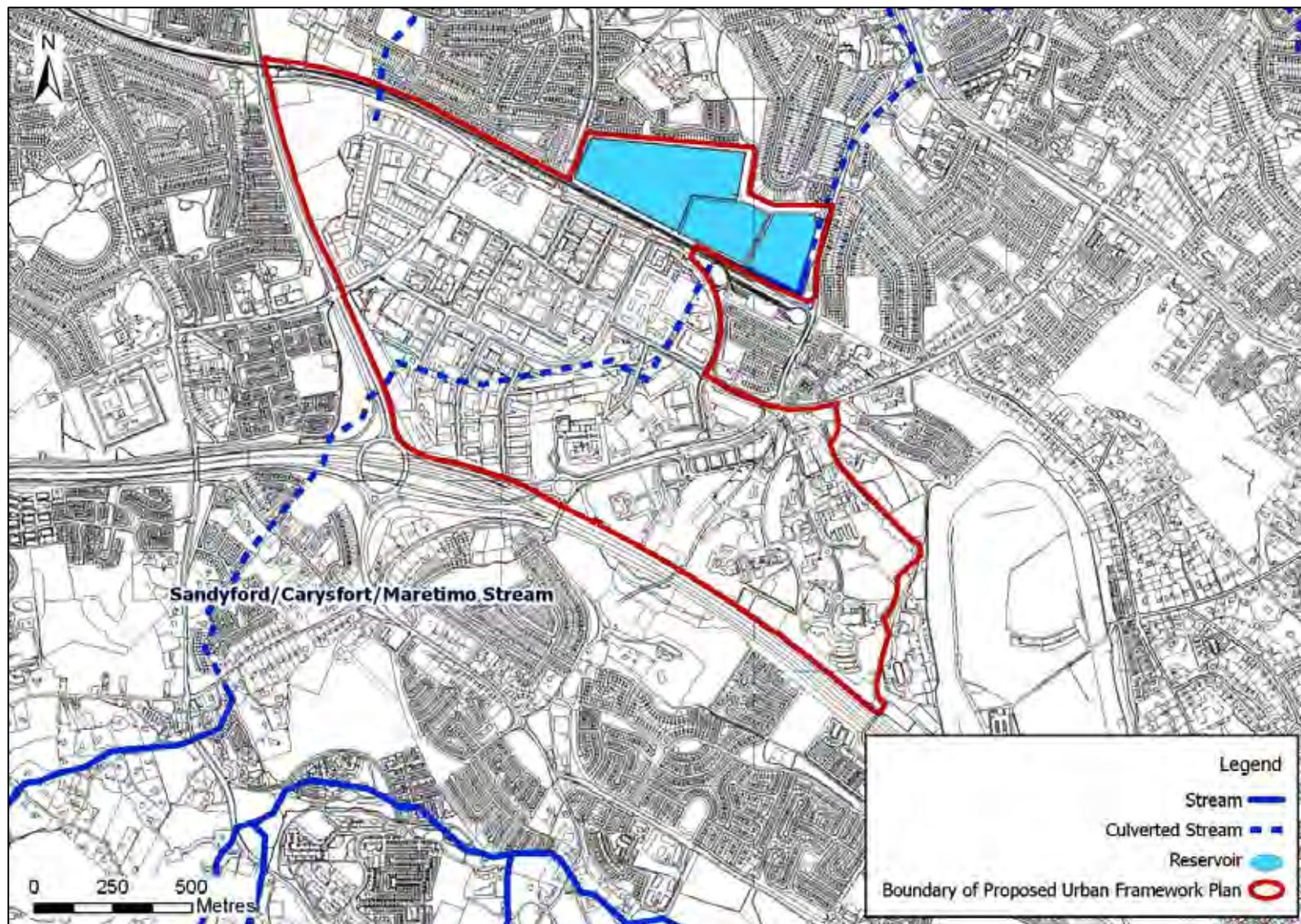


Figure 3.18 Surface Waters in Sandyford

Source: DLRCC (2010)

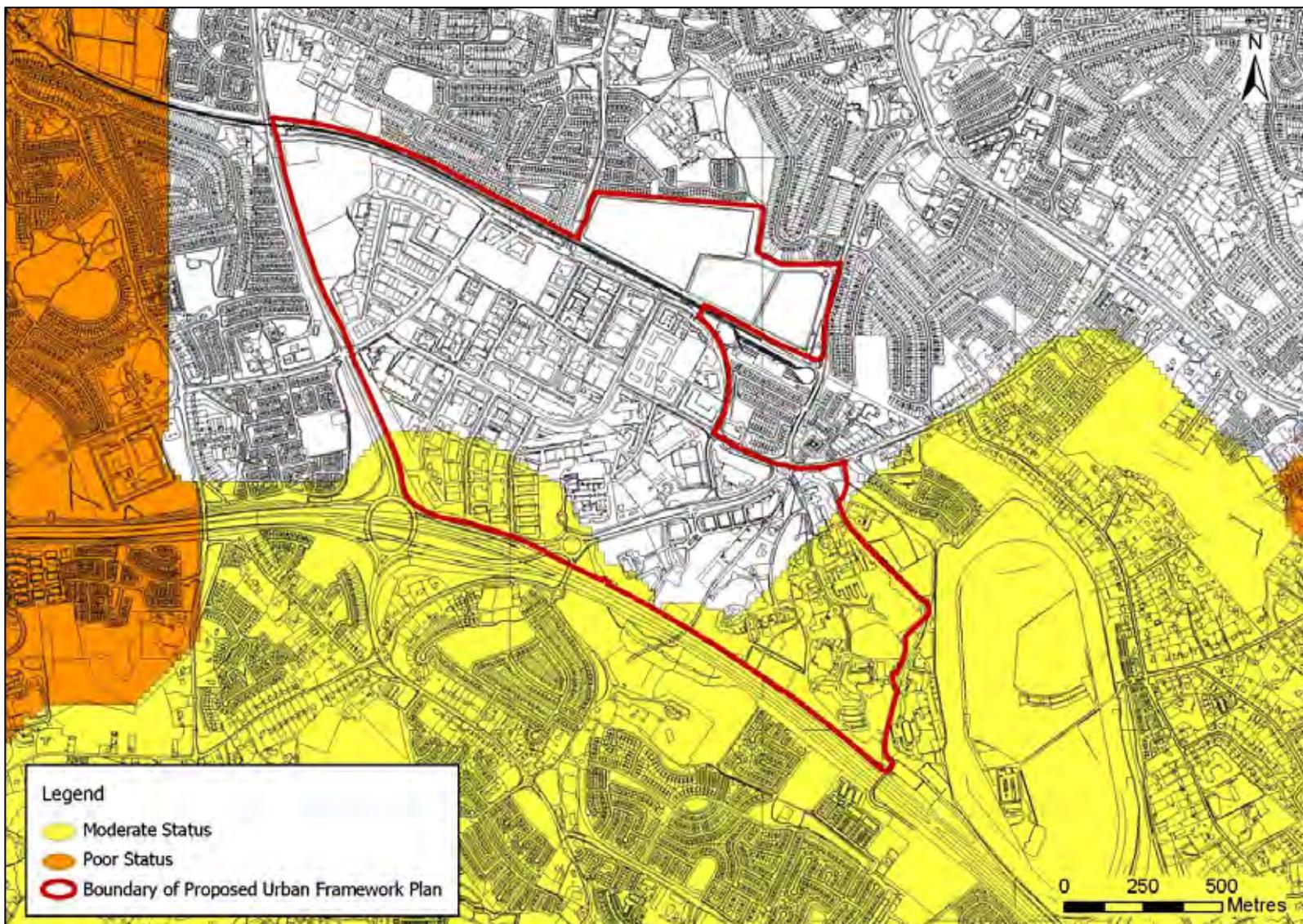


Figure 3.19 WFD Status of Surface Waters
Source: EPA (2010)

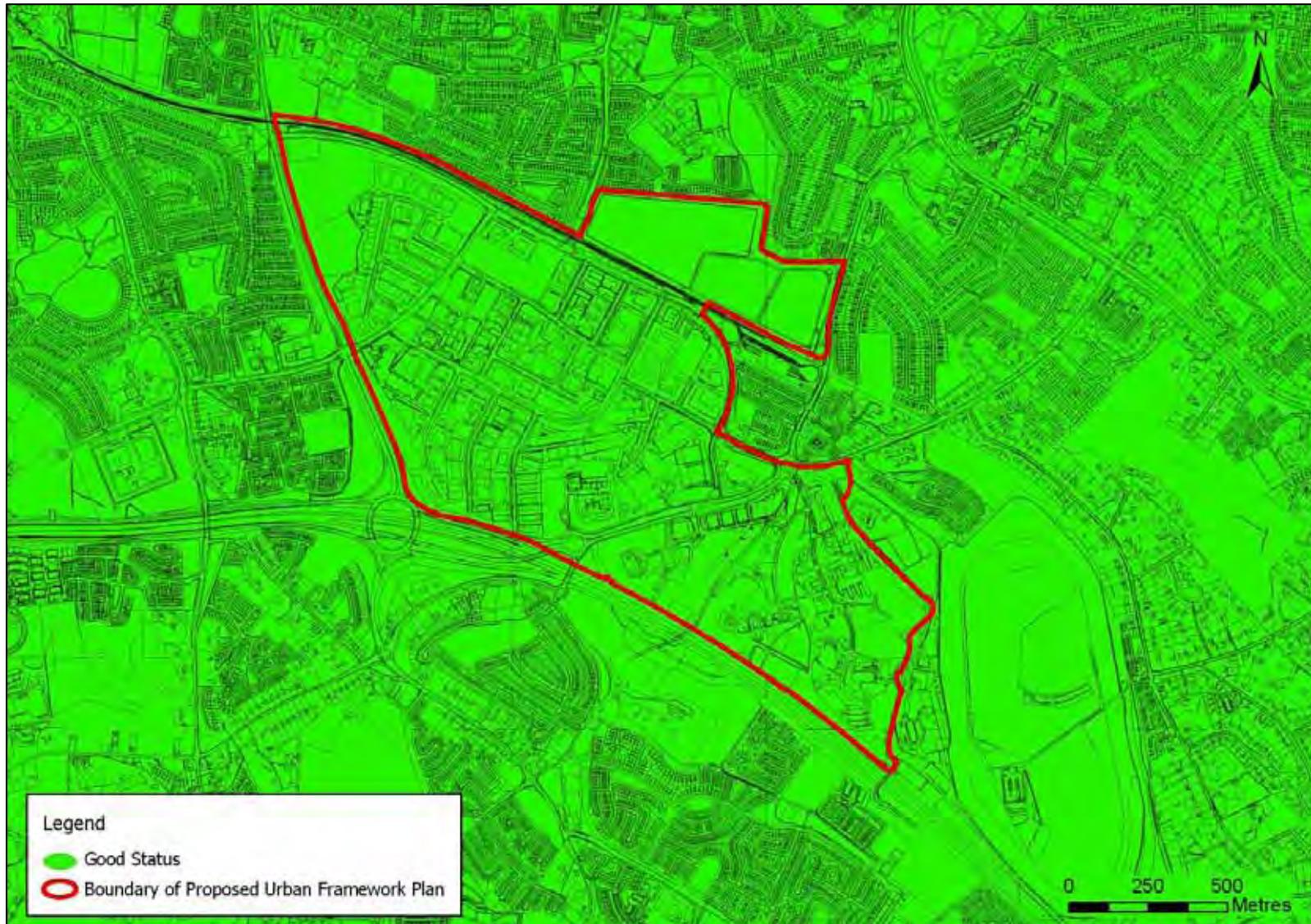


Figure 3.20 WFD Status of Groundwater
Source: EPA (2010)

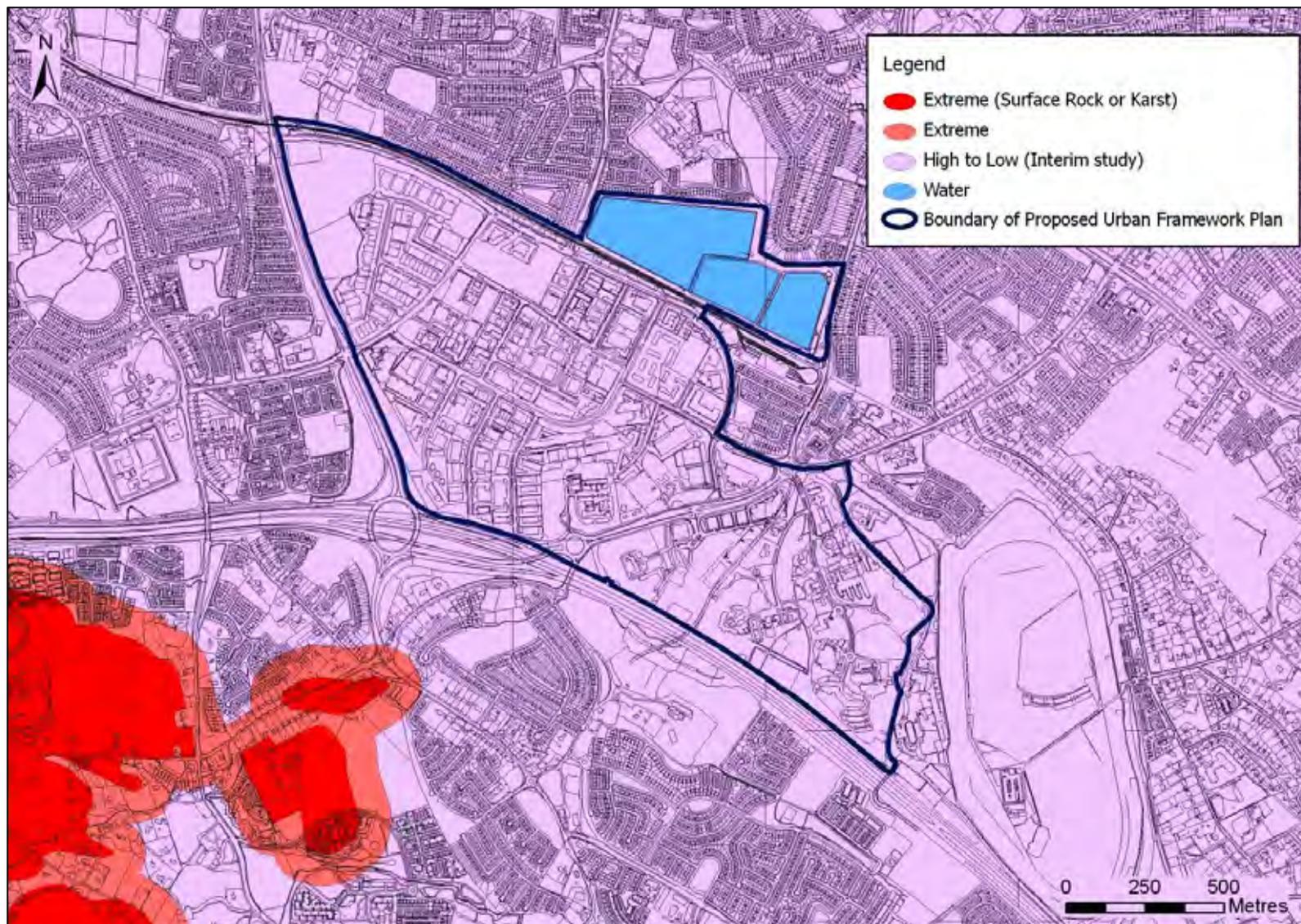


Figure 3.21 Aquifer Vulnerability

Source: GSI (2006)

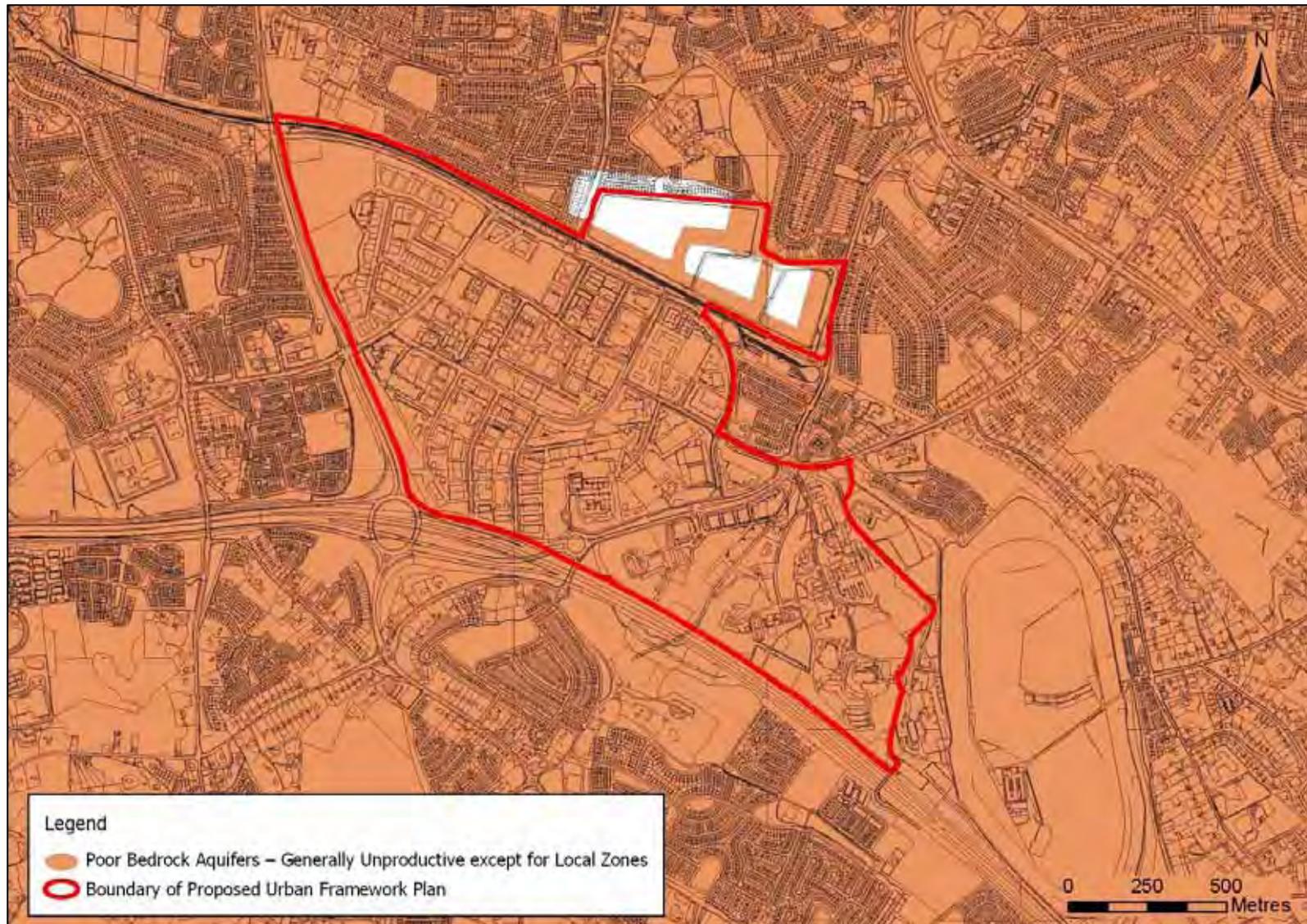


Figure 3.22 Aquifer Productivity

Source: GSI (2006)

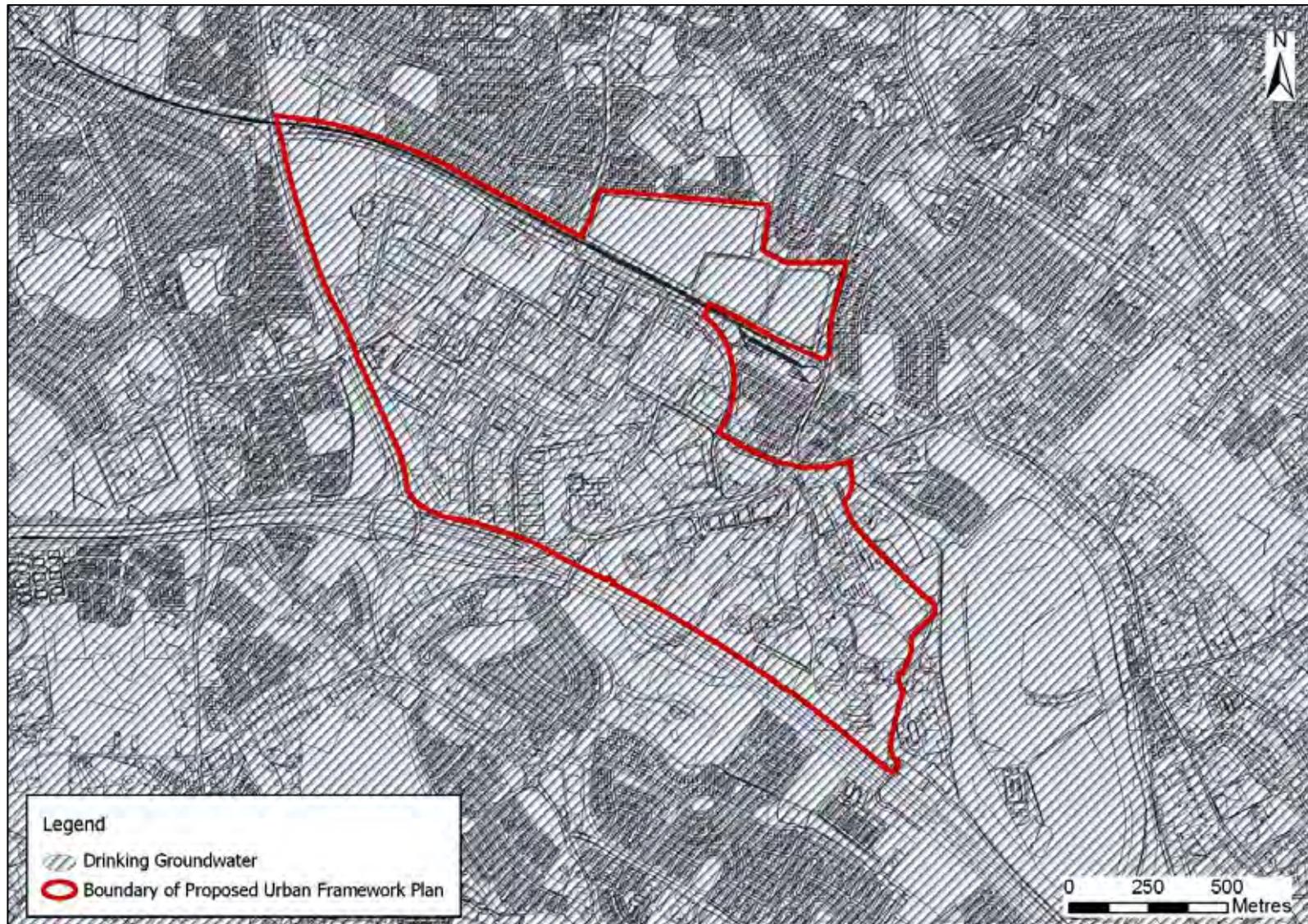


Figure 3.23 WFD Register of Protected Areas

Source: EPA (2009)

3.7 Material Assets

3.7.1 Waste Water

3.7.1.1 Relevant Legislation

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. The Regulations stipulate that sewage treatment facilities are in place in all towns by 2005. The treatment of wastewater is also relevant to the Water Framework Directive which requires all public bodies, including Dún Laoghaire-Rathdown County Council, to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2015 (see Section 3.6 *Water*).

3.7.1.2 Current Status and Future Upgrades

All waste water arising from the Variation area is treated at the Ringsend Waste Water Treatment Plant which is operated by Dublin City Council. This plant frequently operates above its design capacity.

Dublin City Council is undertaking an Environmental Impact Assessment (EIA) into expanding the wastewater treatment works at Ringsend to its ultimate capacity, in line with a recommendation in the Greater Dublin Strategic Drainage Study, 2005. The government has provided €74,000,000 in the recently published 2010 – 2012 Water Services Investment Programme towards the expansion of the works. The 2005 Study also recommended that a new regional Wastewater Treatment Works should be constructed in North Co. Dublin.

Extending the existing treatment systems on the Ringsend site will involve the construction of an alternative discharge point approximately 10 kilometres offshore due east of Dublin, which will meet with all EU and Irish discharge

standards from the existing works and from the proposed extension.

The Sandyford and Stillorgan Foul Drainage Study 2007 recommended a significant amount of new and upgraded foul and combined sewer infrastructure (see Section 3.7.2.5).

The foul water network and a waste water treatment plant in the area are mapped on Figure 3.24.

3.7.2 Flooding

3.7.2.1 Introduction

Flooding is an environmental phenomenon which, as well as causing economic and social impacts, could in certain circumstances pose a risk to human health. Sandyford may be vulnerable to adverse effects which are exacerbated by changes in the occurrence of severe rainfall events and associated flooding of rivers. In general terms, local conditions such as low-lying lands and inadequate surface water drainage increase the risk of flooding. Infrastructural development, culverting and all urban development present ongoing flooding hazards. Increased surface water runoff due to construction of new hard surfaced areas is now generally not as significant a problem as it was in the past in terms of its impact on peak flows because of the implementation of Sustainable Urban Drainage Systems (SUDS).

3.7.2.2 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. For such zones, flood risk maps are required to be drawn up by 2013. Flood risk management plans focused on prevention, protection and preparedness must be established by 2015. The OPW is currently involved in a research project to develop maps with national coverage indicating areas that might be prone to flooding from rivers and streams. Further work is underway to refine the method and outputs, which, if successful, may enable this information to be made available in the near future.

3.7.2.3 DEHLG Flood Risk Management Guidelines

In November 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.

3.7.2.4 OPW's National Flood Hazard Mapping

Figure 3.25 maps the locations of the various flood events surrounding the Variation area - accessible from the OPW's National Flood Hazard Mapping website.

3.7.2.5 Drainage Studies

The Greater Dublin Strategic Drainage Study was commissioned in 2001 by Dublin City, Fingal, South Dublin, Dún Laoghaire-Rathdown and the adjacent catchments in Meath, Kildare and Wicklow. This regional study identified a flood risk downstream of Sandyford – in the vicinity of the Lower Kilmacud Road and significant surcharging (i.e. near flooding) elsewhere. The GSDS did not, however, allow for the significant development that was occurring in the Sandyford Business Estates.

Dún Laoghaire Rathdown County Council Water Services Section commissioned a more comprehensive and detailed drainage study in 2007 to assess the performance of the existing foul drainage system in the Sandyford and Stillorgan areas and to identify the capacity of the network to accommodate future projected growth.

The Sandyford Stillorgan Foul Drainage Study 2008 provided a comprehensive analysis of the performance of the existing drainage system and set out future infrastructure requirements for the catchment. A significant amount of new and upgraded foul and combined sewer infrastructure was recommended by the study.

A consultant was appointed in June 2010 for the design of the major pipeline works and the design is currently underway.

Downstream of the District a flood alleviation project (The Carysfort Maretimo Stream Improvement Scheme) has been designed and has been tendered for construction, award is due within weeks.

3.7.3 Drinking Water

3.7.3.1 Relevant Legislation

The European Communities (Drinking Water) Regulations 2007 (S.I. No. 106 of 2007) replicate the existing European Communities (Drinking Water) Regulations 2000 (S.I. No. 439 of 2000) and also provide for supervision of sanitary authority supplies by the Environmental Protection Agency. The European Communities (Drinking Water) (No. 2) Regulations 2007 (S.I. No. 278 of 2007) further strengthen the Drinking Water Regulations by increasing penalties for non-compliance with the requirements of the Regulations.

3.7.3.2 Drinking Water Quality¹¹

Drinking water must be clean and wholesome. That means it must meet the relevant water 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, 2007. The EPA publishes their results in annual reports which include Remedial Action Lists (RALs). The RAL identifies water supplies which are not in compliance with the Regulations mentioned above.

The Ballyboden supply supplies water to the Sandyford Reservoir which in turn provides water to approximately half of the Variation area. This supply is operated by Dublin City

¹¹ Text in this section is sourced from EPA (2009) *The Provision and Quality of Drinking Water in Ireland: A Report for the Years 2007-2008*, Wexford: EPA

Council and has been identified on the RAL with the primary reason of concern given as: “EPA Audit Observation - Treatment and Management Issues”.

3.7.3.3 Water Supply¹²

Due to a number of shortcomings in the water supply system in the area, the Sandyford High Level Scheme was undertaken. This included the construction of the Stillorgan and Sandyford Hall Pumping Stations, two reservoirs, control buildings and approximately 7km of water mains. The scheme provides sufficient reservoir capacity to permit considerable additional development in the SUFP area.

Watermains linking the new reservoirs and supply zones are currently adequate and have some spare capacity. However increased capacity watermains, which will include a motorway crossing, will be required before significant additional development is undertaken between the south side of Blackthorn Road. and the M50. Standard development levies may be adequate to fund these alterations but further investigation will be required to determine cost and required programme. Until the larger watermains are installed, new large scale developments may be required to take a portion of their water requirements at off-peak times. Local watermains within the Variation area may need to be altered depending on local factors.

3.7.4 Waste

Ballyogan Landfill Facility and Recycling Park is situated to the south of the Variation area (see Figure 3.24). Ballyogan operated as a landfill until March 2005 when the principal activity shifted to the Baling Station where waste was baled and transported off-site for disposal at Arthurstown Landfill, Kill, Co. Kildare. Recycling facilities are provided for members of the public at the Civic Recycling Facility (CRF) within the Recycling Park, under the operation of Greenstar.

¹² Text in this section is taken from a working paper on the evaluation of the water supply capability to the Sandyford Urban Framework Plan area which was drawn up by the Water Services Department at Dún Laoghaire-Rathdown County Council.

3.7.5 Vehicular Circulation

The Sandyford area is well serviced by a network of various transportation modes including a good network of public transport.

The M50 abuts the southern boundary and the N11 lies in to the east, in close proximity. A number of bus routes serve the area.

The Green Luas line runs along the northern Variation boundary. Sandyford Luas stop has recently been upgraded to facilitate the operation of the Luas Green Line extension to Cherrywood.

A Transportation Strategy has been drawn up for the Variation area. The Strategy summarises the conclusions and key elements proposed by previous studies carried out for Sandyford and outlines in detail the methodology, analysis and conclusions drawn from the most recent study work by the Transportation Department. The current proposals and progress made to date with their implementation are also detailed. The overall process was intended to inform the development of the Variation.

Proposals under the Variation are mapped on Figure 3.26. These include a quality bus corridor within the Variation area which will further increase access to sustainable transport for the area. It is noted that the Luas line which is marked as being “under construction” has been completed and is now open.

3.7.6 Existing Problems relating to Material Assets

The waste water treatment plant at Ringsend is currently operating at capacity and water quality in the Bay is of a relatively high standard, illustrated by the Blue Flag award held by Dollymount beach (2010).

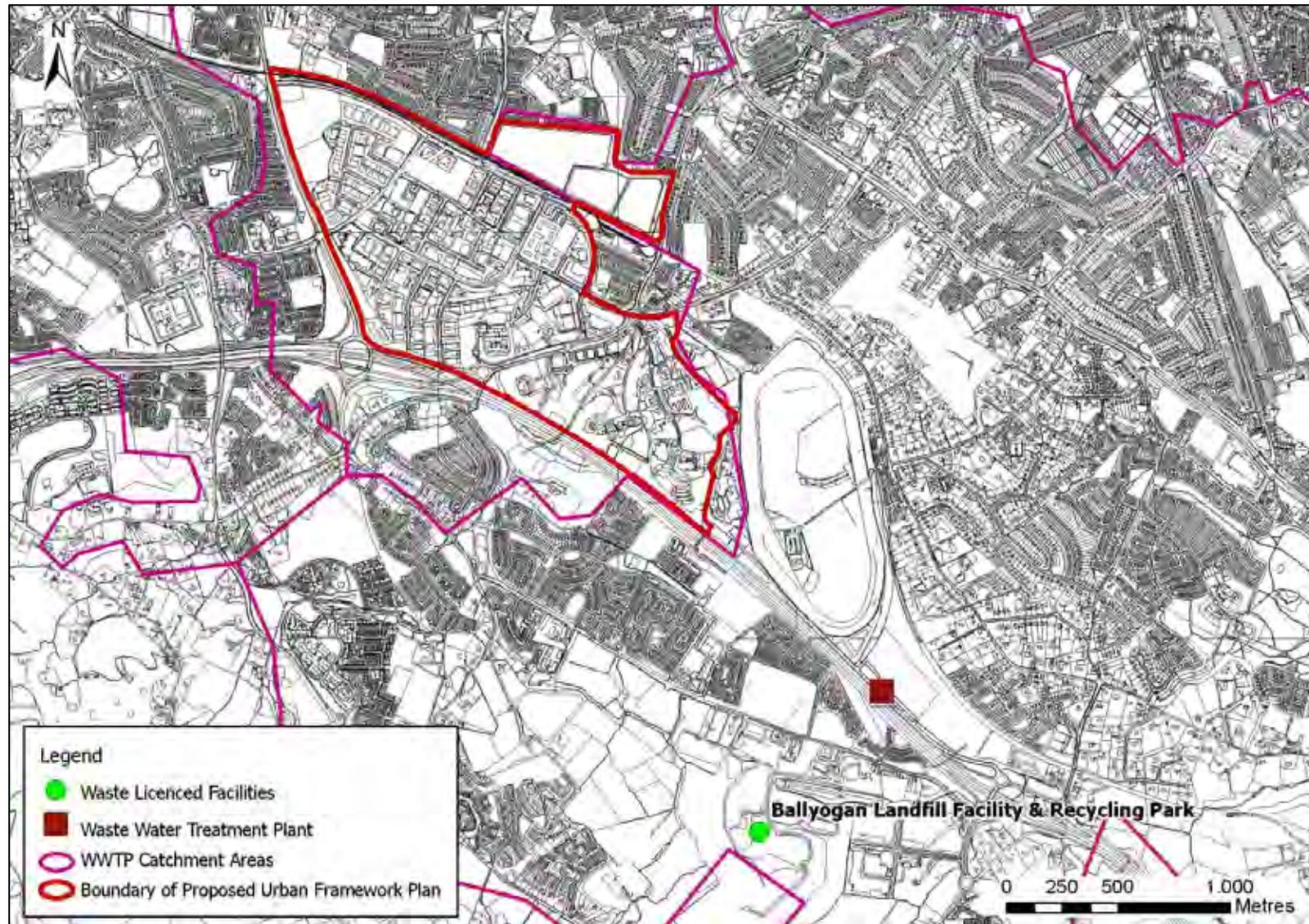


Figure 3.24 Waste Water Treatment Plant and Catchment Area

Source: DLRCC (Unknown)

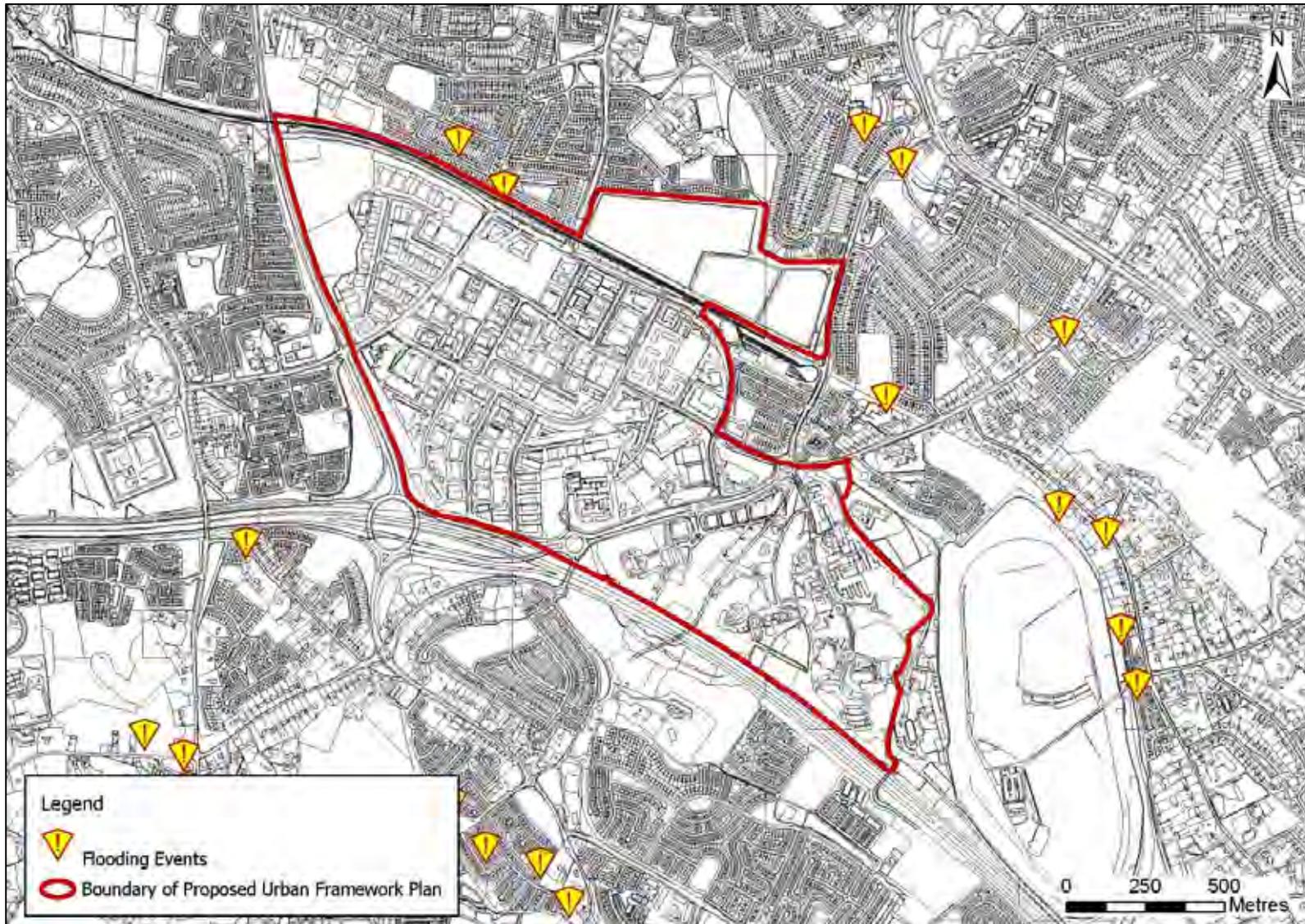


Figure 3.25 Flood Events in proximity to the Variation area

Source: OPW (Various)

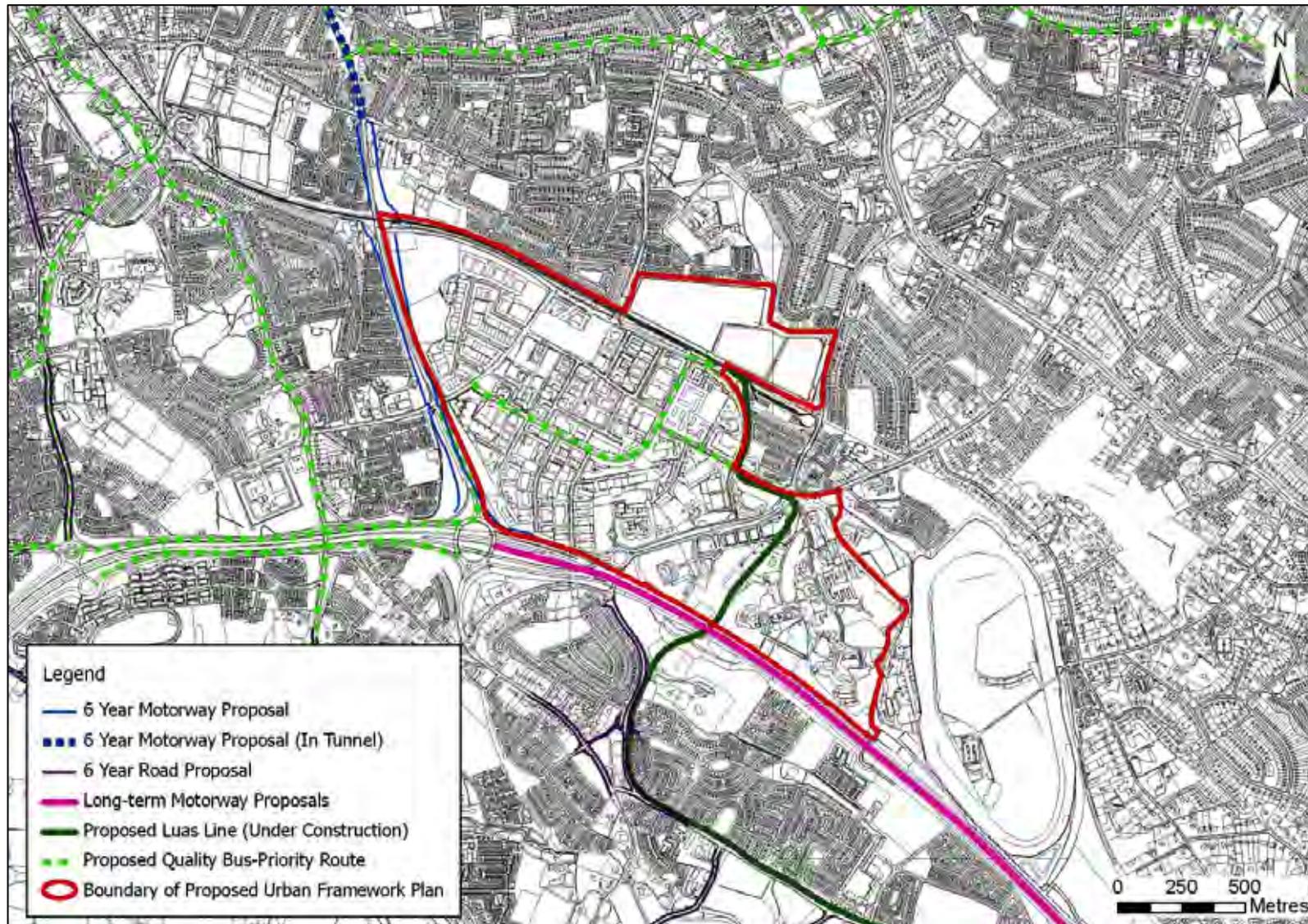


Figure 3.26 Transportation Proposals

Source: Dún Laoghaire-Rathdown County Development Plan (2010-2016)

3.8 Air and Climatic Factors

3.8.1 Ambient Air Quality

3.8.1.1 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 polycyclic aromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

Dún Laoghaire-Rathdown County Council has adopted "The Air Quality Management Plan for the Dublin Region, 2008-2010" under the provisions of the Air Pollution Act. The aim of the Variation is to protect the valuable asset of good air quality in the Dublin Region and ensure that adverse air quality does not impact on the most vulnerable of the population whether their vulnerability is due to occupation, age, existing health conditions or other factors.

3.8.1.2 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 comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sandyford, 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 Variation area falls within Zone A, as mapped on Figure 3.27. In this area, Zone A is also a Coal Restricted Areas. Zone D is visible in the south west of the Variation area. Air quality in both Zone A and Zone D is currently good.

Two air quality monitoring sites are visible on Figure 3.27, an old site at Pottery Rd. and a current monitoring site Glenegeary Road.

3.8.1.3 Coal Restriction Areas

A ban on the marketing, sale and distribution of bituminous coal applies in sixteen towns and cities around the Country (Dublin from 1990, Cork 1995, Arklow, Drogheda, Dundalk, Limerick and Wexford 1998, Celbridge, Galway, Leixlip, Naas and Waterford 2000, Bray, Kilkenny, Sandyford and Tralee 2003). The origins of the coal bans date from the start of the 1990s when the main air quality problem facing Ireland was the occurrence of "winter smog" (smoke and sulphur dioxide emissions) resulting from widespread use of bituminous coal in major urban areas, notably Dublin, leading to serious health effects for people. Regulations were made in 1990 to ban the marketing, sale and distribution of bituminous coal in the Dublin area. Smoke and sulphur dioxide (SO₂) levels showed considerable improvement once the ban was introduced and it was decided in subsequent years to extend the ban further in order to achieve and preserve good air quality in the selected areas.

3.8.1.4 Air Quality Data from Existing Environmental Impact Assessments

EIS for proposed mixed use development Sept. 2005

An EIS carried out for a mixed use development on the Allegro Site in the Plan area included an air quality assessment. In 2008, baseline levels of NO₂, benzene and PM₁₀ were measured at levels below air quality limit values in the vicinity of the proposed development. Modelling carried out to predict the impact of the development once operational indicated that levels of PM₁₀, CO, NO₂ and benzene would not be significant.

Sandyford Industrial Estate Link Road Feb 2005

An Environmental Impact Report was carried out in 2005 for the Sandyford Industrial Estate Link Road. An air quality assessment was undertaken as part of this. In 2004, baseline levels for NO₂, benzene and PM₁₀ were below limit values. Air quality monitoring predicted an imperceptible impact on air quality.

EIS for a proposed mixed use development on the former Aldi Site, September 2004

Air quality in the vicinity of the former Aldi site was below the standards for NO₂, PM₁₀, PM_{2.5} and benzene in 2007. This was based on an analysis of a baseline monitoring survey and existing EPA data as part of an EIS for a mixed use development at the former Aldi site. Modelling assessments indicate that levels of NO₂, PM₁₀, PM_{2.5}, CO and benzene would be negligible once the development is in place.

Upgrade to the M50 EIS Volume 4, September 2004

Air Quality monitoring carried out as part of the EIS for the M50 Upgrade Scheme found that baseline levels of NO₂ and benzene in 2000 and 2001/2001 were well within the limits. 3 of the 21 predictive modelling receptors occurred in Sandyford. Significance levels of "moderate adverse" and "minor adverse" for CO, benzene, nitrogen dioxide and PM₁₀ were predicted.

3.8.2 Potential Point Sources of Emissions to Air

3.8.2.1 IPPC Licensed Facilities

The EPA has been licensing certain large-scale industrial and agriculture activities since 1994. Originally the licensing system was known as Integrated Pollution Control (IPC) licensing, governed by the Environmental Protection Agency Act, 1992. The Act was amended in

2003 by the Protection of the Environment Act, 2003 which gave effect to the Integrated Pollution Prevention Control (IPPC) Directive. Detailed procedures concerning the IPPC licensing process are set out in the EPA Acts 1992 to 2007 and the associated licensing regulations.

IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPPC license is a single integrated license which covers all emissions from the facility and its environmental management. All related operations that the license holder carries in connection with the activity are controlled by this license. Before a license is granted, the EPA must be satisfied that emissions from the activity do not cause a significant adverse environmental impact.

There is one IPPC licensed facility in the Variation area and two to the east. These are mapped on Figure 3.27.

Within the Variation area, Flight Group Ltd. is licensed for the manufacture or use of coating materials in processes with a capacity to make or use at least 10 tonnes per year of organic solvents, and powder coating manufacture with a capacity to produce at least 50 tonnes per year.

3.8.3 Noise

3.8.3.1 Introduction

Noise is unwanted sound. It can seriously harm human health and interfere with daily activities at school, at work, at home and during leisure time. Areas within the Variation area which are commonly affected by noise are urban areas and areas along roadsides.

Generally, the main noise source in the Variation area is from traffic. Streets in low lying areas that have high traffic counts as well as enclosing taller buildings are likely to have harsh sensory environments with regard to noise levels. As mentioned below, traffic hotspots, such as intersections, are likely to have higher noise levels.

Traffic noise alone is harming today the health of almost every third European¹³. *Traffic*

¹³ World Health Organization Regional Office for Europe (2003) *Technical meeting on exposure-*

hotspots are likely to have elevated levels of air pollution and noise due to traffic congestion compared to surrounding rural areas. These hotspots are located along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health.

3.8.3.2 Noise Mapping

As required by the EU Directive 2002/49/EC relating to The Assessment and Management of Environmental Noise, (known as the 'END' Directive) which was transposed into Irish law by the Environmental Noise Regulations, SI number 140 of 2006, an Action Plan was drafted in July 2008.

The Action Plan is aimed at managing Environmental Noise and was prepared jointly by all of the four local authorities in the Dublin Agglomeration: Dublin City Council, Fingal County Council, South Dublin County Council and Dún Laoghaire-Rathdown County Council, being the designated authorities under article 7 of the Environmental Noise Regulations 2006 to do so.

Noise mapping was required to be carried out as part of the Action Plan. The 'Noise Maps' show colour coded areas in the Dublin Agglomeration based on sound levels, in 5 bands. These rise in 5 decibels. The Night time band starts at 50 decibels and the 24 Hour band starts at 55 decibels. The results of the noise mapping for the Plan area are mapped on Figure 3.28 and Figure 3.29¹⁴.

The EU Directive and the Irish regulations do not give an indication as to what level of 'noise' is acceptable. This is left to each member state. At this point in time, Ireland does not have any statutory limit values, as is the case for air pollution.

3.8.3.3 Noise Data from Existing Environmental Impact Assessments

EIS for proposed mixed use development Sept. 2005

An environmental noise survey was carried out in 2003 as part of an EIS for a proposed mixed

response relationships of noise on health 19-21 September 2002 Bonn, Germany Bonn: WHO

¹⁴ At the time of writing this report a complete dataset was not available.

use development in Sandyford. The baseline survey identified traffic noise, noise associated with aircraft, construction noise and birdsong as sources of noise at three locations near to the site. The report states that once operational, noise impacts from building services plant, on-site car parking and service yard activity would not be significant. Additional vehicular traffic on public roads would give rise to a slight/marginal noise impact.

Sandyford Industrial Estate Link Road Feb 2005

A noise impact assessment was carried out as part of an Environmental Impact Report for the Sandyford Industrial Estate Link Road in 2004. Existing sources of noise in the area included traffic noise, LUAS movements, water noise associated with a stream, children playing outside a school and distant construction noise. Traffic noise predictions showed that noise levels would meet the goal level at most locations. Mitigation measures were proposed for those locations that didn't meet the goal noise level.

EIS for a proposed mixed use development on the former Aldi Site, May 2007

Construction noise, LUAS movements, birdsong and overhead helicopter movements were identified as noise sources during the daytime period at four locations monitored as part of an environmental noise survey carried out as part of the EIS for a proposed mixed use development on the former Aldi Site. Night-time noise included distant road traffic noise, occasional local vehicle movements and passing LUAS movements and other distant engine noise.

Upgrade to the M50 EIS Volume 4, September 2004

An EIS was carried out for the M50 Motorway Upgrade Scheme. Environmental noise surveys were conducted in order to quantify the existing noise environment in the vicinity of noise-sensitive locations that may have been affected by the proposed road development. Monitoring was carried out at forty-two locations, three of which (S106, S107 and S108) were in the vicinity of the Plan area. Dominant noise sources at these sites comprised construction activity in the distance and traffic on surrounding roads. Noise modelling was carried out for sixty-three

properties, five of these lie to the south west of the Plan area. Modelled levels of noise at these five properties comply with the relevant NRA design goals.

3.8.4 Climatic Factors

3.8.4.1 Greenhouse Gases

In order to reduce greenhouse gas emissions the internationally agreed Kyoto Protocol established emissions reduction targets for developing countries. Ireland's emission target for greenhouse gases is to limit the increase in their combined emissions during the five-year period 2008-2012 to 13 per cent above 1990 levels.

Based on the inventory figures for 2006¹⁵, the EPA estimates that Ireland's emissions in 2006 were 25.5 per cent higher than the baseline estimate that underlies Ireland's allowable emissions for the period 2008-2012, as agreed in the peer review of Ireland's 2006 submission to the United Nations Framework Convention on Climate Change.

With regard to overall emissions, *Agriculture* is the single largest contributor, at 27.7% of the total, followed by *Energy* (power generation & oil refining) at 22.3% and *Transport* at 19.7%. The remaining 30% is made up by the Residential sector at 10.4%, *Industry and Commercial* at 17.2%, and *Waste* at 2.6%.

Transport continues to be the dominant growth sector with emissions at 682,000 tonnes higher in 2006 than in 2005. This represents a 5.2% increase on 2005 levels and 165% increase on the 1990 transport emissions. Road transport accounts for 97% of the transport sector emissions. The increase in the GHG emissions from the transport sector reflects sustained increases in fuel consumption with petrol usage up 3.4% and diesel consumption up 7.9% from the previous year.

3.8.4.2 Climate Change

Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. The release of greenhouse gases into the atmosphere as a result of human activities adds to natural

¹⁵ EPA (2008) *Ireland's Emissions of Greenhouse Gases for the period 1990-2006* Wexford: EPA

climate variability by increasing the naturally occurring greenhouse effect. This greenhouse effect occurs in the atmosphere and is caused by greenhouse gases which exist naturally in the atmosphere. The greenhouse gases retain the radiation which is released from the earth as a result of heating by the sun. This retention maintains a global temperature which is suitable for ecosystems and life.

Climate change is not limited to changes in temperatures or weather - it can also mean changes in the occurrence of extreme and unstable weather conditions, storms and floods, droughts and coastal erosion.

3.8.4.3 Potential Effects of Changed Climate

The EPA's 'Climate Change: Regional Climate Model Predictions for Ireland' (2005)¹⁶ report provides an analysis of future Irish climate conditions for the period 2021–2060 based on the outputs from a new regional climate modelling facility located in Met Éireann.

As increased temperatures will lead to greater amounts of water vapour in the atmosphere and an accelerated global water cycle, it is reasonable to expect that river catchment areas will be exposed to a greater risk of flooding. The increase in winter precipitation will be likely to produce a significant increase in the more intense discharge episodes, raising the risk of future flooding.

The report identifies that although it is not possible to comment on changes in flood magnitude and frequency, the increase in winter runoff indicated for many parts of the west of the country, especially under the scenario for the period 2061–2090, is likely to have significant implications. River flooding tends to be more common during the wetter winter months when soils are near saturation and can be exacerbated in coastal areas when interactions occur between high tides and high flows. Many of the rivers draining upland areas have a rapid or "flashy" response to rainfall enhanced by rising topography. Steep slopes and thin soils favour rapid flow pathways and

¹⁶ Community Climate Change Consortium for Ireland (2005) *Environmental RTDI Programme 2000–2006 Climate Change: Regional Climate Model Predictions for Ireland (2001-CD-C4-M2) Final Report* Wexford: Environmental Protection Agency

water is rapidly transmitted to the channel network especially in urbanised catchments with extensive areas of impermeable surfaces.

3.8.5 Existing Problems

Traffic hotspots within the Variation area are likely to have elevated levels of air pollution and noise due to traffic congestion.

Localised air pollution incidences with regard to PM10 and PM2.5 and noise pollution are both likely to occur when

demolition/construction takes place - especially in relation to PM10 if suppression techniques are not introduced - and when traffic is queuing for long periods of time.

Ireland's current emissions are exceeding targets agreed in the peer review of Ireland's 2006 submission to the United Nations Framework Convention on Climate Change. It is unlikely that Ireland will meet these targets and it is likely therefore that financial penalties will be incurred. Transport related emissions continue to be the dominant growth sector.



Figure 3.27 Air Quality Zones, Monitoring Sites, Coal Restriction Areas and IPPC licensed areas

Source: EPA (2009)



Figure 3.28 Lden: Day-evening-night noise level

Source: Noise Action Plan for the Agglomeration of Dublin July 2008 – November 2013

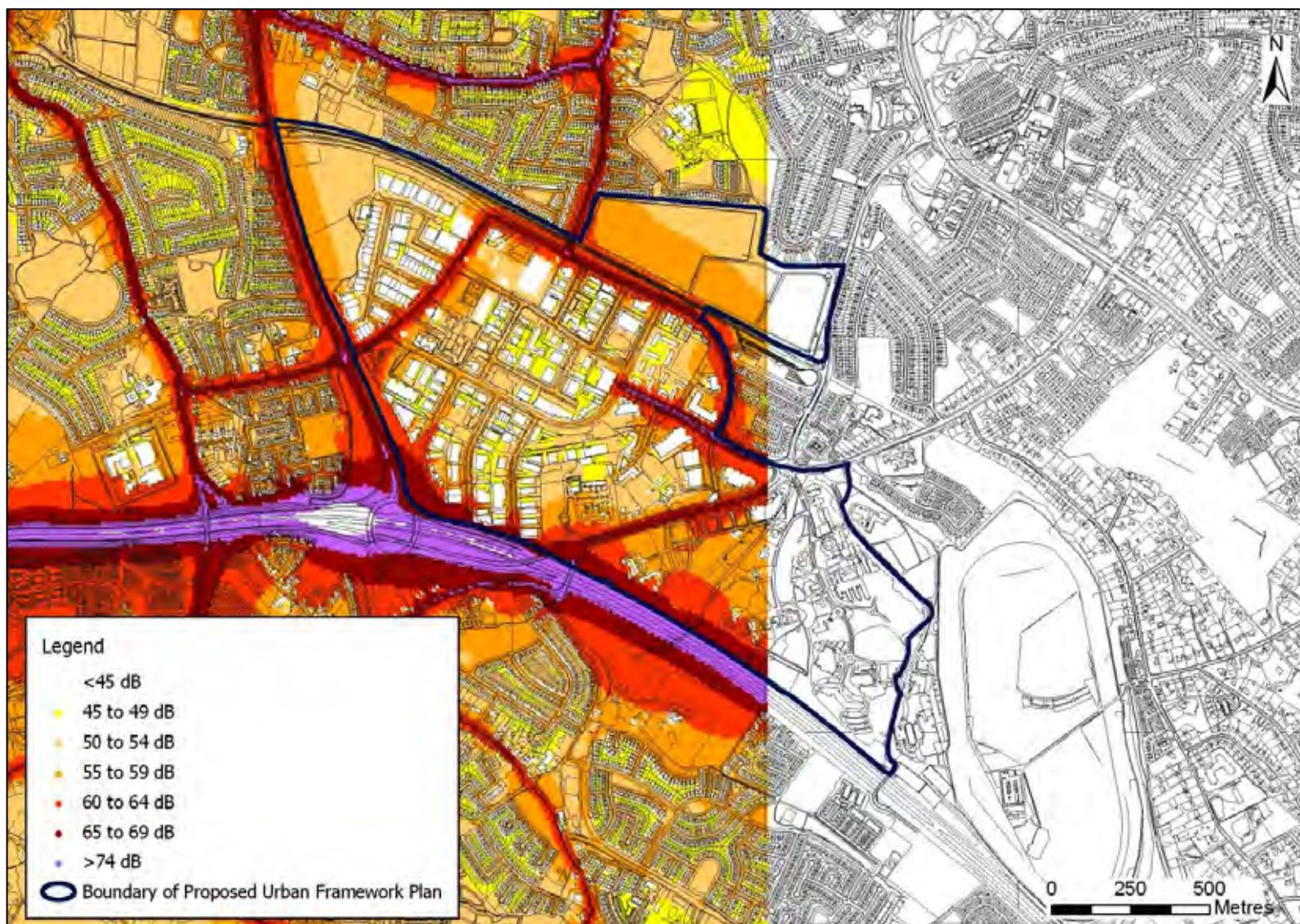


Figure 3.29 Night: Night noise level

Source: Noise Action Plan for the Agglomeration of Dublin July 2008 – November 2013

3.9 Cultural Heritage

3.9.1 Introduction

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

3.9.2 Archaeological Heritage

3.9.2.1 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.

3.9.2.2 Record of Monuments and Places

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 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.

To the south of the Sandyford area in the Townland of Murphystown is a fortified residence in the form of a tower. These are usually four or five storeys high and for the most part slightly more rectangular than square in plan. They were constructed by a lord or landholder and were often partially or completely enclosed by a bawn. The majority date to the 15th and 16th centuries AD.

A Fulacht Fia lies to the east of the Variation area. This is a horseshoe-shaped or kidney-shaped mound consisting of fire-cracked stone and charcoal-enriched soil built up around a sunken trough located near or adjacent to a water supply, such as a stream or spring, or in wet marshy areas. The first recorded use of the Irish term 'fulacht fiadh/fia' (cooking pit of the deer or of the wild) as relating to ancient cooking sites was in the 17th century. These are generally interpreted to have been associated with cooking and date primarily to the Bronze Age (c. 2400-500 BC).

A church and a graveyard lie to the north of the Variation area. In the Townland of Murphystown to the south of the Variation area there is a Fulacht Fia, burial ground and a castle. The location of these monuments is mapped on Figure 3.30.

3.9.3 Architectural Heritage

3.9.3.1 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.

3.9.3.2 Record of Protected Structures

The Record of Protected Structures (RPS) is legislated for under 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.

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

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

Structures listed on the Record of Protected Structures are mapped on Figure 3.30; there are five structures within the Variation area and a number in the vicinity.

3.9.3.3 Architectural Conservation Areas

The Planning and Development Act, 2000 as amended provides the legislative basis for the protection of such areas, known as Architectural Conservation Areas (ACAs). An ACA is a place, area or group of structures or townscape which is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures, whose character it is an objective to preserve in a development plan. The ACA

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.

designation requires that planning permission must be obtained before significant works can be carried out to the exterior of a structure in the ACA which might alter the character of the structure or the ACA.

ACAs enable the protection of the existing character of areas within the settlements listed above throughout the County. This character is a combination of the various layers of development from earliest times to the present. Though often not individually very important, vernacular buildings contribute to the acknowledged distinctive character of many of the County's built up areas. Collectively, if properly used and maintained, they can make a significant impact on the retention and enhancement of that character which is important in maintaining local distinctiveness for both inhabitants and visitors.

The Foxrock Architectural Conservation Area lies to the east of the Variation area. A candidate ACA lies just to the north of this. These areas are mapped on Figure 3.30.

3.9.4 Existing Cultural Heritage Problems

Threats to cultural heritage might include the cumulative accommodation of large scale development in the Variation area, development which involves material alteration or additions to protected structures, brownfield development and development on sites adjoining protected monuments, places or structures.

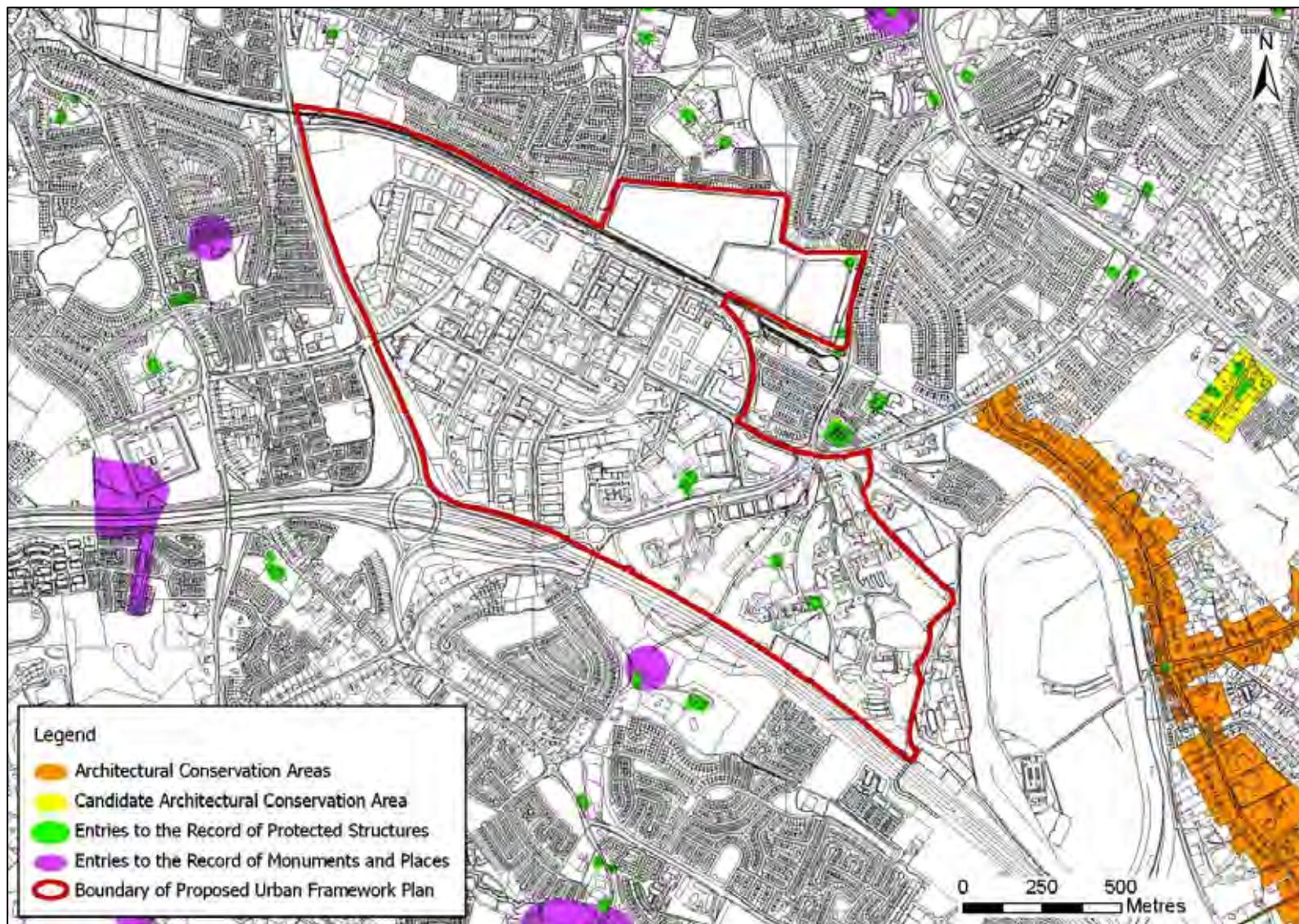


Figure 3.30 Entries to the RMP and RPS and ACAs and candidate Archaeological Conservation Areas
Source: Dún Laoghaire-Rathdown County Development Plan (2010-2016)

3.10 Landscape

3.10.1 Introduction

Landscapes are areas which are perceived by people and are made up of a number of layers:

- landform, which results from geological and geomorphological history;
- land cover, which includes vegetation, water, human settlements;
- human values which are a result of historical, cultural, religious and other understandings and interactions with landform and land cover.

The landscape of the Variation area is mostly urban interspersed with a number of open spaces. It is a fairly level area comprising six very separate areas with distinctly different built forms that are at different stages of development. The east of the Variation area is less built-up than the Business and Industrial Estates in the west of the Variation area. Lands to the south of the Variation area begin to rise into the uplands.

3.10.2 Landscape Character Areas

The Landscape Character Assessment for Dún Laoghaire-Rathdown divides the County into thirteen Landscape Character Areas. A description of each Landscape Character Area

and principles for development for each are detailed.

Landscape Character Areas lying to the south of Sandyford are Ticknock Road, Kiltiernan Plain, Ballychorus, Barnacullia, Carrickmines, and Cherrywood/Rathmichael. These are visible on Figure 3.32.

3.10.3 High Amenity Zones

These areas consist of landscapes of special value where inappropriate development would contribute to a significant diminution of the landscape setting of the Variation area. These areas include the Glencullen Valley, Glendoo Valley and Kilmashogue Valley. The areas adjacent to the High Amenity areas are also sensitive landscapes as development in these areas may affect directly or indirectly the quality of the High Amenity areas. A High Amenity Area lies to the south west of the Variation area as seen on Figure 3.31.

3.10.4 Existing Landscape Problems

There are no current issues relating to Landscape in Sandyford.

There are no landscape units, views or prospects which have a recognised county, national, European Union, international protection status within or adjacent to the area.

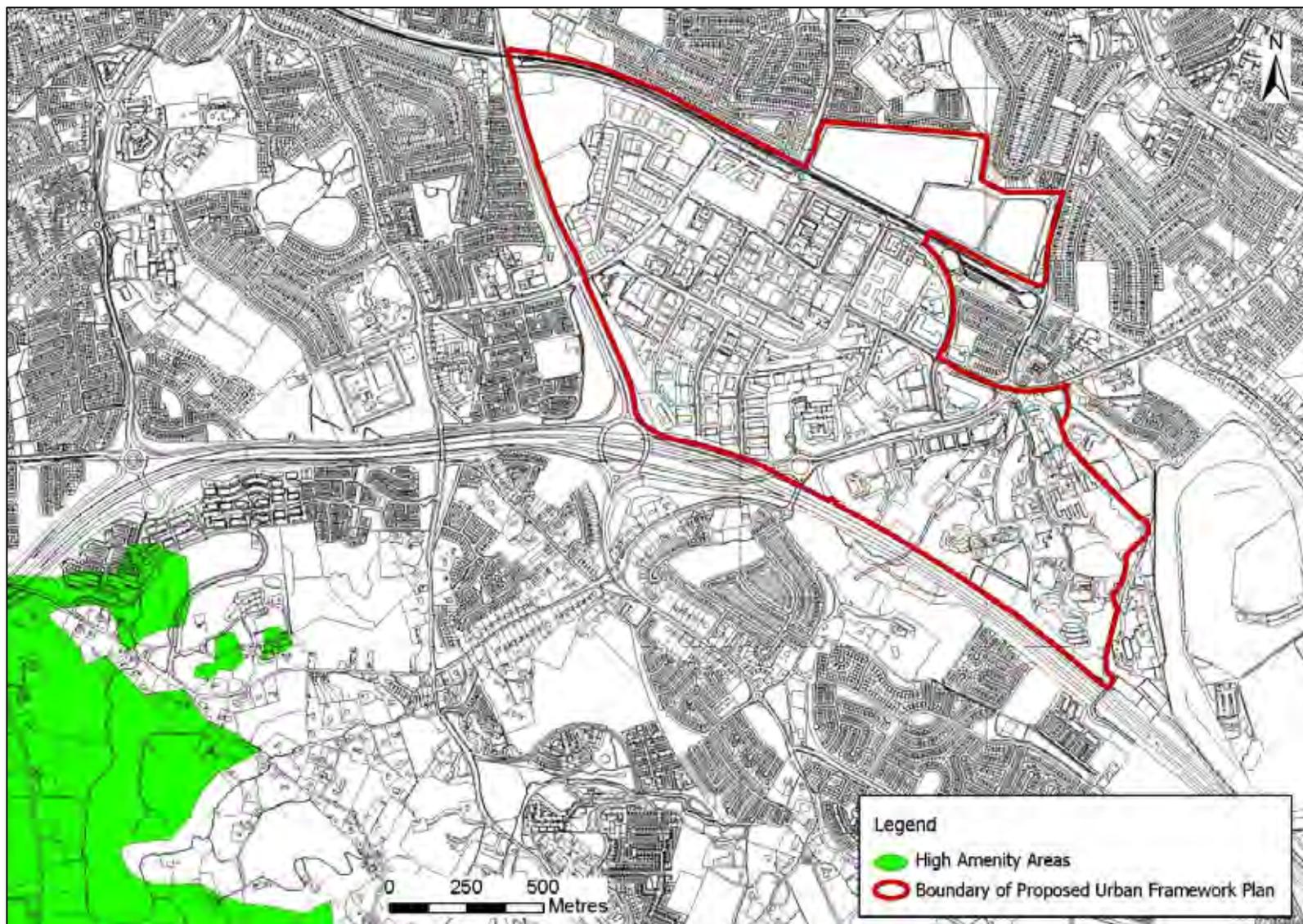


Figure 3.31 High Amenity Areas
Source: Dún Laoghaire-Rathdown County Development Plan (2010-2016)

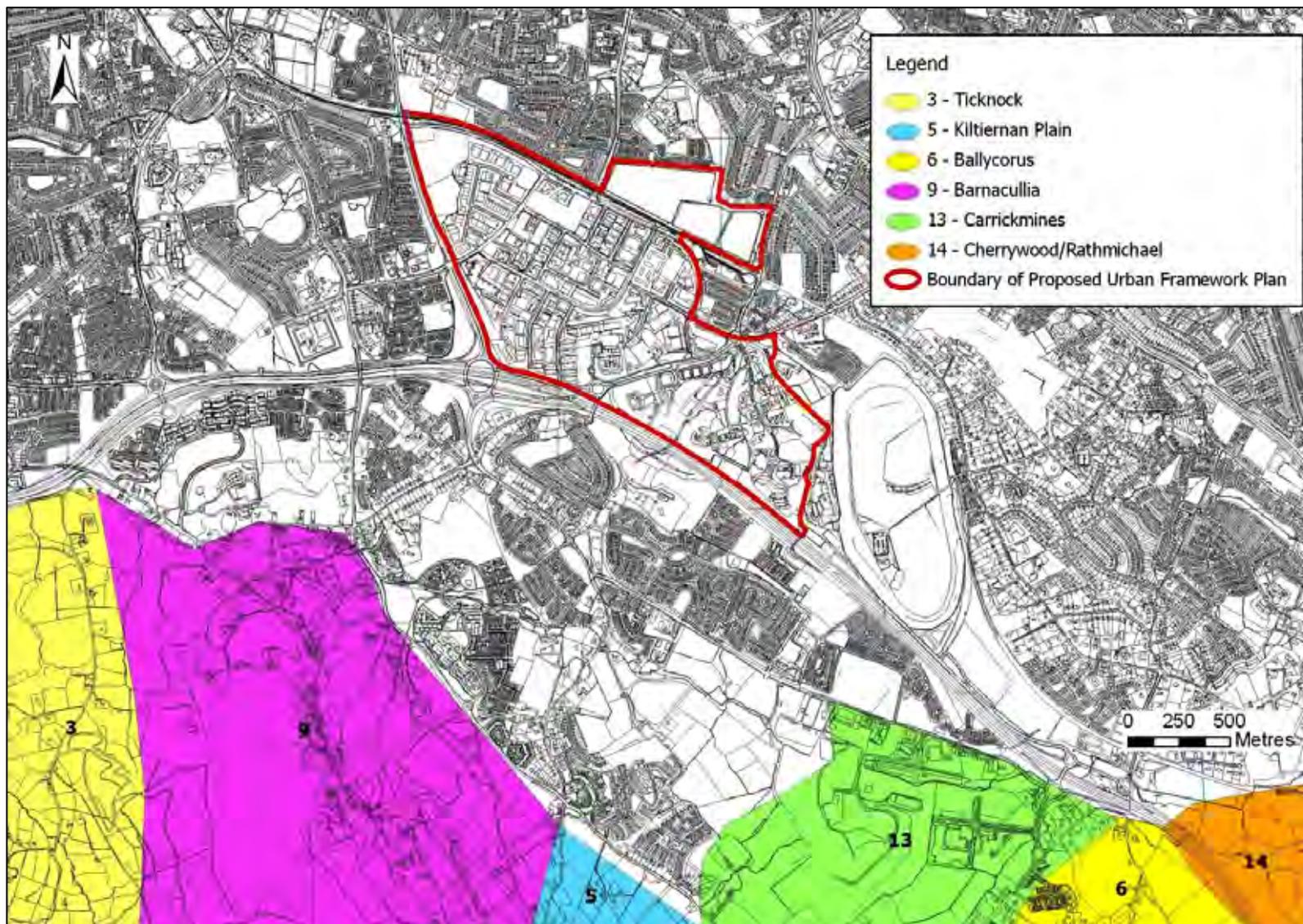


Figure 3.32 Landscape Character Areas

Source: Dún Laoghaire-Rathdown County Development Plan (2010-2016)

Section 4 Strategic Environmental Objectives

4.1 Introduction

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the Variation can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from implementation of the Variation. The SEOs are set out under a range of topics and are used as standards against which the provisions of the Variation can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated.

SEOs are distinct from the objectives of the Variation - although they will often overlap - and are developed from international, national and regional policies which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEA Directive requires that the evaluation of plans and programmes be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. In compliance with this requirement, the SEA has focused upon the most relevant aspects of the environmental characteristics within and surrounding the Variation lands. SEOs relating to these environmental characteristics have been identified and developed for the SEA. Most attention has been given to environmental components which are likely to be impacted as a result of implementation of the Variation.

A number of SEOs are linked to indicators which can facilitate monitoring the environmental effects of implementing the Variation when made to the County Development Plan, as well as to targets which the Variation can help work towards.

The primary source used in formulating the SEOs was Table 4B of the SEA Guidelines (DEHLG, 2004)¹⁸. This list has been amended

¹⁸ DEHLG (2004) Implementation of SEA Directive (2001/42/EC): *Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

to give affect to objectives that are considered relevant to the Variation. The use of SEOs, although not a statutory requirement, does fulfil obligations set out in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004).

4.2 Biodiversity, Flora and Fauna

4.2.1 International, European and National Strategic Actions

4.2.1.1 UN Convention on Biological Diversity 1992

The United Nations Convention on Biological Diversity 1992 requires the promotion of the conservation and sustainable use of biodiversity.

4.2.1.2 National Biodiversity Plan 2002

The preparation and implementation of Ireland's National Biodiversity Plan 2002¹⁹ complies with an obligation under the UN Convention on Biological Diversity. The overall goal of the Plan is to secure the conservation, including where possible the enhancement and sustainable use of biological diversity in Ireland and to contribute to conservation and sustainable use of biodiversity globally. Objectives following on from this goal are to:

- Conserve habitat diversity, including all sites of special biodiversity importance;
- Conserve species diversity;
- Conserve genetic diversity, both wild and domesticated; and
- Contribute to the conservation and sustainable use of biodiversity and to advancing other obligations of the CBD in the EU, regionally and internationally.

¹⁹ Department of Arts, Heritage, Gaeltacht and the Islands (2002) *National Biodiversity Plan* Dublin: Government of Ireland

4.2.1.3 Birds Directive 1979

The 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC), referred to as the Birds Directive, - as well as its amending acts - seeks to: protect, manage and regulate all bird species naturally living in the wild within the European territory of the Member States, including the eggs of these birds, their nests and their habitats; and regulate the exploitation of these species.

Special Protection Areas (SPAs) are provided protection under the Directive and have been designated due to their conservation value for birds of importance in the European Union.

4.2.1.4 Habitats Directive 1992

The European Council Directive on the Conservation of natural habitats and of wild fauna and flora (92/43/EEC), referred to as the Habitats Directive, aims to ensure the conservation of certain natural habitats and species which are at favourable conservation status. Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the network of designated ecological sites are maintained and it recognises the need for the management of these areas through land use planning and development policies.

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. Appropriate Assessment is a focused and detailed impact assessment of the implications of a plan or project, alone and in combination with other plans and projects, on the integrity of a Natura 2000 site in view of its conservation objectives.

The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. SACs together with SPAs - which are designated under the 1979 Birds Directive - form Natura 2000.

4.2.1.5 Wildlife Act 1976 and Wildlife (Amendment) Act 2000

The basic designation for wildlife is the Natural Heritage Area (NHA). 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. Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

Proposed NHAs (pNHAs) were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated - designation will proceed on a phased basis over the coming years.

Prior to statutory designation, pNHAs are subject to limited protection, in the form of:

- Rural Environment Protection Scheme (REPS) plans which require conservation of pNHAs and operate for a period of 5 years;
- Forest Service requirement for NPWS approval before they will pay afforestation grants on pNHA lands; and/or,
- Recognition of the ecological value of pNHAs by Planning and Licensing Authorities.

4.2.2 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been identified and developed with regard to the objectives of the above strategic actions and the environmental baseline described in Section 3.

SEO B1:	To ensure compliance with the Habitats Directive with regard to the protection of Natura 2000 Sites and habitats and species listed under Annexes I and II of the Directive
Indicator B1:	Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive
Target B1:	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation

SEO B2:	To ensure compliance with Article 10 of the Habitats Directive with regard to the protection of corridors and areas of habitat which are important at the local Sandyford level for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
Indicator B2:	Percentage loss of functional connectivity to corridors and areas of habitat which are important at the local Sandyford level without remediation as a result of implementation of the Variation
Target B2:	No significant corridors and areas of habitat or parts thereof which are important at the local Sandyford level and which provide functional connectivity to be lost without remediation as a result of the implementation of Variation

Note: the impact of implementing the Variation on aquatic biodiversity and flora and fauna is also influenced by both impacts upon the quality of surface water bodies - which relates to SEO W1 - and the provision of appropriate levels of waste water treatment infrastructure - which relates to SEO M1.

4.3 Population and Human Health

4.3.1 Population

In order to promote sustainable development and allow for public transport systems to function more effectively - as promoted by higher level land use strategic actions including the National Spatial Strategy - it is essential to consolidate the physical growth of development at the Variation lands.

This can be achieved through the development of underutilised lands, in particular where they are in close proximity to public transport routes.

The DEHLG's Residential Density Guidelines 1999 and the DEHLG's Sustainable Residential Development in Urban Areas Guidelines 2008 recommend planning authorities to promote higher residential densities, particularly in redeveloping 'brownfield' sites and in proximity to public transport corridors.

The impacts of implementing the Variation on both the spatial distribution of population and the nature of development with regard to greenfield and brownfield development relates to SEO S1 which aims to maximise sustainable brownfield development and minimise greenfield development.

4.3.2 Human Health

4.3.2.1 Overview

The impact of implementing the Variation on human health is determined by the impacts which the Variation will have upon environmental vectors. Impacts which the Variation might have upon these vectors would be influenced by:

- The extent to which new development is accompanied by appropriate infrastructure - this relates to SEOs M1 and M2;
- Impacts upon the quality of water bodies - these relate to SEOs W1 and W2;
- The extent of development provided by the Variation which would increase flood risk - this relates to SEO W3; and,
- The interaction between human beings and the noise generated by the landuses provided for by the Variation.

4.3.2.2 Emission Limits

Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a land-use plan began to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population. Nonetheless for the

sake of consistency with the requirements of the SEA Regulations this section includes an objective, indicator and target for health.

4.3.3 SEO, Indicator and Target

The following SEO, Indicator and Target have been identified and developed for the environmental components of population and human health.

SEO HH1:	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
Indicator HH1:	Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors as identified by the Health Service Executive and Environmental Protection Agency
Target HH1:	No spatial concentrations of health problems arising from environmental factors as a result of implementing the Variation

4.4 Soil

4.4.1 Proposal for a Soil Framework Directive

To date, there is no legislation which is specific to the protection of soil resources and soil protection is addressed indirectly and/or within sectoral policies such as water, waste, and nature protection.

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.

Article 5 of the proposed Directive states that, for the purposes of preserving the various functions of soil; sealing, the development of artificial surfaces on top of soil resources, should be limited. The proposed Directive suggests that this may be achieved through rehabilitating brownfield sites, thus reducing

the depletion of greenfield sites. The proposed Directive also states soil should be used in a sustainable manner which preserves its capacity to deliver ecological, economic and social services, while maintaining its functions so that future generations can meet their needs.

4.4.2 SEOs, Indicators and Targets

SEO S1:	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
Indicator S1:	Area of brownfield lands developed at the Variation lands over the lifespan of the County Development Plan
Target S1:	Arising from increased levels of brownfield development, a reduced availability of brownfield land at the Variation lands (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used) at the end of the County Development Plan's lifespan

4.5 Water

4.5.1 The Water Framework Directive 2000

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD has been transposed into Irish legislation by the European Communities (Water Policy) Regulations 2003 (SI No. 722 of 2003). 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 by 2015.

4.5.2 Quality Standards for Surface Waters

The European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) is the final major piece of legislation needed to support the WFD and gives statutory effect to Directive 2008/105/EC on environmental quality standards in the field of water policy. The Surface Waters Regulations also give further effect to the WFD, establishing a framework for Community action in the field of water policy and Directive 2006/11/EC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.

The Surface Waters Regulations apply to all surface waters - including lakes, rivers, canals, transitional waters, and coastal waters - and provide, inter alia, for:

- The establishment of legally binding quality objectives for all surface waters and environmental quality standards for pollutants;
- The examination and where appropriate, review of existing discharge authorizations by Public Authorities to ensure that the emission limits laid down in authorisations support compliance with the new water quality objectives/standards;
- The classification of surface water bodies by the EPA for the purposes of the Water Framework Directive;
- The establishment of inventories of priority substances by the EPA, and;
- The drawing up of pollution reduction plans by coordinating local authorities (in consultation with the EPA) to reduce pollution by priority substances and to cease and/or phase out discharges, emissions or losses of priority hazardous substances.

In addition, the Regulations require that a public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the chemical status or ecological status (or ecological potential as the case may be) of a body of surface water.

In order to satisfy the overall WFD objective of 'good status', a surface water body must

achieve the requirements of the good ecological²⁰ and chemical²¹ status.

4.5.3 Quality Standards and Threshold Values for Ground Water

Detailed provisions to achieve the aims of the WFD for ground water have been presented in a Groundwater Daughter Directive (Directive 2006/118/EC on the protection of groundwater against pollution and deterioration).

This Directive sets up environmental objectives of good groundwater quantitative and chemical status, as well as ensuring a continuity to the 1980 Groundwater Directive (Directive 80/68/EEC on the protection of groundwater against pollution caused by dangerous substances) which is due to be repealed under the WFD by the end of 2013.

Article 3 of the 2006 Directive required that the assessment of the chemical status of groundwater use both quality standards identified in Annex I of the Directive and threshold values to be set by individual member states.

Groundwater quality standards are environmental quality standards expressed as the concentration of a particular pollutant, group of pollutants or indicator of pollution in groundwater, which should not be exceeded in order to protect human health and the environment. Annex I of the Directive sets standards for two pollutants: Nitrates - 50mg/l - and; Active substances in pesticides²², including their relevant metabolites,

²⁰ Ecological status comprises: biological quality elements, physiochemical conditions and hydromorphological quality elements. The overall ecological status of the water body is determined by the lowest level of status achieved across all quality elements.

²¹ Chemical status assessment is based on compliance with the standards laid down for priority substances by Directive 2008/105/EC on environmental quality standards in the field of water policy (the Surface Waters Regulations give effect to the environmental standards established by this Directive).

²² 'Pesticides' means plant protection products and biocidal products as defined in Article 2 of Directive 91/414/EEC and in Article 2 of Directive 98/8/EC, respectively.

degradation and reaction products - 0,1 µg/l and 0,5 µg/l (total²³).

Irish groundwater threshold values²⁴ are currently in the process of being set by the EPA.

4.5.4 Flooding

4.5.4.1 EU Floods Directive

European Directive 2007/60/EC on the assessment and management of flood risks aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive applies to inland waters as well as all coastal waters across the whole territory of the EU.

The Directive 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. For such zones flood risk maps are required to be drawn up by 2013. By 2015 flood risk management plans focused on prevention, protection and preparedness must be established by 2015.

The Directive is to be carried out in coordination with the Water Framework Directive and flood risk management plans and river basin management plans should be coordinated.

4.5.4.2 DEHLG Flood Risk Management Guidelines

In November 2009 the DEHLG issued *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.

The Guidelines require the planning system to, among other things:

- Avoid development in areas at risk of flooding, particularly flood plains, unless there are proven sustainability grounds that justify appropriate development and where flood risk can be reduced or managed to an acceptable level, without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and,
- Incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals.

²³ 'Total' means the sum of all individual pesticides detected and quantified in the monitoring procedure, including their relevant metabolites, degradation and reaction products.

²⁴ Threshold values are to be established by Member States for all pollutants and indicators of pollution which characterise groundwater bodies classified as being at risk of failing to achieve good groundwater chemical status under the WFD. Threshold values are required to be established in a way that, should the monitoring results at a representative monitoring point exceed the thresholds, this will indicate a risk that one or more of the conditions for good groundwater chemical status - with regard to the ability of groundwater to support human uses and with regard to waters used for the abstraction of drinking water - are not being met.

4.5.5 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been identified and developed with regard to the objectives of the above strategic actions and the environmental baseline described in Section 3.

With regard to SEO W3, it is noted that there are no flood plains within the Variation area.

SEO W1:	To maintain and improve, where possible, the status of surface waters
Indicator 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)
Target W1:	To achieve 'good status' ²⁵ in all bodies of surface waters by 2015 and to not knowingly allow deterioration in the status of any surface water

SEO W2:	To prevent pollution and contamination of ground water
Indicator W2:	Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
Target W2:	Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC

SEO W3:	To manage areas that are currently at risk of flooding or are likely to pose a significant flood risk in the future
Indicator W3:	Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk
Target W3:	Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with <i>The Planning System and Flood Risk Management Guidelines</i> for Planning Authorities

4.6 Material Assets

4.6.1 Water Services Act 2007

The Water Services Act 2007 (SI No. 30 of 2007) incorporates a comprehensive review, update and consolidation of all existing water services²⁶ legislation, and facilitates the establishment of a comprehensive supervisory regime to ensure compliance with specified performance standards.

Section 36 of the Act provides for the making of 6-year Water Services Strategic Plans (WSSPs) in order to:

- to protect human health and the environment;
- to facilitate the provision of sufficient water services for domestic and non-domestic requirements in the area to which the Plan relates; and,
- to support proper planning and sustainable development, including sustainable use of water resources.

²⁵ 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*;
- *Mesotrophic* in the classification of *lakes*; and,
- *Unpolluted* status in the Assessment of Trophic Status of *Estuaries and Bays* in Ireland (ATSEBI).

²⁶ Services, including the provision of water intended for human consumption, which provide storage, treatment or distribution of surface water, groundwater or water supplied by a water services authority, or waste water collection, storage, treatment or disposal.

WSSPs are to be made by Water Services Authorities for their functional areas. The Act allows for two or more Water Services Authorities to jointly make a WSSP in relation to all of their combined functional areas, or parts thereof.

WSSPs are required to include information on the following:

- drinking water quality;
- the prevention or abatement of risk to human health or the environment;
- current and projected need for water services;
- arrangements in place or planned for the provision of water services;
- shortfalls in the provision of water services;
- water conservation measures in place or planned;
- monitoring arrangements;
- asset management planning; and,
- income and expenditure.

Section 36 (9) of the Act allows for the making of regulations prescribing the manner in which any matter is to be set out or addressed in a water services strategic plan, notification or consultation requirements and procedures or associated time limits, prior to and after its making.

4.6.2 Urban Waste Water Treatment Directive 2001

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI No. 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. The Regulations stipulate that sewage treatment facilities are in place in all towns by 2005.

Appropriate treatment is essential in order to meet the requirements of the Water Framework Directive (see Section 4.5.1).

4.6.3 Drinking Water Regulations 2007

The environmental baseline with regard to drinking water demand and supply is identified in Section 3. Measures have been integrated into the Variation in order to help ensure a clean and wholesome water supply.

The European Communities (Drinking Water) Regulations (No. 2) 2007 require the compliance of water intended for human consumption with 48 parameters.

4.6.4 SEOs, Indicators and Target

The following SEOs, Indicators and Targets have been identified and developed with regard to the objectives of the above strategic actions and the environmental baseline described in Section 3.

SEO M1:	To serve new development with appropriate waste water treatment
Indicator M1i:	Number of new developments granted permission which can be adequately served with waste water treatment over the lifetime of the County Development Plan as varied
Target M1i:	All new developments granted permission to be connected to and adequately served by waste water treatment over the lifetime of the Plan
Indicator M1ii:	Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands
Target M1ii:	For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act

SEO M2:	To serve new development with drinking water that is both wholesome and clean
Indicator M2i:	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
Target M2i:	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 County Development Plan as varied
Indicator M2ii ²⁷ :	Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands
Target M2ii:	For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act

4.7 Air and Climatic Factors

4.7.1 Introduction

The impact of implementing the Variation on air quality and climatic factors will be determined by the impacts which the Plan has upon the traffic levels which relate to SEOs C1 and C2.

Travel is the source of most:

- Noise;
- Air emissions; and,
- Energy use (41.4% oil equivalent of final energy consumption in 2006 was taken up by transport - sourced from Sustainable Energy Ireland's online Energy Statistics Data Bank).

²⁷ Indicator and Target M2ii are the same as Indicator and Target M1ii

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning, increases in greenhouse gases 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.

4.7.2 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 County's 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 while four daughter Directives lay down limits or thresholds for specific pollutants.

4.7.3 Climatic Factors

In order to reduce greenhouse gas emissions the internationally agreed Kyoto Protocol established emissions reduction targets for developing countries. Ireland's emission target for greenhouse gases is to limit the increase in their combined emissions during the five-year period 2008-2012 to 13 per cent above 1990 levels.

4.7.4 Noise

Noise is unwanted sound. Traffic noise alone is harming today the health of almost one third of Europeans²⁸.

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

²⁸ World Health Organization Regional Office for Europe (2003) *Technical meeting on exposure-response relationships of noise on health 19-21 September 2002* Bonn, Germany Bonn: WHO

and to provide a framework for developing existing Community policy on noise reduction from source.

The Directive requires competent authorities in Member States to:

- Draw up *strategic noise maps* for major roads, railways, airports and agglomerations, using harmonised noise indicators²⁹ and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels;
- Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and,
- Inform and consult the public about noise exposure, its effects, and the measures considered to address noise.

The 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.

4.7.5 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been identified and developed with regard to the objectives of the above strategic actions and the environmental baseline described in Section 3.

It is noted that - in addition to being addressed as part of this assessment - traffic issues will also be addressed by lower-tier plans and at the level of individual projects by the development management process and, for certain projects, by EIA.

SEO C1:	To reduce travel related greenhouse emissions to air
Indicator C1:	Percentage of population working within the Variation lands travelling to work by public transport or non-mechanical means
Target C1:	An increase in the percentage of the population travelling to work by public transport or non-mechanical means

SEO C2:	To encourage modal change from car to more sustainable forms of transport
The use of the SEO C2 provides a qualitative directional measure which is used to evaluate the effects of implementing the Variation.	

4.8 Cultural Heritage

4.8.1 Archaeological Heritage

4.8.1.1 Valletta Convention 1992

The European Convention on Protection of the Archaeological Heritage known as the Valletta Convention of 1992. This was ratified by Ireland in 1997 and requires that appropriate consideration be given to archaeological issues at all stages of the planning and development process.

4.8.1.2 National Heritage Plan for Ireland 2002

The core objective of the National Heritage Plan for Ireland 2002³⁰ is to protect Ireland's heritage. In this regard the polluter pays and the precautionary principle are operable.

4.8.1.3 National Monuments Acts

Archaeology in Ireland is protected under the National Monuments Acts 1930 to 2004.

Recorded monuments are protected by inclusion on the list and marked on the map which comprises the Record of Monuments and Places set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological

²⁹ [L_{den} (day-evening-night equivalent level) and L_{night} (night equivalent level)]

³⁰ Department of Arts, Heritage, Gaeltacht and the Islands (2002) *National Heritage Plan for Ireland* Dublin: Government of Ireland

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 Department of the Environment, Heritage and Local Government under section 12 of the National Monuments (Amendment) Act, 1994.

Direct impacts on national monuments in State or Local Authority care or subject to a preservation order require the consent of the Minister for the Environment, Heritage and Local Government under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004.

4.8.2 Architectural Heritage

4.8.2.1 Planning and Development Act 2000 as amended

Records of Protected Structures (RPSs) are legislated for under Section 51 of the Planning and Development Act 2000 as amended and include structures which form part of the architectural heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

4.8.3 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been identified and developed with regard to the objectives of the above strategic actions and the environmental baseline described in Section 3.

SEO CH1:	To protect the archaeological heritage of the Variation lands including entries to the Record of Monuments and Places and/or their context
Indicator CH1:	Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant) protected
Target CH1:	Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant)

SEO CH2:	To preserve and protect the special interest and character of the architectural heritage of the Variation lands
Indicator CH2i:	Percentage of entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant) protected
Indicator CH2ii:	Number of additions to the Record of Protected Structures and the number of additional ACAs
Target CH2i:	Protect entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant)
Target CH2ii:	Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate

4.9 Landscape

4.9.1 Overview

There are no landscape units, views or prospects which have a recognised County, National, European or International protection status within or adjacent to the area.

4.9.2 SEO, Indicator and Target

SEO L1:	To minimise significant adverse impacts on the landscape, especially with regard to the views and amenity of existing developments within and adjacent to the Variation lands
Indicator L1:	Number of avoidable significant adverse impacts on the views and amenity of existing developments within and adjacent to the Variation lands
Target L1:	No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the County Development Plan as varied

Section 5 Context for the Variation

5.1 Background

It is an objective of the Dún Laoghaire-Rathdown County Development Plan 2010-2016 that an Urban Framework Plan be prepared for Sandyford.

The Sandyford Urban Framework Plan forms part of the County Development Plan 2010-2016 by way of a Variation to the Plan. The policies and objectives of the County Development Plan shall apply when applications for planning permission are being considered within the Sandyford Urban Framework Plan boundary, where matters are not directly covered in the Urban Framework Plan itself.

Over the last ten years, the Variation area to which the Urban Framework Plan relates has been subject to unprecedented levels of change and growth. Commencing in the late 1990s and gathering momentum between 2000 and 2007, the area has witnessed the redevelopment and transformation of previously low rise, low density manufacturing sites to medium-to-high density technology units, office schemes and, more recently, residential development. The transformation of the Plan area, which extends to approximately 190 hectares, has taken place largely on a site-by-site basis without reference to an overarching plan to guide and coordinate development. The difficulty in pursuing incremental development on a piecemeal basis in the absence of a coherent plan-led strategy became evident in 2007 when certain potential shortcomings in the capacity of local infrastructure networks became manifest.

5.2 The Variation Area

The Urban Framework Plan to which the Variation relates consists of the following separate business estates and areas:

- Stillorgan Industrial Estate;
- Sandyford Business Estate;
- Central Park;
- South County Business Park;
- Legionaries of Christ;
- Leopardstown Park Hospital; and,
- Lands at St. Benildus and Stillorgan Reservoir.

The collective term Sandyford Business Estates (SBE) has been used in reports to the Council to describe the area included within the Urban Framework Plan/ Variation boundary.

5.3 Content and Structure of the Variation

The Variation consists of a written statement accompanied by a series of Maps and Drawings. The Maps will have a statutory basis within the County Development Plan. The Drawings are provided for reference and as guidance for development.

The Urban Framework Plan Variation is divided into 5 Sections as follows:

- Section 1- Introduction;
- Section 2 - Future Land Uses;
- Section 3 - Indicative Urban Form, Public Realm, Linkages and Building Height;
- Section 4 - Infrastructure; and,
- Section 5 - Phasing and Funding.

5.4 Purpose and Rationale for the Variation

The purpose of the Variation is to set out the policies and objectives that, when implemented, will transform Sandyford Business Estates from a collection of disparate, poorly connected estates, to a co-ordinated, cohesive, business district.

The future of Sandyford Business Estates will be plan led. The rationale for future growth is based on Sandyford Business Estates continuing to be of strategic importance as an employment area.

The Urban Framework Plan builds on:

- Investment in the area over the past 10 years;
- Improvements in access by public transport;
- The growth of adjoining residential areas, in particular Steapside;

- The provision of retail and services to cater for the employment and resident population;
- The growth of high intensity employment;
- The diversity of employment that has located here; and,
- The introduction of residential development that brings vibrancy to the area.

To date, development has been provided on a piecemeal basis and the broad zoning policies in the previous County Development Plans have lacked specific policies and objectives to control development so as to ensure that a coherent place evolves.

The Variation addresses this issue by using the tools available to local authorities to address these shortfalls. The Urban Framework Plan introduces a new set of land use zoning objectives for the area and provides clarity on the appropriate scale of development using plot ratio objectives. It regulates building height and indicatively sets out how the Sandyford of the future may look.

The rationale underpinning the Urban Framework Plan are:

- To promote and facilitate employment growth in Sandyford Business District recognising its status as a primary growth centre in the Economic Development Strategy of the Regional Planning Guidelines 2010-2022.
- To strengthen and enhance the structure and character of the urban form through appropriate sustainable land use zoning and guidance on typology, massing, scale, height, density of the built form and by promoting excellence in design of buildings and the spaces between them.
- To protect the residential amenity of adjoining areas and ensure that development in Sandyford Business District provides for its own infrastructural requirements.
- To encourage a diverse range of uses including employment based uses, retail and retail services, civic, cultural, leisure, health, educational and other services appropriate in scale commensurate with the role of Sandyford Business District as a 'Place' to work and live.

- To encourage a range of high quality new homes to promote choice and achieve a social mix.
- To create an environment, supported by key infrastructure and services that will attract business investment and provide for a range of employment opportunities.
- To create a hierarchy of public open spaces within Sandyford Business District providing high quality amenities and a variety of functions to serve both the resident and employee populations.
- To provide a network of 'green' routes and integrated streets linking the public open spaces, creating a legible and attractive environment for pedestrians and cyclists linking origins with destinations.
- To maximise the contribution of sustainable travel modes in meeting travel demand in accordance with Smarter Travel and to make a number of road improvements to cater for residual demand.

5.5 Alternatives

Sections 6 and 7 of this report identify, describe and evaluate different alternative development scenarios for the Variation, taking into account the relevant land use strategic actions (see Section 5.6), the SEOs identified in Section 4 as well as the geographical scope of the Variation lands.

The evaluation of the alternatives results in the identification of potential environmental effects. These environmental effects are considered alongside planning - social and economic - effects leading to the emergence of a preferred alternative.

5.6 Interactions with Relevant Policy, Plans or Programmes

5.6.1 Dún Laoghaire-Rathdown County Development Plan 2010-2016

The Dún Laoghaire-Rathdown County Development Plan 2010-2016 provides for the

preparation of an Urban Framework Plan for Sandyford.

The Sandyford Urban Framework Plan forms part of the County Development Plan 2010-2016 by way of a Variation to the Plan. The policies and objectives of the County Development Plan shall apply when applications for planning permission are being considered within the Sandyford Urban Framework Plan boundary, where matters are not directly covered in the Urban Framework Plan itself.

As part of the County Development Plan, the Urban Framework Plan will be nested in a hierarchy of land use forward planning strategic actions. The Plan complies with higher level strategic actions and will, in turn, constrain any lower level strategic actions.

5.6.2 National Development Plan 2007-2013

The National Development Plan 2007-2013 (NDP) is designed to underpin the development of a dynamic competitive economy over the period 2007 - 2013. It envisages a total investment of €184 billion over 7 years to 'secure the further transformation of our country socially and economically within an environmentally sustainable framework'.

It identifies investment funding for significant projects in sectors such as health services, social housing, education, roads, public transport, rural development, industry, and water and waste services. The NDP is designed to strengthen and improve the international competitiveness of the Country so as to support continued, but more balanced, economic and social development in line with the National Spatial Strategy.

5.6.3 National Spatial Strategy 2002-2020

The National Spatial Strategy 2002-2020 (NSS) is a 20-year planning framework for the entire Country to guide policies, programmes and investment. It seeks to promote a better balance of social, economic and physical development between the Regions.

The focus of the NSS is on fostering a closer match between where people live with where

they work. The NSS established a detailed sustainable planning framework for strategic spatial planning to ensure development is targeted at the most appropriate locations. The NSS places emphasis on the creation of high quality living environments through urban design and the integration of social and community amenities.

In order to promote sustainable development and allow for the public transport system to function more effectively - as promoted by the NSS - it is essential to consolidate the physical growth of Dún Laoghaire-Rathdown. Within the County this can be achieved through the development of greenfield lands and vacant, derelict and underutilised lands, in particular where they are in close proximity to public transport routes.

5.6.4 Sustainable Development: A Strategy for Ireland 1997

This Strategy provides a framework for the achievement of sustainable development at local level and calls on planning authorities to incorporate the principles of sustainability into Development Plans.

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

Ireland is divided into eight regional forward planning regions, Dublin, Midlands, Mid East, Mid West, South East, South West, West and Border, each with its own regional planning authority composed of Elected Members selected by the constituent local government councils. Regional planning authorities are required, under the Planning and Development (Regional Planning Guidelines) Regulations 2003 (SI No. 175 of 2003), to draw up regional planning guidelines (RPGs), long term strategic planning frameworks, for their relevant region. RPGs must have regard to the National Spatial Strategy.

Dún Laoghaire-Rathdown is located within the Dublin Regional Planning Authority area for which the Regional Planning Guidelines 2010-2022 for the Greater Dublin Area (RPGs) have been prepared.

The RPGs provide for the implementation of the National Spatial Strategy at a Regional level in the Greater Dublin Area (GDA). The principle objective of the RPGs is to develop a broad spatially-oriented planning framework to the GDA which comprises Dublin City and the Counties of Dún Laoghaire-Rathdown, South Dublin, Fingal, Kildare, Meath and Wicklow.

Core principles from this strategic vision for these RPGs, drawing on the 2004 RPGs are:

- Dublin as the capital city of Ireland and a major European centre shall grow and progress, competing with other cities in the EU, and serving a wide range of international, national, regional and local needs.
- The Dublin and Mid-East Regions will be attractive, vibrant locations for industry, commerce, recreation and tourism and will be a major focus for economic growth within the Country.
- The GDA, through its ports and airport connections will continue to be the most important entry/exit point for the country as a whole, and as a Gateway between the European Union and the rest of the World. Access to and through the GDA will continue to be a matter of national importance.
- Development in the GDA shall be directly related to investment in integrated high quality public transport services and focused on compact urban form.
- Development within the existing urban footprint of the Metropolitan Area²⁴ will be consolidated to achieve a more compact urban form, allowing for the accommodation of a greater population than at present, with much-enhanced public transport system, with the expansion of the built up areas providing for well designed urban environments linked to high quality public transport networks, enhancing the quality of life for residents and workers alike.
- Development in the Hinterland Area will be focused on the high quality integrated growth and consolidation of development in key identified towns, separated from each other by extensive areas of strategic green belt land devoted to agriculture and similar uses. These towns will have high levels of employment activity, high order shopping and full range of social

services, with good road and bus linkages to other towns and by high quality public transport to the City and play key roles in serving the surrounding rural communities and smaller towns and villages.

5.6.6 Transport 21 & Smarter Travel, A Sustainable Transport Future

Transport 21 is the capital investment framework for the transport system over the period 2006-2015. It addresses the twin challenges of past investment backlogs and continuing growth in transport demand.

Smarter Travel, A Sustainable Transport Future is the new transport policy for Ireland for the period 2009-2020. The policy recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport.

5.7 Environmental Protection Objectives

The Variation is subject to a number of high level national, international, regional and county environmental protection policies and objectives, including those which have been identified as Strategic Environmental Objectives in Section 4.

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 by 2015.

The Variation must be consistent with these objectives and implement them at local level in

Sandyford. It is noted that any development at the Variation lands will have to comply with the environmental protection measures which have been already integrated into the Dún Laoghaire-Rathdown County Development Plan through the SEA of that Plan.

Section 6 Description of Alternative Scenarios for the Variation

6.1 Introduction

One of the critical roles of the SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative scenarios for accommodating future growth at the Variation lands.

These alternative scenarios must be realistic, capable of implementation, and should represent a range of different approaches within the statutory and operational requirements of the County Development Plan. In some cases the preferred scenario will combine elements from the various alternatives considered.

This section identifies and describes different alternative scenarios, taking into account higher level strategic actions as well as the geographical scope of the Variation lands.

The scenarios are evaluated in Section 7 resulting in the identification of potential effects and informing the selection of a preferred alternative for the Variation. The policies and objectives which are required to realise the preferred alternative are evaluated in Section 8.

Mitigation measures attempt to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the preferred alternative scenario have been integrated into the Variation - these are identified in Section 9. Also identified in Section 9 are mitigating policies and objectives from the Dún Laoghaire-Rathdown County Development Plan with which future developments at the Variation lands will be required to comply with.

6.2 Description of Alternative Scenarios

6.2.1 Introduction

The following summarises a series of 'Scenarios' which provide alternative visions of how the future development of the Variation lands might occur. These are neither

predictions nor preferences - instead they offer a range of plausible and internally consistent narratives of the outcome of different planning and development strategies. These provide the basis for the comparative evaluation of the likely environmental effects of each scenario, which in turn serves the purpose of identifying which features of the alternative variations and policies are likely to be sensitive or robust over the widest range of circumstances.

6.2.2 Alternative Scenario 1: *Do Nothing (Retention of Current CDP Provisions)*

Alternative Scenario 1: *Do Nothing* (see Figure 6.1) involves the retention of the current Dún Laoghaire-Rathdown County Development Plan (CDP) 2010-2016 provisions. There is a requirement in the CDP to prepare an Urban Framework Plan for Sandyford however there is no requirement to vary the CDP to include such a Plan, therefore this is a realistic alternative.

The current CDP generally provides for an E-Zoning Objective - 'To provide for economic development and employment' - across the Variation lands, including the Sandyford Business Estate.

The CDP also provides for smaller areas of 'A' Zoning - 'To protect and/or improve residential amenity' - and 'F' Zoning - 'To preserve and provide for open space with ancillary active recreational amenities' - at the Variation lands.

6.2.3 Alternative Scenario 2: *Draft Sandyford Urban Framework Plan 2007*

Alternative Scenario 2: *Draft Sandyford Urban Framework Plan 2007* (see Figure 6.2) involves the making of a Variation to the County Development Plan which consists of a Draft Sandyford Urban Framework Plan which was prepared in July 2007.

The 2007 Draft Urban Framework Plan provides for edge/peripheral development which is significantly greater than Scenarios 1 or 3, and:

- Identifies central focal points (hearts) in order to achieve a sense of place;
- Incorporates existing permitted and constructed development;
- Seeks to enhance the overall physical environment of the Sandyford Business Estate;
- Seeks to achieve an urban form and improve the legibility of the Sandyford Business Estate; and,
- Provides for planned public open space.

The 2007 Urban Framework Plan includes an approach to building height which is shown on Figure 6.3 with central areas having a benchmark height of 8 storeys (with 1 additional storey of occupied roof space) and other areas having a benchmark height of 6 storeys (with 1 additional storey of occupied roof space). Along the edges of the scenario area and along streets within, building height is either 8 storeys (with 2 additional storeys of occupied roof space) or 6 storeys (with 1 additional storey of occupied roof space). This scenario includes:

- 1 central regional landmark building up to 32 storeys;
- 5 district landmark buildings up to 24 storeys;
- 9 district landmark buildings up to 18 storeys; and,
- 11 local landmark buildings up to 14 storeys.

6.2.4 Alternative Scenario 3: *Centred Development (Variation No. 2 [Sandyford Urban Framework Plan])*

Alternative Scenario 3: *Centred Development* (see Figure 6.4) provides for the direction of the greatest extent of development towards the centre of the existing built up Sandyford Business Estate, in close proximity to the area's Luas transport node. It identifies a quantum of development for the Sandyford area having regard to potential infrastructure constraints, the realistic capacity to address these constraints and the likely costs

associated with same. Particular attention is given to the areas of transport infrastructure, water and drainage services, social infrastructure, (including educational facilities) and recreation/amenity facilities.

Scenario 3 provides a relatively fine-grain analysis and guidance on densities, plot ratios and quantum of development to be accommodated into the future on a site-by-site basis.

This Scenario proposes building height limits that have been established through an assessment of location and character of an area and proposed land use (see Figure 6.5). The proposed building height limit generally ranges from 6 storeys to 3 storeys along Blackthorn Avenue and within the centre of the Plan area, with a limit of 9 storeys proposed for one plot within the centre and heights up to 17 stories proposed for other plots. Proposed height limits along the edges of the Plan area generally range from 2 to 3 storeys. The scenario allows for the design of buildings or elements of buildings to exceed the building height limit at one location as shown on Figure 6.5.

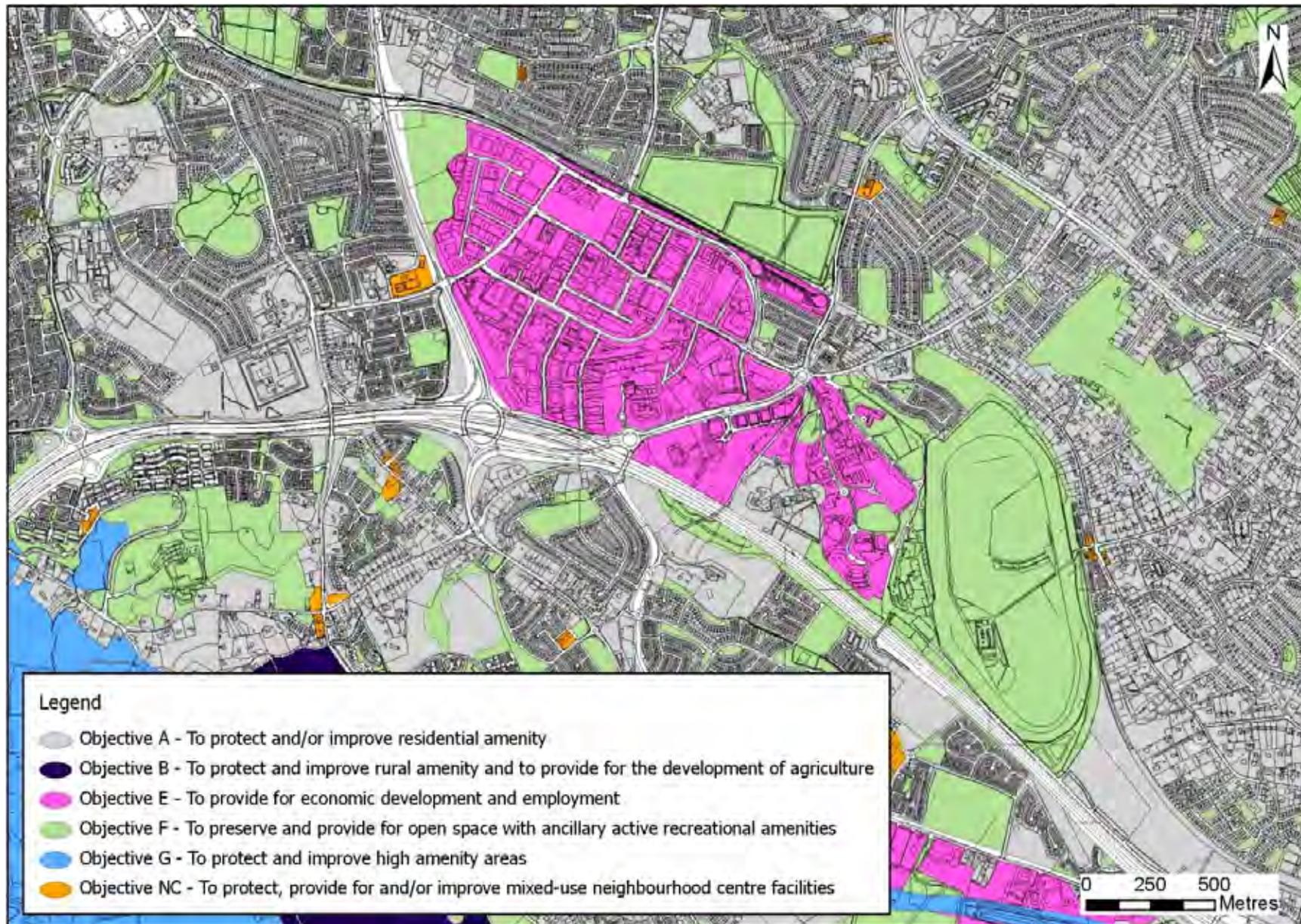


Figure 6.1 Scenario 1: *Do Nothing (Retention of Current CDP Provisions)*

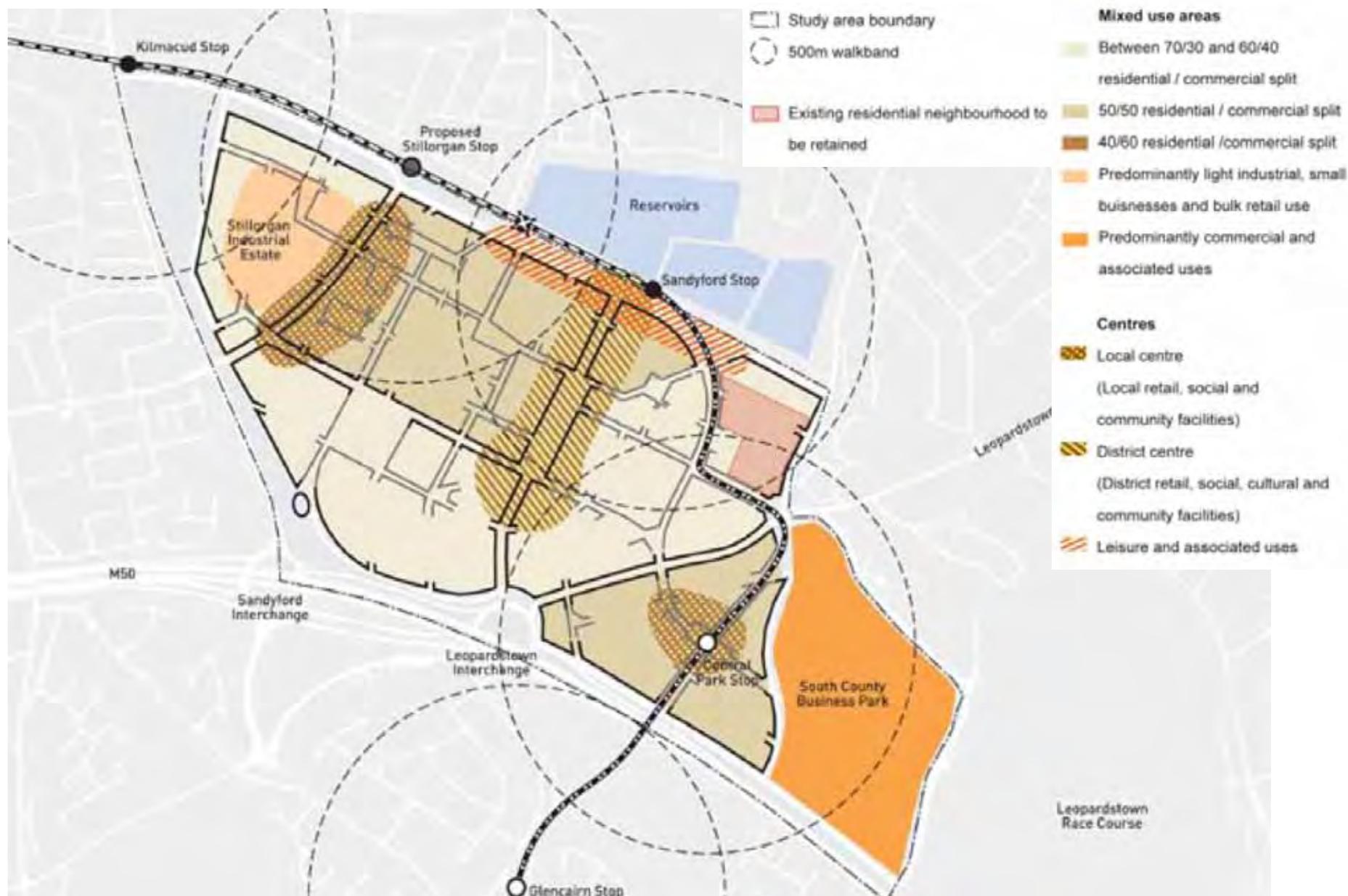


Figure 6.2 Scenario 2: Draft Sandyford Urban Framework Plan 2007 - Land Uses

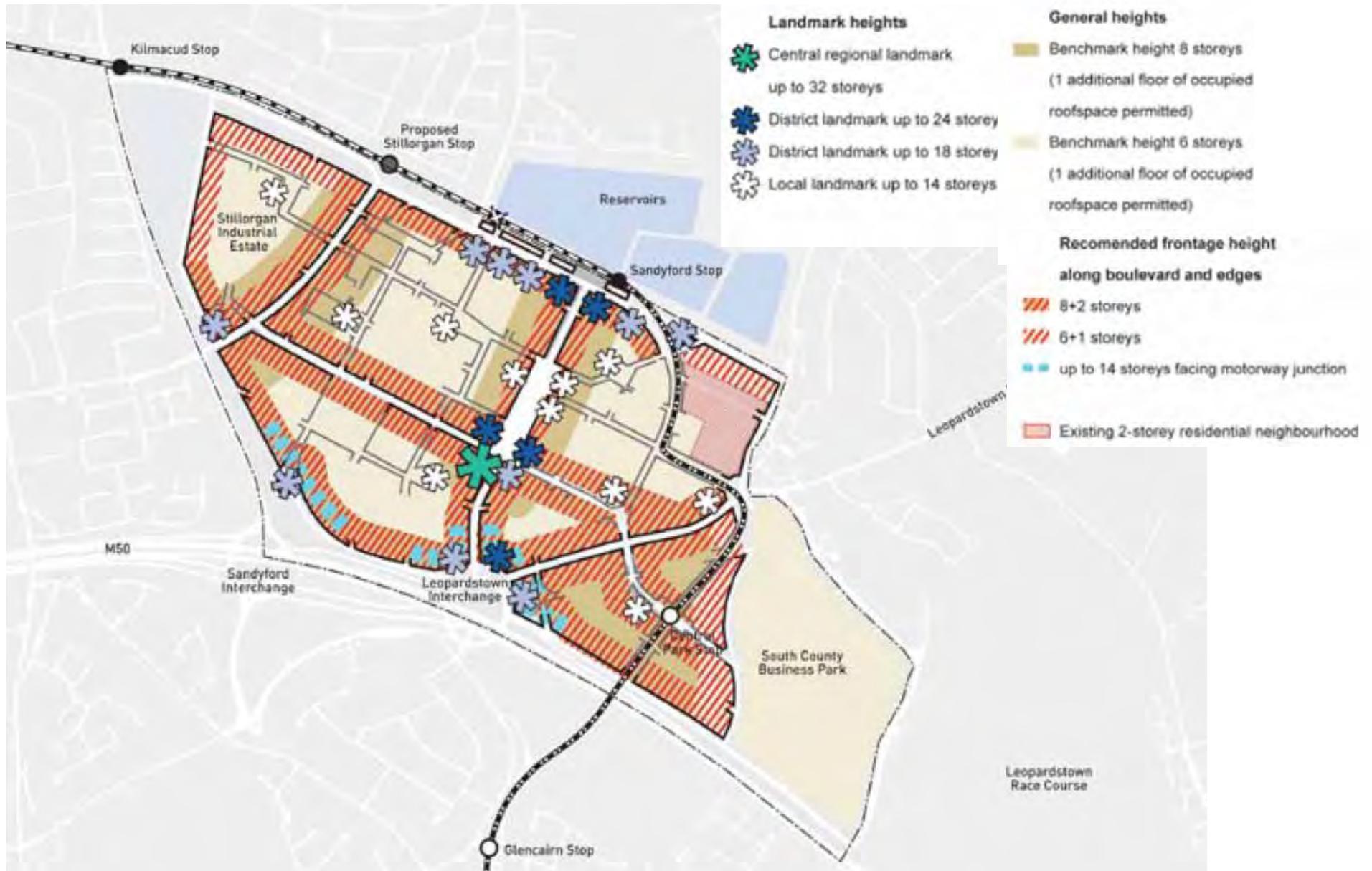


Figure 6.3 Scenario 2: Draft Sandyford Urban Framework Plan 2007 - Building Height

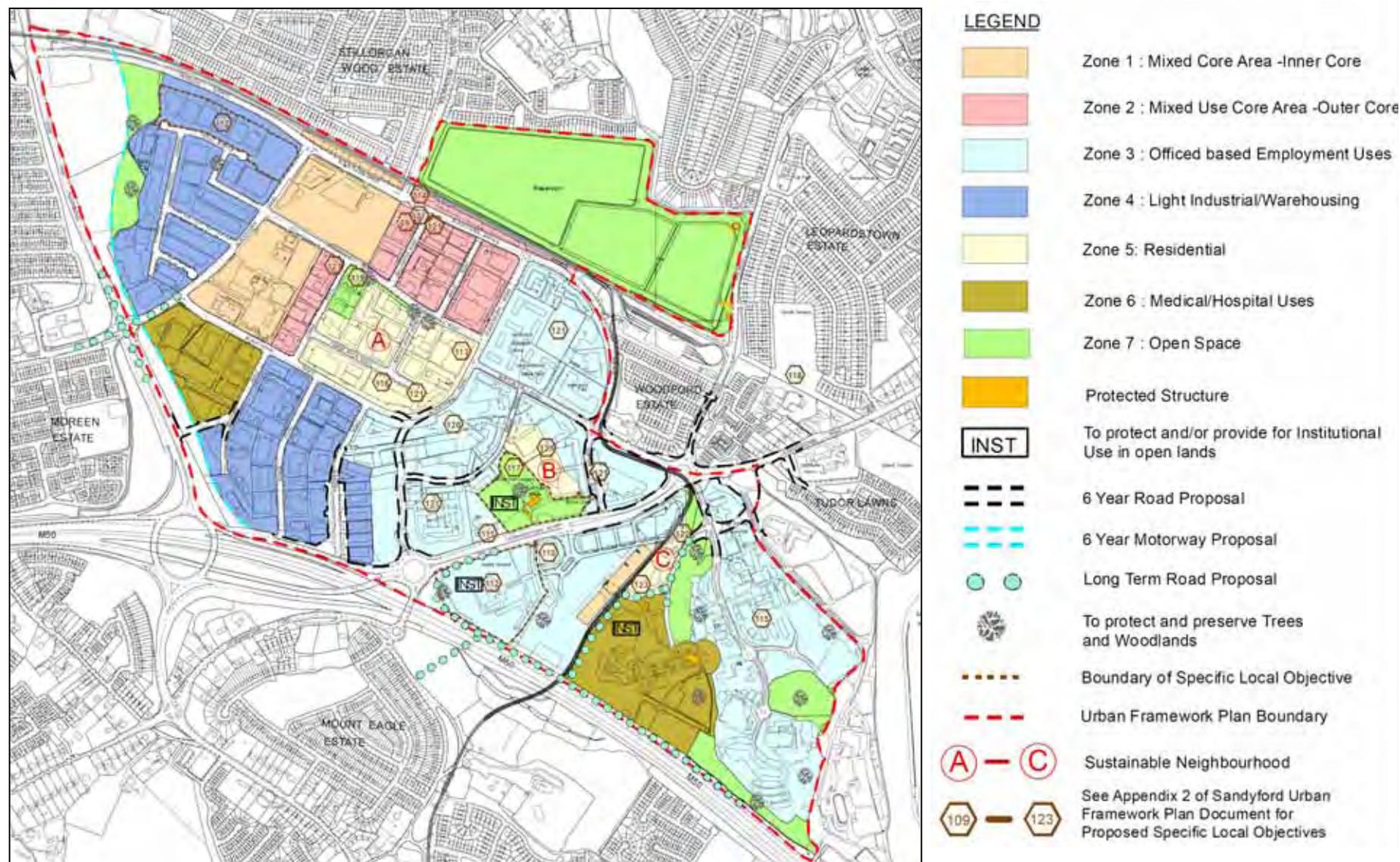


Figure 6.4 Scenario 3: Centred Development (Variation No. 2 [Sandyford Urban Framework Plan]) - Land Uses

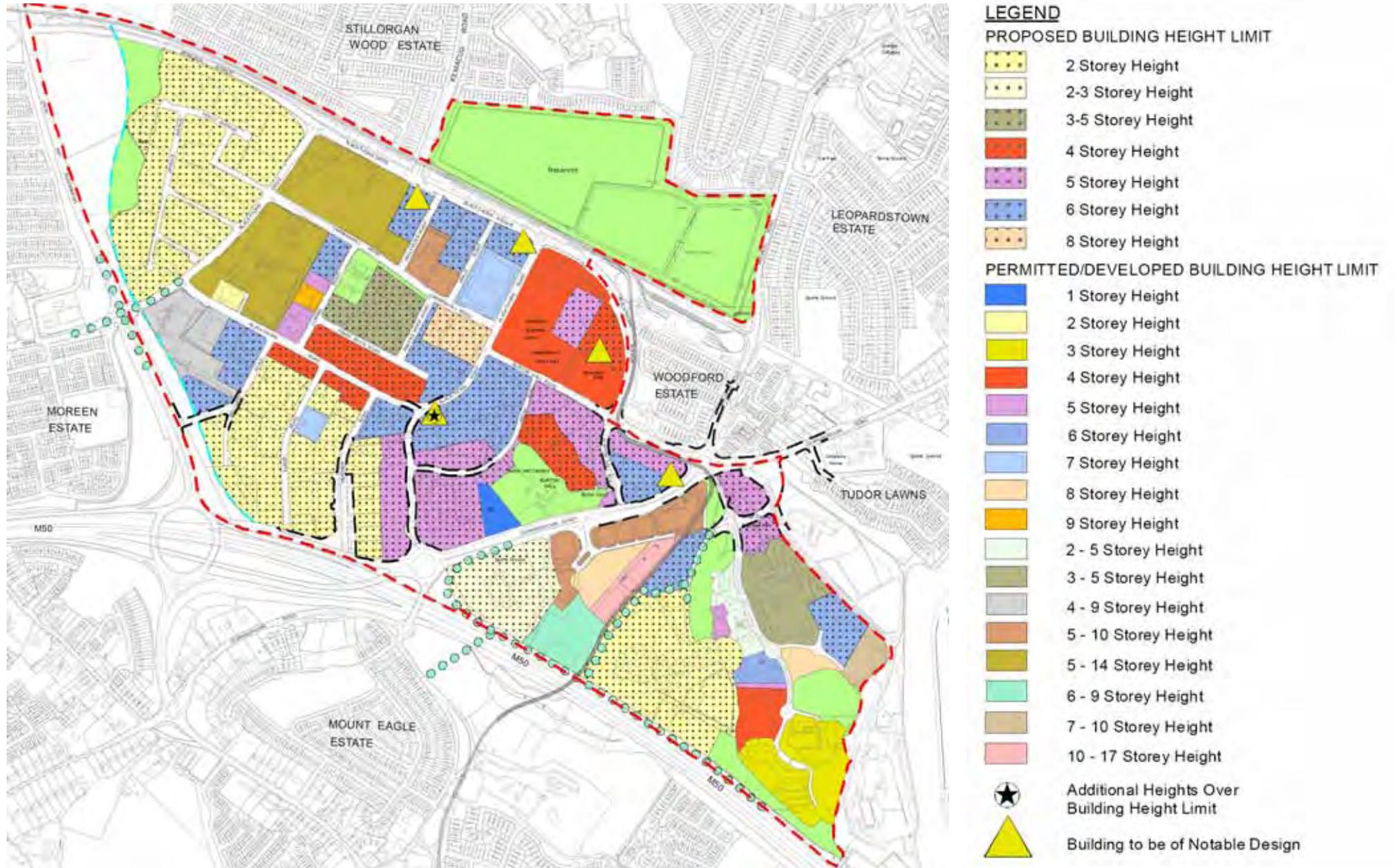


Figure 6.5 Scenario 3: *Centred Development (Variation No. 2 [Sandyford Urban Framework Plan]) - Building Height*

Section 7 Evaluation of Alternative Scenarios for the Variation

7.1 Introduction

The objective of this section is to determine the relative merits of four alternative scenarios for accommodating future growth at the Variation lands in Sandyford. 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

Scenarios are evaluated in a succinct and focused way for environmental effects against both the existing environment which is described and mapped in Section 3 and the Strategic Environmental Objectives (SEOs) which are identified in Section 4.

In order to comply with the SEA Directive Strategic Environmental Objectives have been grouped under relevant parent components such as *water* and *landscape*.

Based on an understanding of the existing and emerging environmental conditions in Sandyford a series of SEOs were identified and

developed in order to assess the likely environmental effects which would be caused by implementation of each of the three alternative scenarios described in Section 6. The alternatives are evaluated using compatibility criteria (see Table 7.1) in order to determine how they are likely to affect the status of these SEOs.

Table 7.2 brings together all the SEOs which have been developed from international and national policies which generally govern environmental protection objectives.

The SEOs and the alternative scenarios are arrayed against each other to identify which interactions - if any - would cause impacts 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 SEO likely to be affected - in this instance 'to ensure compliance with the Habitats Directive with regard to the protection of Natura 2000 Sites and habitats and species listed under Annexes I and II of the Directive'.

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
-----------------------------------------	------------------------------------------------------------------------	-----------------------------------------------------------------------	--------------------------------------------------

Table 7.1 Criteria for appraising the effect of Alternatives & Variation provisions on SEOs

SEO Code	SEO
B1	To ensure compliance with the Habitats Directive with regard to the protection of Natura 2000 Sites and habitats and species listed under Annexes I and II of the Directive
B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the protection of corridors and areas of habitat which are important at the local Sandyford level for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
HH1	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
S1	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
W1	To maintain and improve, where possible, the status of surface waters
W2	To prevent pollution and contamination of ground water
W3	To manage areas that are currently at risk of flooding or are likely to pose a significant flood risk in the future
M1	To serve new development with appropriate waste water treatment
M2	To serve new development with drinking water that is both wholesome and clean
C1	To reduce travel related greenhouse emissions to air
C2	To encourage modal change from car to more sustainable forms of transport
CH1	To protect the archaeological heritage of the Variation lands including entries to the Record of Monuments and Places and/or their context
CH2	To preserve and protect the special interest and character of the architectural heritage of the Variation lands
L1	To minimise significant adverse impacts on the landscape, especially with regard to the views and amenity of existing developments within and adjacent to the Variation lands

Table 7.2 Strategic Environmental Objectives (SEOs)³¹

³¹ Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international, national, regional and county policies which generally govern environmental protection objectives and against which the environmental effects of the Variation and the alternatives can be tested. The SEOs are used as standards against which the provisions of the Variation can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.

7.3 Evaluation of Alternative Scenarios³²

7.3.1 Alternative Scenario 1: *Do Nothing (Retention of Current CDP Provisions)*

7.3.1.1 Environmental Effects

Smarter Travel Effects

The current CDP generally provides for an E-Zoning Objective - 'To provide for economic development and employment' - across the Variation lands, new developments will be located within this area, subject to market demand. Sites around the edge of the E-Zoned area would be more likely to be developed as there would be no specific direction within this area and development would be market-led. Also, the assessment of individual planning applications on a site by site basis would be likely to lead to an extent of fragmented developments which lack connectivity³³.

Consequently, maximising the uptake in smarter, more sustainable modes of transport would be significantly less likely to be achieved than would be the case under Scenario 3 *Centred Development*. Maximising this uptake would contribute towards the protection of human health³⁴ (air and noise) and help to minimise:

- energy usage for transport;
- travel related emissions to air; and,
- increases in car dependency³⁵.

Positive effects would occur nonetheless, to an extent; some of the new development in Sandyford could better utilise sustainable transport modes than development located within the more rural parts of the County or in other suburbs.

³² Footnotes like this are used in this section in order to identify instances where interactions between the relevant Scenario and the relevant SEOs occur. The nature of these interactions is identified on Table 7.3.

³³ SEOs C1 & C2

³⁴ SEO HH1

³⁵ SEOs C1 & C2

Water and Drainage Services Effects

Unlike Scenario 3, Scenario 1 would not provide for the consideration of infrastructural capacity needs for the Sandyford area as a whole with capacity needs being considered on an application by application basis therefore making the occurrence of capacity exceedences or deficiencies more likely³⁶.

Any exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services³⁷ and drainage infrastructure³⁸ capacity could affect water resources³⁹ and biodiversity and flora and fauna⁴⁰ beyond the Variation lands.

Local Habitats, Open Space and Existing Residential Areas

There would be potential for adverse effects on local habitats however an amount of protection would be provided through the F Zoning Objective - 'To preserve and provide for open space with ancillary active recreational amenities' - which applies to most of such areas⁴¹.

Existing residential and open space areas would be likely to largely remain unchanged due to the application of A Zoning - 'To protect and/or improve residential amenity' - and F Zoning - 'To preserve and provide for open space with ancillary active recreational amenities' at these lands. Depending on the height of new buildings which are developed, residential amenity could be impacted upon⁴².

Other Effects

The construction of individual/multiple developments has the potential to give rise to significant adverse effects on architectural heritage⁴³, archaeological heritage⁴⁴, water resources⁴⁵ and human health⁴⁶ (air and noise) within or adjacent to the Variation lands.

³⁶ SEOs M1 & M2

³⁷ SEOs M1 & M2

³⁸ SEO W3

³⁹ SEOs W1 & W2

⁴⁰ SEOs B1 & B2

⁴¹ SEO B2

⁴² SEO L1

⁴³ SEO CH1

⁴⁴ SEO CH2

⁴⁵ SEOs W1 & W2

⁴⁶ SEO HH1

7.3.1.2 Planning Effects

Pro's

- General E-Zoning: 'To provide for economic development and employment', will remain on the majority of the lands within the Sandyford Business Estates.

Constraints

- No consideration or assessment of the transboundary effects of individual or groups of projects within the Sandyford Business Estate on the rest of the County in terms of environmental impacts arising from the development of individual or groups of sites as well as economic, social and infrastructural impacts.
- No current or future quantum of development calculated making it difficult to plan for the provision of infrastructure, especially social infrastructure (open space, education facilities etc.) - development is therefore not planned in tandem with vital infrastructure.
- Development would be market/developer led and not plan led.
- No vision or clarity with regard to a future goal for the development of the Sandyford Business Estates, which leads to an uncertain future and in turn, a lack of market confidence in the area. This may discourage future investment in the Sandyford Business Estates.
- No guidance with regard to the scale and form of future development.
- Development will continue to be assessed on a site by site basis, leading to isolated fragmented developments which lack connectivity and fail to provide a clear legible urban structure.

7.3.2 Alternative Scenario 2: *Draft Sandyford Urban Framework Plan 2007*

7.3.2.1 Environmental Effects

Smarter Travel Effects

This Scenario provides for edge/peripheral development which is significantly greater than Scenarios 1 and 3. Led by the market, the peripheral sites, away from public transport nodes, would be likely to be developed. Trip generation by private car would be likely to increase⁴⁷, placing more strain on existing road infrastructure including the M50 Motorway. Consequently, maximising the uptake in smarter, more sustainable modes of transport would be significantly less likely to be achieved than would be the case under Scenario 3 *Centred Development*. Maximising this uptake would contribute towards the protection of human health⁴⁸ (air and noise) and help to minimise:

- energy usage for transport;
- travel related emissions to air; and,
- increases in car dependency⁴⁹.

Positive effects would occur nonetheless, as other provisions of this Scenario seek to enhance the physical environment of the Business Estate for cyclists and pedestrians as well as improving the legibility of the Estate and incorporating permitted and constructed development⁵⁰. Arising from this, the scenario could contribute towards efforts to maximising the uptake in smarter, more sustainable modes of transport⁵¹ and associated effects.

Water and Drainage Services Effects

Unlike Scenario 3, Scenario 2 would not provide for the consideration of infrastructural capacity needs for the Sandyford area as a whole with capacity needs being considered on an application by application basis therefore making the occurrence of capacity exceedences or deficiencies more likely⁵².

⁴⁷ SEOs C1 & C2

⁴⁸ SEO HH1

⁴⁹ SEOs C1 & C2

⁵⁰ SEOs C1 & C2

⁵¹ SEO C1, C2 & HH1

⁵² SEOs M1 & M2

Any exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services⁵³ and drainage infrastructure⁵⁴ capacity could affect water resources⁵⁵ and biodiversity and flora and fauna⁵⁶ beyond the Variation lands.

Local Habitats, Open Space and Existing Residential Areas

Under this Scenario, along the edges of the Variation area and along streets within, building height is either 8 storeys (with 2 additional storeys of occupied roof space) or 6 storeys (with 1 additional storey of occupied roof space) while a number of landmark buildings are provided for, the largest of which is to 32 storeys. This approach to building height would be likely to result in adverse residual impacts upon residential amenity⁵⁷ within and adjacent to the Variation lands. The approach would also be likely to affect the skyline of the wider City.

This scenario would provide for planned public open space although new development at the periphery of the Variation area would have the potential to adversely affect local habitats⁵⁸ and result in losses to open space.

7.3.2.2 Planning Effects

Pro's

- The Plan is specific to the area.
- Presents a vision for the future development of the area therefore providing certainty and market confidence in the future of the Sandyford Business Estates.
- Identifies central focal points (hearts) in order to achieve a sense of place.
- Existing permitted and constructed development has been incorporated into the Plan.
- Seeks to enhance the overall physical environment of the Sandyford Business Estate for residents, workers, visitors, cyclists and pedestrians.

- Seeks to achieve an urban form and improve the legibility of the Sandyford Business Estate.
- Provides for planned public open space.

Constraints -

- No consideration or assessment of the transboundary effects of individual or groups of projects within the Sandyford Business Estate on the rest of the County in terms of environmental impacts arising from the development of individual or groups of sites as well as economic, social and infrastructural impacts.
- No current or future quantum of development calculated making it difficult to plan for the provision of infrastructure especially social infrastructure (open space, education facilities etc.).
- No existing infrastructural constraints assessment or assessment of future infrastructural needs.
- Details of the plan are not site specific and would be difficult to implement at Development Management Stage.
- No clear rationale with regard to the proposed layout of the plan area.
- No definition with regard to meaning of 'mixed use' development or 'commercial' development. Proposed vision may result in the over dilution of the industrial function of the Sandyford Business Estate.
- Open space identified does not address the issue of deliverability.

7.3.3 Alternative Scenario 3: *Centred Development (Variation No. 2 [Sandyford Urban Framework Plan])*

7.3.3.1 Environmental Effects

Smarter Travel Effects

This scenario provides for the direction of the greatest proportion of development towards the centre of the existing built up Sandyford Business Estate, in close proximity to the area's Luas transport node. The Luas line currently serves populations between Sandyford and St. Stephen's Green in the city

⁵³ SEOs M1 & M2

⁵⁴ SEO W3

⁵⁵ SEOs W1 & W2

⁵⁶ SEOs B1 & B2

⁵⁷ SEO L1

⁵⁸ SEO B2

centre and is being extended to serve populations between Sandyford and Cherrywood/Bride's Glen.

This Scenario also seeks to enhance the physical environment of the Business Estate for cyclists and pedestrians as well as improving the legibility of the Estate and incorporating permitted and constructed development.

Consequently, this Scenario would be likely to - on both a local and county level - contribute towards and significantly beneficially affect:

- the achievement of a modal change towards smarter travel;
- increasing the proportion of the population travelling by public transport or cycling or walking;
- avoiding unnecessary use of the capacity of the M50 Motorway;
- minimising energy usage for transport;
- minimising travel related emissions to air;
- reducing increases in car dependency; and,
- protecting human health (air and noise)⁵⁹.

Water and Drainage Services Effects

Scenario 3 would provide for the consideration of infrastructural capacity needs for the Sandyford area as a whole therefore making the occurrence of capacity exceedences or deficiencies less likely⁶⁰.

Any exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services⁶¹ and drainage infrastructure⁶² capacity could affect water resources⁶³ and biodiversity and flora and fauna⁶⁴ beyond the Variation lands. However, such exceedences would be least likely under this Scenario.

⁵⁹ SEOs C1, C2 & HH1

⁶⁰ SEOs M1 & M2

⁶¹ SEOs M1 & M2

⁶² SEO W3

⁶³ SEOs W1 & W2

⁶⁴ SEOs B1 & B2

Local Habitats, Open Space and Existing Residential Areas

This scenario would contribute towards the protection of residential amenity⁶⁵ by:

- Directing most development towards the existing built up Sandyford Business Estate and towards the centre of this area; and,
- Proposing building height limits that have been established through an assessment of location, character and proposed land use, with limits along the edges of the Plan area generally ranging from 2 to 3 storeys.

This scenario preserves a route corridor for the Dublin Eastern Bypass in the north west of the Variation area at the parklands at St. Benildus. Development of the Bypass through the corridor would lead to a significant loss of open space⁶⁶.

This scenario positively impacts upon the provision of open space by zoning Central Park and the Burton Hall Campus as Open Space; these locations would be zoned under Scenario 1 - *Do Nothing (Retention of Current CDP Provisions)* with objectives that could be more likely to favour new built development.

Local habitats would be generally protected under this Scenario through:

- the direction of the greatest extent of development towards sites within – and closest to the centre of - the existing, built up Sandyford Business Estate area; and,
- the application of Open Space zoning objectives and local habitat protection objectives⁶⁷.

Other Effects

The construction of individual/multiple developments has the potential to give rise to significant adverse effects on architectural heritage⁶⁸, archaeological heritage⁶⁹, water

⁶⁵ SEO L1

⁶⁶ SEOs B1 & L1; It is noted that the Plan mitigates this potential conflict by providing for the replacement of this open space by lands at the reservoir in the case that the bypass goes ahead (see Objective OS5 under Section 8.6.6).

⁶⁷ SEO B2

⁶⁸ SEO CH1

⁶⁹ SEO CH2

resources⁷⁰ and human health⁷¹ (air and noise) within or adjacent to the Variation lands.

7.3.3.2 Planning Effects

Pro's

- The plan accords with National and Regional policies and guidelines.
- The plan accords with the hierarchies set out in the County Development Plan.
- The plan takes cognisance of the setting of the area and the existing built form.
- The plan provides clarity on the future form and role of the area.
- The plan provides clear policies and objectives on land uses that are specific to the future growth of the area
- The plan has been informed by detailed studies of infrastructure capacities so as to ensure that the area has the capacity to carry the level of development proposed.
- The infrastructure being proposed has been identified having taken into consideration best return for investment.
- The plan provides clear policies and objectives in regard to the future density of developments
- The plan provides clear policies and objectives on building height
- The phasing in the plan ensures the delivery of infrastructure in tandem with development
- The plan accords with the policies of sustainable development and provides for the coherent development of the area.
- The plan is based on a clear rationale that facilitates the review of the plan and its implementation.

Constraints

- The phasing of the plan will require co-operation from a number of landowners so as to be efficiently implemented.

7.3.4 Evaluation against SEOs

The table overleaf provides an evaluation of each of the alternative scenarios for the Variation against the Strategic Environmental Objectives (SEOs).

⁷⁰ SEOs W1 & W2

⁷¹ SEO HH1

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - would be mitigated
Scenario 1: <i>Do Nothing (Retention of Current CDP Provisions)</i>	<p>C1 C2 (some new development could better utilise sustainable infrastructure than development in other locations within the County)</p> <p>B2 L1 (existing zoning would generally provide protection to local habitats, open spaces and existing residential areas)</p> <p>S1 (providing for brownfield development)</p>	<p>M1 M2 (no consideration of infrastructural capacity needs for the area as a whole with capacity needs considered on an application by application basis; capacity exceedences or deficiencies more likely)</p>	<p>C1 C2 (failure to maximise use of sustainable modes of transport)</p> <p>HH1 (human health; transport related impacts on air and noise)</p> <p>W1 W2 W3 B1 B2 (potential impacts on water bodies, flooding and biodiversity as a result of interactions described under 'Probable Conflict' column with regard to infrastructural considerations - M1 M2)</p> <p>B2 L1 (potential for adverse effects on some local habitats and on residential amenity – depending on the height of new developments)</p> <p>CH1 CH2 W1 W2 HH1 (potential construction effects on architectural & archaeological heritage, water resources and human health - air and noise -)</p>
Scenario 2: <i>Draft Sandyford Urban Framework Plan 2007</i>	<p>C1 C2 (contributes towards maximising the uptake in smarter, more sustainable modes of transport by:</p> <ul style="list-style-type: none"> enhancing the physical environment; improving legibility; and, incorporating permitted and constructed development.) <p>HH1 (contributes towards protecting human health - air and noise – by helping to maximise sustainable transport)</p> <p>S1 (providing for brownfield development)</p> <p>L1 B2 (provides for planned public open space)</p>	<p>M1 M2 (no consideration of infrastructural capacity needs for the area as a whole with capacity needs considered on an application by application basis; capacity exceedences or deficiencies more likely)</p> <p>L1 (approach to building height would be likely to result in adverse residual impacts upon residential amenity within and adjacent to the Variation lands; the approach would also be likely to affect the skyline of the wider City.)</p>	<p>C1 C2 (provides for peripheral development which is significantly greater than Scenarios 1 and 3. Led by the market, the peripheral sites, away from public transport nodes, would be likely to be developed – this would conflict with sustainable transport. Trip generation by private car would increase and more strain would be placed on existing road infrastructure)</p> <p>W1 W2 W3 B1 B2 (potential impacts on water bodies, flooding and biodiversity as a result of interactions described under 'Probable Conflict' column with regard to infrastructural considerations - M1 M2 -)</p> <p>CH1 CH2 W1 W2 HH1 (potential construction effects on architectural & archaeological heritage, water resources and human health - air and noise -)</p> <p>L1 B2 (new development at the periphery of the Variation area would have the potential to adversely affect local habitats and result in losses to open space)</p>

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - would be mitigated
<p>Scenario 3:</p> <p>Centred Development (Variation No. 2 [Sandyford Urban Framework Plan])</p>	<p>C1 C2 (contributes towards maximising the uptake in smarter, more sustainable modes of transport by:</p> <ul style="list-style-type: none"> directing most development towards the centre of the Business Estate in close proximity to the area's Luas transport node); enhancing the physical environment; improving legibility; and, incorporating permitted and constructed development.) <p>HH1 (would contribute towards protecting human health - air and noise - through maximising sustainable transport)</p> <p>M1 M2 (consideration of infrastructural capacity needs for the area as a whole; capacity exceedences or deficiencies would be less likely)</p> <p>W1 W2 W3 B1 B2 (contribution towards protection of water bodies and biodiversity and minimisation of flood risk as a result of interactions described above with regard to infrastructural considerations - M1 M2 -)</p> <p>B2 L1 (general protection of local habitats, open spaces and residential amenity as most development is directed towards the centre of the Business Estate, protection objectives are applied and building heights are proposed that have been established through an assessment of location, character and proposed land use)</p> <p>S1 (providing for brownfield development)</p>		<p>W1 W2 W3 B1 B2 (any exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services - M1 M2 - and drainage infrastructure capacity could affect water resources and biodiversity and flora and fauna beyond the Variation lands; however, such exceedences would be least likely under this Scenario)</p> <p>CH1 CH2 W1 W2 HH1 (potential construction effects on architectural & archaeological heritage, water resources and human health - air and noise -)</p> <p>B2 L1 (development of the Dublin Eastern Bypass through the corridor would lead to a significant loss of open space at the parklands at St. Benildus⁷²)</p>

Table 7.3 Evaluation of Alternative Scenarios against SEOs

⁷² The Plan mitigates this potential conflict by providing for the replacement of this open space by lands at the reservoir in the case that the bypass goes ahead (see Objective OS5 under Section 8.6.6).

7.3.5 Note on Appropriate Assessment

Note that an Appropriate Assessment (AA) - which derives from the Habitats Directive 92/43/EEC - has been carried out for the Variation. This AA is a focused and detailed impact assessment of the implications of the Variation, alone and in combination with other plans and projects, on the integrity of Natura 2000 sites in view of their conservation objectives. The AA concludes that the Variation will not give rise to effects on the integrity of any Natura 2000 sites⁷³.

7.3.6 The Selected Alternative Development Scenario

The Alternatives that were examined were produced and evaluated at an earlier - more embryonic - stage to facilitate the evaluation and selection of a Plan - having regard, *inter alia* to environmental consequences.

The Alternative Scenario for the Variation which emerged from the Variation preparation process is Scenario 3 – this Scenario contributes towards the protection of the environment and conforms with high level planning objectives.

The Land Use Zoning Map from the Variation is shown on Figure 7.1.

By complying with appropriate mitigation measures - including those which have been integrated into the Variation and those which are already in force through the existing County Development Plan (see 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.

Alternative Scenario 3 was chosen to be developed for the Variation by the planning team and put on public display and adopted by the Elected Members having regard to both:

1. The environmental effects which were identified by the Strategic Environmental Assessment; and,
2. Planning - including social and economic - effects.

7.3.7 Evaluation of Variation Provisions prepared to realise the Selected Alternative

Section 8 evaluates the policies and objectives which have been prepared to realise Scenario 3 (the selected Variation Scenario).

Some of these provisions are likely to have a range of beneficial effects with regard to the protection of the environment while some are likely to have a range of potential adverse effects which will be mitigated by other provisions which have either been integrated into the Variation - including those which have emerged through the SEA process – or which are already in force through the existing County Development Plan. Some provisions are likely to have a range of both beneficial effects and potential adverse effects – potential adverse effects will be mitigated as per the previous sentence.

⁷³ 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.

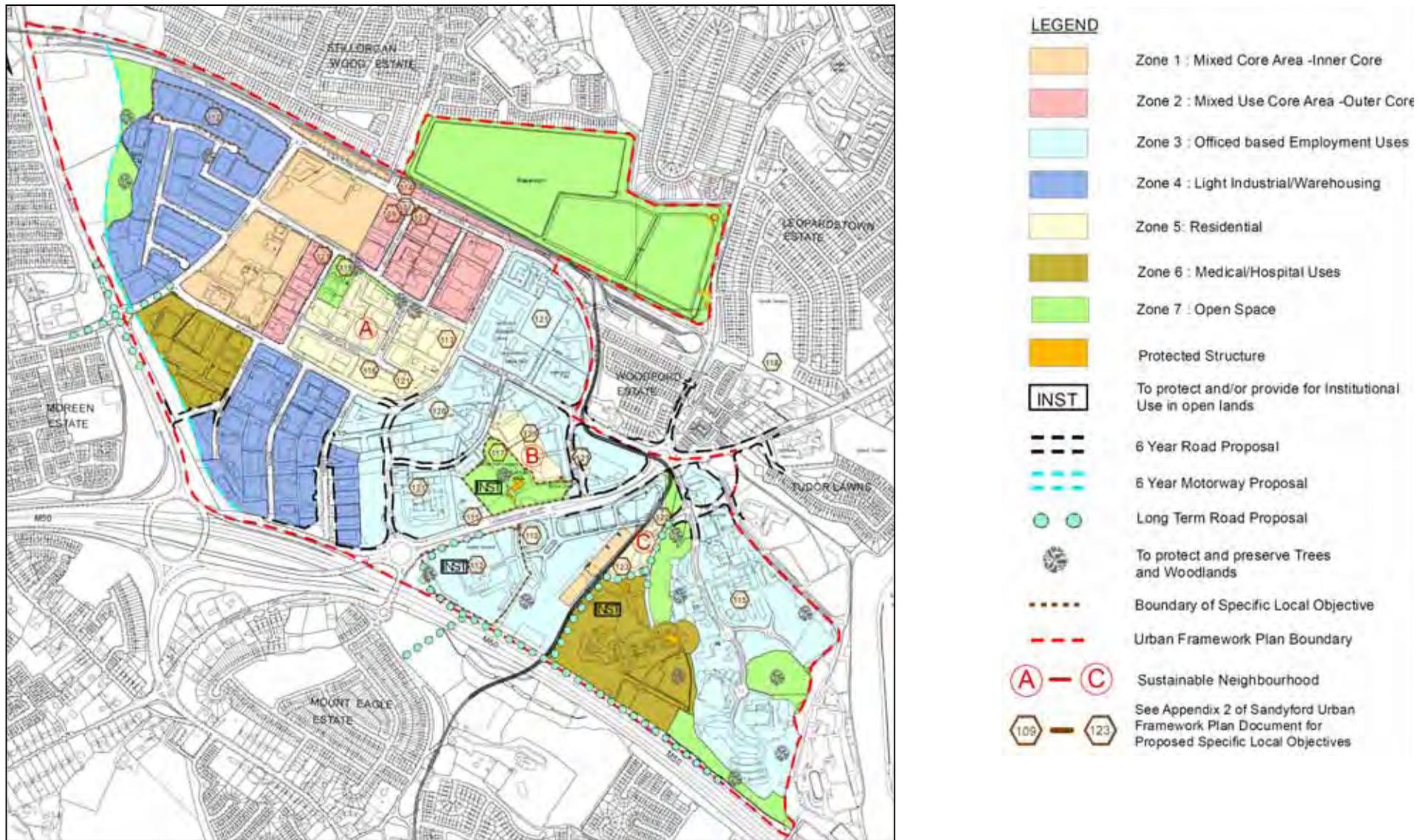


Figure 7.1 Variation Land Use Zoning Objectives Map

Section 8 Evaluation of Variation Provisions

8.1 Methodology

This section evaluates the Variation's policies and objectives. Strategic Environmental Objectives (SEOs) are used for this purpose as outlined under Section 7.2. Use has also been made of the environmental baseline descriptions and the maps of the individual components provided in Section 3.

The interactions between the SEOs and the policies and objectives of the Variation

determine the likely significant effects of implementing the Variation. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 8.1 brings together all the SEOs which have been developed from international, national, regional and county policies which generally govern environmental protection objectives.

SEO Code	SEO
B1	To ensure compliance with the Habitats Directive with regard to the protection of Natura 2000 Sites and habitats and species listed under Annexes I and II of the Directive
B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the protection of corridors and areas of habitat which are important at the local Sandyford level for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
HH1	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
S1	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
W1	To maintain and improve, where possible, the status of surface waters
W2	To prevent pollution and contamination of ground water
W3	To manage areas that are currently at risk of flooding or are likely to pose a significant flood risk in the future
M1	To serve new development with appropriate waste water treatment
M2	To serve new development with drinking water that is both wholesome and clean
C1	To reduce travel related greenhouse emissions to air
C2	To encourage modal change from car to more sustainable forms of transport
CH1	To protect the archaeological heritage of the Variation lands including entries to the Record of Monuments and Places and/or their context
CH2	To preserve and protect the special interest and character of the architectural heritage of the Variation lands
L1	To minimise significant adverse impacts on the landscape, especially with regard to the views and amenity of existing developments within and adjacent to the Variation lands

Table 8.1 Strategic Environmental Objectives (SEOs)⁷⁴

⁷⁴ Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international, national, regional and county policies which generally govern environmental protection objectives and against which the environmental effects of the Variation and the alternatives can be tested. The SEOs are used as standards against which the provisions of the Variation can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.

8.2 Determination of Potential Interactions

Certain Plan policies and objectives are evaluated as having potential conflicting interactions with the status of SEOs. The interaction and environmental impacts, if any, which occur will be determined by: the nature and extent of individual projects or multiple projects; and, site specific environmental factors.

These impacts may be assessed as part of a lower tier environmental assessment and/or by the development management process.

Avoidance of conflict is dependent upon the Council managing permissions in a way which does not conflict with the status of SEOs.

Providing both other adopted Variation measures and other measures which are already in force under the existing County Development Plan are complied with, unnecessary conflicts with SEOs would be avoided.

8.3 Section 1: Introduction

	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
<p>The rationale underpinning the Sandyford Urban Framework Plan are:</p> <ul style="list-style-type: none"> To promote and facilitate employment growth in Sandyford Business District recognising its status as a primary growth centre in the Economic Development Strategy of the Regional Planning Guidelines 2010-2022. To strengthen and enhance the structure and character of the urban form through appropriate sustainable land use zoning and guidance on typology, massing, scale, height, density of the built form and by promoting excellence in design of buildings and the spaces between them. To protect the residential amenity of adjoining areas and ensure that development in Sandyford Business District provides for its own infrastructural requirements. To encourage a diverse range of uses including employment based uses, retail and retail services, civic, cultural, leisure, health, educational and other services appropriate in scale commensurate with the role of Sandyford Business District as a 'Place' to work and live. To encourage a range of high quality new homes to promote choice and achieve a social mix. To create an environment, supported by key infrastructure and services that will attract business investment and provide for a range of employment opportunities. To create a hierarchy of public open spaces within Sandyford Business District providing high quality amenities and a variety of functions to serve both the resident and employee populations. To provide a network of 'green' routes and integrated streets linking the public open spaces, creating a legible and attractive environment for pedestrians and cyclists linking origins with destinations. To maximise the contribution of sustainable travel modes in meeting travel demand in accordance with Smarter Travel and to make a number of road improvements to cater for residual demand. 	C1 C2 HH1 M1 M2 W1 W2 W3 B1 B2 L1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 B2 L1	
<p>Commentary:</p> <p>The rationale underpins the provisions of the Urban Framework Plan (UFP) and reflects the evaluation of Scenario 3 provided on Table 7.3.</p>				

8.4 Section 2: Future Land Uses

8.4.1 Land Use Zoning Policy

	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
Policy				
<p>Policy SUFP1 Land Use Zoning Policy</p> <p>It is Council policy to determine appropriate land uses within Sandyford Business District.</p> <p>This Plan assigns land uses having regard to;</p> <ul style="list-style-type: none"> Multi-modal access points Mixed-use core areas Existing built form and the setting <p>The different land uses are set out below. The land use zoning objectives, that is; the uses permitted in principle and open for consideration are set out in Appendix 1. In addition specific Local Objectives are identified at site specific locations (Appendix 2 and Map 1 SUFP and Map 6 CDP). Within Sandyford Business District, in cases where the Land Use Zoning Objectives appear to conflict with the requirements of a Specific Local Objective, the uses promoted under the Specific Local Objective will be allowed for in addition to the uses permitted in principle and open for consideration.</p>	<p>C1 C2 HH1 M1 M2 W1 W2 W3 B1 B2 L1 S1</p>		<p>W1 W2 W3 B1 B2 CH1 CH2 HH1 B2 L1</p>	
Commentary:				
<p>The evaluation of Policy SUFP1 reflects the evaluation of Scenario 3 provided on Table 7.3.</p>				

8.4.2 Mixed Use Core Areas: Zone 1 and Zone 2

	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
High Level Objectives				
MIC - Mixed Use Inner Core Zone 1 It is an objective of the Council to consolidate and complete the development of the mixed use Inner Core to enhance and reinforce its sustainable development.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2
MOC - Mixed Use Outer Core Zone 2 It is an objective of the Council to provide for a mix of uses, which complements the inner core, but with less retail and residential and more emphasis on employment and services.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2
Commentary:				
<p>The Land Use Policies in these zones would be likely to - by contributing towards maximising the uptake in smarter, more sustainable modes of transport - reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The Policies would contribute towards the maximisation of brownfield development (S1).</p> <p>Exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services (M1 M2) and drainage infrastructure capacity (W3) could alone - or in combination with other actions - affect water resources and biodiversity and flora and fauna beyond the Variation lands (W1 W2 W3 B1 B2) and human health - related to flooding - (HH1). It is noted, however, that; exceedences in water services or drainage infrastructural capacity would be unlikely as the UFP provides specific consideration of such needs for the area (see the provisions assessed under Section 8.6).</p> <p>There would be potential construction effects on unknown archaeological heritage (CH1), water resources (W1 W2) and human health (HH1) - air and noise. The height of any development at the periphery of these zones would have to be carefully considered in order to prevent significant effects on residential amenity (L1).</p> <p>No Protected Structures are located within or adjacent to these zones (CH2).</p>				
Objectives				
MC1 It is an objective of the Council to require that a Retail Impact Assessment accompany all convenience and comparison retail development proposals in excess of 300sqm GFA	C1 C2 HH1			CH2 W1 W2 W3 B1 B2 S1 CH1 HH1 L1 M1 M2

MC2 It is an objective of the Council to require that all Retail Impact Assessments should demonstrate that the scale and nature of retail proposed caters only for the employment population within the SBD and the residential catchments within walking distance and that it will not have a negative impact on adjacent retail centres.	C1 HH1	C2			CH2 W1 W2 W3 B1 B2 S1 CH1 HH1 L1 M1 M2
MC3 It is an objective of the Council to require all planning applications for proposed retail developments to identify the nature of the proposed use in order that the appropriateness of the use at that location can be determined.	C1 HH1	C2			CH2 W1 W2 W3 B1 B2 S1 CH1 HH1 L1 M1 M2
MC4 It is an objective of the Council to limit the quantum of residential units within Zone 1 (MIC) and Zone 2 (MOC) to what has been permitted to date.	C1 HH1	C2			CH2 W1 W2 W3 B1 B2 S1 CH1 HH1 L1 M1 M2
MC5 It is an objective of the Council to require all residential development within the Plan boundary to benefit from Class 2 communal open space in accordance with the rate of space set down in Section 16.6.3 of the County Development Plan 2010-2016. The applicant shall set out clearly in any proposed development how this requirement is being addressed. Where it is not possible to provide meaningful and useable Class 2 open space or where a specific local objective requires, the applicant shall provide indoor community facilities (e.g. community rooms, indoor active recreational use for residents), the nature of which should be agreed with the planning authority at pre planning stage.	C1 HH1 B2 L1	C2 W3		S1	W1 W2 B1 CH1 CH2 M1 M2
MC6 It is an objective of the Council to require all residential developments to provide private open space in accordance with the requirements set down in Section 16.3.2 and 16.3.3 of the Dún Laoghaire-Rathdown County Development Plan 2010-2016.	C1 HH1 B2 L1	C2 W3		S1	W1 W2 B1 CH1 CH2 M1 M2
MC7 It is an objective of the Council to require, enterprise and employment development (including retail) to provide 10-15% of the site as outdoor amenity space for the passive enjoyment of the employees (Class 2 open space), excluding suitable boundary treatments, which may take the form of suitable set back, tree planting /boundary landscaping. In Zones 1 (MIC) and 2 (MOC) due to high plot ratios and the creation of streets it may not be feasible or appropriate to provide outdoor amenity space accessible to all employees. In this case the amenity associated with Class 2 open space shall be provided: by way of investment in quality public realm; the provision of set backs; roof gardens; balconies for use by employees and where a specific objective requires the provision of an urban plaza. Where Class 2 open space becomes part of the public realm e.g. street set back or urban plaza, the Council may take this in charge.	C1 HH1 B2 L1	C2 W3		S1	W1 W2 B1 CH1 CH2 M1 M2
MC8 It is an objective of the Council to seek the provision of a use that animates the street corners e.g., Hotel/Apart Hotel at the north-western end of Ballymoss Road at the junction with Blackthorn Drive.(SLO 109)	C1 HH1	C2 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2

<p>MC9 It is an objective of the Council to locate uses that enliven, and attract customers fronting the routes leading to the Luas particularly along Ballymoss Road</p>	<p>C1 C2 HH1 S1</p>		<p>W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2</p>	<p>CH2</p>
<p>Commentary:</p> <p>By facilitating the development of retailing that serves the working and resident populations in these zones, Objectives MC1, MC2 and MC3 would be likely to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective MC4, by primarily focusing future residential development within the residential zoned land and limiting new residential development in Zones 1 and 2, this objective will contribute towards the overall objective of sustainable mobility, as the number of apartments permitted to date in the mixed-use core areas is sufficient to provide vitality to these areas.</p> <p>The provision by Objectives MC5, MC6 and MC7 of open space, including green networks, close to working and resident populations would be likely to:</p> <ul style="list-style-type: none"> • Reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2) - this would contribute towards protecting human health (HH1) with regard to air quality and noise; and, • Contribute towards the protection of local habitats and residential amenity and provide increased options for flood risk management (B2 L1 W3 HH1). <p>The provision of Open Space would potentially conflict with the maximisation of brownfield development (S1).</p> <p>For Objective MC8 and MC9, see Commentary provided under High Level Objectives MIC and MOC above.</p>				

8.4.3 Office Based Employment Zone 3

	<p>Likely to Improve status of SEOs</p>	<p>Probable Conflict with status of SEOs- unlikely to be mitigated</p>	<p>Potential Conflict with status of SEOs- likely to be mitigated</p>	<p>No Likely interaction with status of SEOs</p>
<p>High Level Objective</p>				
<p>OE Office Based Employment Zone 3 It is an objective of the Council to provide for office and enterprise development in Zone 3 of Sandyford Business District. (Map 1)</p>	<p>C1 C2 HH1 S1</p>		<p>W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2</p>	<p>CH2</p>
<p>Commentary:</p> <p>See Commentary for High Level Objectives under Section 8.4.2.</p>				

Objectives						
OE1 It is an objective of the Council to require within Zone 3, 10-15% Class 2 communal open space for all developments, excluding suitable boundary treatments, which may take the form of suitable set back, tree planting /boundary landscaping, this shall be provided primarily at ground level. Where pocket parks are identified on Map 1 the 10-15% shall be used to deliver these amenity spaces; the Council may take these in charge.	C1 HH1 B2	C2 W3 L1		S1	W1 B1 CH2 M2	W2 CH1 M1
OE2 It is an objective of the Council to provide green routes creating linkages between the employment areas, pocket parks, the mixed use core areas and public transport nodes.	C1 HH1 B2	C2 W3 L1		S1	W1 B1 CH2 M2	W2 CH1 M1
OE3 It is an objective of the Council to implement tree planting and soft landscaping within the Plan area, in accordance with Drawing 11.	B2 HH1	L1 W3 CH2		S1	C1 W2 CH1 M2	C2 W1 B1 M1
OE4 It is an objective of the Council to provide a network of attractive urban spaces and public realm	C1 HH1 CH2 W3	C2 B2 L1		S1	B1 CH1	M2 L1
Commentary:						
<p>The provision by these objectives of open space, including green networks, close to working and resident populations and an attractive public realm etc. would be likely to:</p> <ul style="list-style-type: none"> • Reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2) - this would contribute towards protecting human health (HH1) with regard to air quality and noise; and, • Contribute towards the protection of local habitats and residential amenity and provide increased options for flood risk management (B2 L1 W3 HH1). <p>The objectives would potentially conflict with the maximisation of brownfield development (S1).</p>						

8.4.4 Light Industrial/ Warehousing Zone 4

	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
High Level Objective				
LIW - Light Industrial/ Warehousing Zone 4 It is an objective of the Council to improve and provide for low density light industrial/ warehousing uses in Zone 4 of the Sandyford Business District.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2
Commentary: See Commentary for High Level Objectives under Section 8.4.2.				
Objectives				
LIW1 It is an objective of the Council to assess, in Zone 4, Class 2 communal open space based on the nature of the land use proposed. Due to the expected low ratio of workers to floor area, planning applications for warehousing and light industrial development, may on agreement with the Planning Authority not be required to provide 10/15% of their site for Class 2 open space. Developments within this area will, however, be required to provide quality boundary treatments and achieve a comprehensive scheme of tree planting along streets and or adjacent to open space. However, if 10-15% (excluding suitable boundary treatments, which may take the form of suitable set back, tree planting /boundary landscaping), of Class 2 open space is deemed to be required this shall be provided primarily at ground level.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH1 CH2 M1 M2
Commentary: See Commentary for Objectives under Section 8.4.3.				

8.4.5 Residential Zone 5

	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
High Level Objective				
Objective A2 - Residential Zone 5 It is an objective of the Council to provide for the creation of Sustainable Residential Neighbourhoods, and preserve and protect residential amenity in Zone 5 of the Sandyford Business District.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
Commentary: See Commentary for High Level Objectives under Section 8.4.2.				
Objectives				
A2 1 It is an objective of the Council to ensure the residential neighbourhoods are developed at a density that is in accordance with the Density provision set out in Map 2.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
A2 2 It is an objective of the Council to require the provision of indoor community facilities as part of residential development schemes and in accordance with the Land Use Zoning Objectives (Appendix 1).	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
A2 3 It is an objective of the Council to require all residential development within Zone 5 to benefit from Class 2 communal open space in accordance with the rate of space set down in Section 16.6.3 of the County Development Plan 2010-2016. The applicant shall set out clearly in any proposed development how this requirement is being addressed. Where the Planning Authority agrees that it is not possible to provide meaningful and useable Class 2 open space or where a specific local objective requires, the applicant shall provide indoor community facilities (e.g. community rooms, indoor active recreational uses for residents), the nature of which should be agreed with the Planning Authority at pre planning stage.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH1 CH2 M1 M2
A2 4 It is an objective of the Council to require all residential developments to provide private open space in accordance with the requirements set down in Section 16.3.2 and 16.3.3 of the Dún Laoghaire-Rathdown County Development Plan 2010-2016.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH1 CH2 M1 M2

A2 5 It is an objective of the Council to require a set back of the building line along Carmanhall Road to protect the existing sylvan character and to provide a buffer from the employment uses opposite. (Drawing 10)	L1 B2 CH1 CH2 W3 HH1		S1	B1 W1 W2 M1 M2 C1 C2
Commentary: See Commentary for Objectives under Section 8.4.3.				

8.4.6 Medical Zone 6

	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
High Level Objective				
Objective MH - Medical Zone 6 It is an objective of the Council to improve, encourage and facilitate the provision and expansion of medical/hospital uses and services in Zone 6 of Sandyford Business District.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
Commentary: See Commentary for High Level Objectives under Section 8.4.2.				
Objectives				
MH1 It is an objective of the Council to require in Zone 6 that Class 2 open space shall be provided at the rate of 10-15% open space, excluding suitable boundary treatments, which may take the form of suitable set back, tree planting /boundary landscaping. Due to the sensitive nature of the use of these sites the open space shall be best designed to cater for the passive recreational needs of patients, visitors and staff	C1 C2 HH1 W3 B2 L1		CH2 S1	W1 W2 B1 CH1 M1 M2
MH2 It is an objective of the Council to protect the sylvan setting of Leopardstown Park Hospital	L1 B2 CH1 CH2 W3 HH1		S1	B1 W1 W2 M1 M2 C1 C2

MH3 It is an objective of the Council to encourage the development of buildings of architectural quality and appropriate to context.	L1 CH2		S1	C1 HH1 B2 W2 CH1 M2	C2 W3 W1 B1 M1
Commentary: See Commentary for Objectives under Section 8.4.3.					

8.4.7 Open Space: Zone 7

	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	
High Level Objective					
Objective F – Open Space Zone 7 It is an objective of the Council to preserve and provide for open space with ancillary recreational amenities.	C1 HH1 B2 L1	C2 W3	CH2 S1	W1 B1 M1 M2	W2 CH1
Commentary: By providing for open space, including green networks, close to working and resident populations, this Policy would be likely to: <ul style="list-style-type: none"> Reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2) - this would contribute towards protecting human health (HH1) with regard to air quality and noise; and, Contribute towards the protection of local habitats and residential amenity and provide increased options for flood risk management (B2 L1 W3 HH1). <p>The provision of Open Space would potentially conflict with the maximisation of brownfield development (S1).</p> <p>The provision of active open space at the Vartry Reservoir could result in alteration of the existing space - this could potentially conflict with the protection of the context of the Vartry Waterworks Complex Protected Structures (CH2).</p>					
Objectives					
F1 It is an objective of the Council to expand on the existing public open space provision by the inclusion of St Benildus sports facilities on the southern side of St. Benildus Avenue to provide Class 1 Public Open Space for active recreational use. This will include play ground space and other play opportunities, playing pitches, a dogs off leash area, a network of paths, park style boundary treatment and soft and hard landscape elements".	C1 HH1 B2 L1	C2 W3	S1	W1 B1 CH2 M2	W2 CH1 M1

F2 It is an objective of the Council to actively pursue the use of the existing reservoir site as active open space (Class 1) when the use of part of this area as a reservoir is abandoned and the remaining part is covered over. This space will compensate for any future loss of the parklands at St. Benildus associated with the construction of the Eastern Bypass.	C1 HH1 B2	C2 W3 L1	S1	W1 B1 CH1 M2	W2 CH2 M1
F3 It is an objective of the Council to facilitate a Sandyford Business District Civic Park (circa 0.8ha of Class 1 Open Space). A balance will be struck in the design and layout of this park between the smart, civic quality of an urban square, and the casual, spontaneous nature of a residential area. This will include significant water features, a high degree of sculptural influence, play opportunities, including those for childrens play, hard & soft landscape features and extensive tree planting. (SLO 119)	C1 HH1 B2	C2 W3 L1	S1	W1 B1 CH1 M2	W2 CH2 M1
F4 It is an objective of the Council to provide Class 1 active recreational open space as identified on Drawing No. 10. The Local Authority will actively pursue the provision of this open space. This active recreational open space will be funded in accordance with the Development Contribution Scheme adopted for the Plan area.	C1 HH1 B2	C2 W3 L1	CH2 S1	W1 B1 M1	W2 CH1 M2
F5 It is an objective of the Council to facilitate the provision of a series of pocket parks/ urban plaza (Class 2) to be used for small scale localised recreation. These open spaces may be themed so as to provide a variety of experiences (e.g. landscaped or small active recreational facility). These parks provide break out areas along the Green Routes.(Map 1, SLO 121, Drawing 10)	C1 HH1 B2	C2 W3 L1	S1	W1 B1 CH1 M2	W2 CH2 M1
F6 It is an objective of the Council to protect the stands of trees within South County Business Park by including them and the lands within which they stand, within the open space zoning.	C1 HH1 B2	C2 W3 L1	S1	W1 B1 CH1 M2	W2 CH2 M1
Commentary: See Commentary under High Level Objective above.					

8.4.8 Density and Scale

	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
Policy				
Policy SUFF2 Density and Scale It is Council policy to ensure that Sandyford Business District develops in an orderly manner in accordance with the increase in uses set out in the objectives of this Plan and the Density and plot ratio set out in Map 2 .	C1 HH1	C2 S1	W1 W3 B2 CH2 L1	W2 B1 CH1 HH1 M1 M2

Commentary:

The density and plot ratio map generally provides for the highest plot ratios and densities in mixed use areas, close to public transport access points - this would contribute towards maximising the uptake in smarter, more sustainable modes of transport, reducing travel related greenhouse gas emissions to air (C1) and encouraging a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The provisions set out by the map would also contribute towards the maximisation of brownfield development (S1).

The development of the Business District will result in potential conflicts with various environmental components. These potential conflicts have been described under Section 8.6.7.

Objectives

DS1 It is an objective of the Council to provide for a future growth in office based floor space (high intensity employment) of 350,000 sqm of office, consisting of 250,000 sqm of additional space and 100,000 sqm of floor space created by the redevelopment of existing sites. This quantum of office space is dependent on the modal split target for future development set out in Section 4 of this Plan being achieved.	C1 HH1	C2 S1		W1 W3 B2 CH2 L1	W2 B1 CH1 HH1 M1 M2	
DS2 It is an objective of the Council to provide for limited additional convenience and comparison retail development (not including retail warehousing), retailing shall primarily be clustered within the core areas. The scale and nature of retailing shall cater for the employment population within Sandyford Business District and the residential population within the pedestrian catchment of the cores.	C1 HH1	C2		W1 W3 B2 HH1 M1	W2 B1 CH1 L1 M2	CH2
DS3 It is an objective of the Council to ensure where the plot ratio proposed is greater than 1:2, the layout should take the form of streets in order to contribute to the vibrancy of these core areas.	C1 HH1	C2				W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2
DS4 It is an objective of the Council to ensure where the plot ratio is equal to or less than 1:2, the form of development should be looser, allowing for views between buildings and landscaped areas between buildings. (Drawing 11)	C1 HH1 B2	C2 W3 L1		S1		W1 W2 B1 CH1 CH2 M1 M2
DS5 It is an objective of the Council to ensure that unfinished estates in Sandyford Business District are appropriately resolved.	C1 HH1	C2				W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2
DS6 No development within Objective 'LIW' Light Industrial/Warehousing, Zone 4, shall be refused planning permission for reason of plot ratio alone.						W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2 C1 C2 HH1

Commentary:

Objective DS1 and DS2: see Commentary under High Level Objectives under Section 8.4.2. Note that potential conflicts between DS1 and architectural heritage (**CH2**) could occur.

Objective DS3: This objective would contribute towards the legibility and connectivity of the area (**C1 C2 HH1**).

Objective DS4: see Commentary at Open Space Policy under Section 8.6.6.

Objective DS4: This Objective could improve sustainable mobility and contribute towards protecting human health.

8.5 Section 3: Indicative Urban Form, Public Realm, Linkages and Building Height

8.5.1 Height

	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
Policy				
Policy SUPP3 - Building Height in Sandyford Business District	C1 C2 HH1 S1 L1		L1 CH2	W1 W2 W3 B1 B2 CH1 HH1 M1 M2
It is Council Policy that building height in Sandyford Business District accords with the height limits indicated on Building Height Map: Map 3.				
Commentary:	<p>Potential conflicts with the protection of views and the amenity of existing development will be mitigated by application of building height limits that have been established through assessment of location and character of an area and proposed land use.</p> <p>The building heights would - in combination with the provisions relating to land use and density - contribute towards maximising the uptake in smarter, more sustainable modes of transport, reducing travel related greenhouse gas emissions to air (C1) and encouraging a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The height limits would also contribute towards the maximisation of brownfield development (S1).</p>			

Objectives				
BH1 It is an objective of the Council to ensure that Sandyford Business District is developed in accordance with height limits set out in Map 3 Building Height subject to the building making a positive contribution to the built form as set out above.	C1 C2 HH1 S1 L1		L1 CH2	W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2
BH2 It is an objective of the Council to require applicants to include with their proposals an analysis of the impact of the height and positioning of buildings on: <ul style="list-style-type: none"> • Immediate and surrounding environment • Adjoining structures • Open spaces • Public realm (including impact on streets, spaces, pedestrian and cycle routes, identified green routes, and with particular emphasis on shadow impact) • Views and Vistas. • Impact on micro climates (such as wind funnels and overshadowing) 	B2 CH2 L1 C1 C2 HH1 S1			B1 W1 W2 W3 CH1 M1 M2
BH3 It is an objective of the Council to consider additional heights over the height limit as identified on Map 3 annotated by a star symbol, on site no.6 (Drawing no.14). Increase in building height shall be limited to an element of the building at this location and only where it does not have a significant adverse impact on adjacent residential properties.	C1 C2 HH1 S1		L1 CH2	W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2
BH4 Buildings at locations identified on Map 3 with a triangle symbol shall be of notable design to mark its prominent location. Height limits shall accord with those shown on Map 3 and Building Height Objectives in Section 3.2 of the Plan.	C1 C2 HH1 S1		L1 CH2	W1 W2 W3 S1 B1 B2 CH1 CH2 HH1 L1 M1 M2
Commentary: Objective BH1: See Commentary under Policy above. Objective BH2: This objective would be likely to improve the protection of various environmental components, it is more likely that impacts would be mitigated and environmental components protected if impacts arising from both the height and positioning of buildings are identified. Objectives BH3 & BH4: The effects of these Objectives are uncertain, however buildings of greater height would be both more likely to potentially conflict with residential amenity and with the context of architectural heritage and more likely to contribute towards efforts to reduce car dependency, minimise increases in greenhouse gas emissions and maximise brownfield development.				

8.5.2 Public Realm

	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
Policy				
Policy SUFP 4 -Public Realm It is Council policy to promote a high standard of public realm within Sandyford Business District.	C1 HH1 CH2 W3	C2 B2 L1	S1	B1 M2 CH1 L1
Commentary: A high standard of public realm could increase the use of pedestrian and cycle routes which would help to reduce car dependency and emissions of greenhouse gas emission to air (C1 C2) - and consequently contribute towards the protection of human health (HH1) -, provide for the conservation of trees (B2), protect the setting of architectural heritage and residential amenity (CH2 L1) and could provide increased options for flood risk management - which also relates to human health - (W3 HH1). Providing for a high standard of public realm could conflict with efforts to maximise brownfield development (S1).				
Objectives				
PR1 It is an objective of the Council to ensure the provision of a high quality, safe, attractive and functional public realm. This shall be achieved through the appropriate and planned use of space and structure, building interface, continuous street frontages and enclosure, hard and soft surfaces, high quality materials, textures, planting, street furniture, lighting and signage and by encouraging a positive relationship between the buildings and the surrounding environment.	C1 HH1 CH2 W3	C2 B2 L1	S1	B1 M2 CH1 L1
PR2 It is an objective of the Council to ensure the provision of local identity, distinctive places and character areas through the use of co-ordinated high quality surface materials, street furniture, public art, signage, lighting and planting.	C1 HH1	C2		B1 B2 S1 W1 W2 W3 M1 M2 CH1 CH2 L1
PR3 It is an objective of the Council to ensure that road design and quality of landscaping treatment reflects its role within the hierarchy of routes.	C1 HH1	C2		B1 B2 S1 W1 W2 W3 M1 M2 CH1 CH2 L1
PR4 It is an objective of the Council to manage street and roadside trees in accordance with best arboricultural practice.	B2 L1			B1 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2

PR5 It is an objective of the Council to endeavour to conserve all street and roadside trees where feasible and to replace all trees removed with an appropriate species, where the removal of street and roadside trees is necessary	B2 C1 C2 HH1 L1		S1	B1 M2 CH1 CH2 W3
PR6 It is an objective of the Council to implement a programme for enhanced planting along Green Routes and along all roads and streets suitable for such planting.	B2 C1 C2 HH1 L1		S1	B1 M2 CH1 CH2 W3
PR7 It is an objective of the Council to provide a clear, direct, accessible and inviting pedestrian and cycle route from the planned transport interchange at Blackthorn Avenue into the centre of Sandyford Business Estate. This shall be achieved by creating a generous crossing point at the Interchange, clearly defined by the building edges and setting back the building line at the junction of Ballymoss Road and Blackthorn Avenue and by providing a shared surface environment along the entirety of the route.	C1 C2 HH1		S1	B1 B2 W1 W2 W3 HH1 CH1 CH2 L1 M1 M2
PR8 It is an objective of the Council to facilitate the provision of an urban plaza at the northern end of Ballymoss Road at the junction with Blackthorn Avenue to enhance legibility of the pedestrian and cycle route from the planned Transport Interchange. This civic area would both complement the proposed Civic Park and form a visual relationship with, and provide clarity to the network of routes between, Beacon South Quarter and the Rockbrook development.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH2 CH1 M1 M2
PR9 It is an objective of the Council to protect the mature trees and their setting at Burton Hall and along Carmanhall Road.	B2 L1 W3 HH1 CH2		S1	C1 C2 W1 W2 B1 CH1 M1 M2
PR10 It is an objective of the Council to design sustainable urban drainage systems in accordance with best practice. A multidisciplinary design approach should be taken to integrate run off and water attenuation requirements into:- <ul style="list-style-type: none"> The design of a water feature in the civic park The design of the capacity in streetscapes for structured soils for trees Maximise the planting of large canopy trees in accordance with the Council's Tree Strategy Maximising the use of green roof systems within new developments 	W1 W2 W3 B1 B2 HH1		CH1	L1 C1 C2 M2 M1 S1 CH2
Commentary: Objective PR1 - see Comments under Policy above. Objectives PR2 and PR3: These objectives would improve the legibility of the area (C1 C2 HH1). Objective PR4: Conservation and replacement of trees would contribute towards the protection of biodiversity and residential amenity (B2 L1). Objectives PR5 and PR6: Planting along green routes would enhance ecological connectivity (B2) and increase use of these routes for more sustainable modes of transport (C1 C2 HH1). Planting along roads and streets within the area would enhance residential amenity (L1). Enhanced planting could conflict with efforts to maximise brownfield development (S1). Objective PR7: The provision of this route would help to reduce car dependency and emissions of greenhouse gas emission to air (C1 C2) - and consequently contribute towards the protection of human health (HH1). The route could conflict with maximising brownfield development at this location.				

Objective PR8: By providing for open space close to working and resident populations, this Policy could:

- Reduce travel related greenhouse gas emissions to air (**C1**) and encourage a modal change from car to more sustainable forms of transport (**C2**) - this would contribute towards protecting human health (**HH1**) with regard to air quality and noise; and,
- Contribute towards the protection of local habitats and residential amenity and could provide increased options for flood risk management (**B2 L1 W3 HH1**).

The provision of Open Space would potentially conflict with the maximisation of brownfield development (**S1**).

Objective PR9: Protecting these trees and their setting would improve the protection of biodiversity and amenity and this could provide increased options for flood risk management

Objective PR10: Sustainable Urban Drainage Systems (SUDS) would contribute towards the minimisation of flood risk (**W3**) as well as providing for the treatment of potentially polluted surface water run-off - this could contribute towards the protection of water bodies (**W1 W2**), biodiversity (**B1 B2**) and human health (**HH1**). SUDS areas can often provide habitats for flora and fauna (**B2**). Construction of SUDS could potentially conflict with the protection of unknown archaeology (**CH1**).

8.5.3 Way Finding

	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
Policy				
SUFP 5 Way Finding It is Council Policy to improve permeability of Sandyford Business District by providing in co-operation with developers clear and pleasant routes for pedestrians and cyclists linking origin with destination.	C1 C2 HH1		S1	W1 W2 B1 CH1 CH2 M1 M2
Commentary: Improving permeability would help to reduce car dependency and emissions of greenhouse gas emission to air (C1 C2) - and consequently contribute towards the protection of human health (HH1). The development of new routes could potentially conflict with the protection of environmental components.				
Objectives				
WF1 It is an objective of the Council to provide pleasant and safe pedestrian routes from origin to destination. Key destinations are identified as the transport interchange, mixed use core areas, Luas stops, hospitals and schools. Clear routes from work and homes to these destinations have been provided for (Drawings 6, 7, 10 and 12). To facilitate wayfinding and to encourage a sense of place within Sandyford Business District, it is an objective of the Council to promote the erection of maps of the district for pedestrians, and to promote the erection of signs informing pedestrians, cyclists and users of vehicles that they are entering Sandyford Business District.	C1 C2 HH1		S1	W1 W2 B1 CH1 CH2 M1 M2

WF2 It is an objective of the Council to ensure that street design gives appropriate priority to the needs of pedestrians, cyclists and users of public transport.	C1 C2 HH1		S1	W1 W2 B1 CH1 CH2 M1 M2
WF3 It is an objective of the Council to provide Green Routes that will link the open space network (in particular the pocket parks and urban plazas), along streets within the Sandyford Business District. These routes will cater for pedestrians and cyclists. The routes shall provide the connectivity identified in Drawing No. 10.	B2 C1 C2 HH1 L1		S1	B1 M2 CH1 CH2 W3
Commentary:				
Objectives WF1 & WF2: See Commentary under Policy above.				
Objectives WF3: the provision of green routes could - in addition to the impacts above - provide for ecological connectivity (B2) and amenity (L1).				

8.6 Section 4: Infrastructure

8.6.1 Environmental Infrastructure

	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
Policy				
Policy SUPP6 - Environmental Infrastructure It is Council Policy to upgrade existing environmental infrastructure to cater for the planned future development of Sandyford Business District.	M1 M2 W1 W2 W3 HH1 B1 B2 C1 C2		W1 W2 B1 B2 CH1 CH2 L1	L1 S1
Commentary:				
Environmental infrastructure is identified in the UFP as being water, drainage and transport infrastructure.				
Upgrading water services (M1 M2) and drainage infrastructure would be likely to contribute towards the protection of water bodies (W1 W2), human health (HH1) and biodiversity (B1 B2) and the minimisation of flood risk (W3 HH1). Exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements could - alone or in combination with other actions - affect water resources and biodiversity and flora and fauna beyond the Variation lands (W1 W2 B1 B2). A Plan for the Water Supply of the wider Dublin Region has been subject to both SEA and Appropriate Assessment and current recommendations are being considered by the 7 Dublin Region Local Authorities.				

Transport infrastructure provisions in the CDP are focused upon encouraging a modal change from private car to more sustainable forms of transport and this will help reduce travel related greenhouse gas emissions to air (C1 C2).

During construction, the upgrading of existing environmental infrastructure has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2), the landscape (L1) and cultural heritage (CH1 CH2).

8.6.2 Foul Drainage Objectives

	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
Objectives				
FD1 It is an objective of the Council to provide significant foul sewer infrastructure upgrades within and adjacent to the Sandyford Business District.	M1 W1 W2 B1 B2 HH1		W1 W2 W3 B2 CH1 CH2	L1 C1 C2 M2 S1
FD2 It is an objective of the Council to ensure that detailed hydraulic analyses of the foul sewer network, between housing and commercial developments within the Sandyford Business District and the nearest significant trunk sewers, be completed by future applicants. Where capacity issues are identified localised upgrade works will be required in order to facilitate the development.	M1 W1 W2 B1 B2 HH1		W1 W2 W3 B2 CH1 CH2	L1 C1 C2 M2 S1
FD3 It is an objective of the Council to ensure that a detailed misconnection survey be undertaken for all new developments at the pre-planning application stage, under the supervision of an independent Chartered Engineer approved by and reporting to, the Senior Engineer in Dún Laoghaire-Rathdown Water Services Section, to be followed by corrective action, as required, when the development proceeds. Drainage operations will carry out audits of the misconnection surveys. At the substantial completion of development works on site, the independent Chartered Engineer shall inspect the drainage works and forward a certificate to the Senior Engineer in Water Services Section stating that no misconnections are present.	M1 W1 W2 B1 B2 HH1		W1 W2 W3 B2 CH1 CH2	L1 C1 C2 M2 S1
Commentary:				
Upgrading foul sewer infrastructure (M1) would be likely to contribute towards the protection of water bodies (W1 W2), human health (HH1) and biodiversity (B1 B2). Construction of new and upgrading of existing foul water infrastructure has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2), flood risk (W3 HH1) and cultural heritage (CH1 CH2).				

8.6.3 Surface Water Drainage Objectives

	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
Objectives				
SWD 1 It is an objective of the Council to ensure that stormwater management and Sustainable Urban Drainage Measures (SuDS), including a requirement to undertake Stormwater Audits, shall form part of the pre planning stage of any application.	W1 W2 W3 B1 B2 HH1		CH1	L1 C1 C2 M2 M1 S1 CH2
SWD 2 It is an objective of the Council to ensure that Sustainable Urban Drainage Measures (SuDS) shall be fully implemented on all sites to Greenfield runoff rates. In this regard solutions other than tanking systems shall be required for all developments. For larger applications green roofs shall be used in accordance with the Dún Laoghaire-Rathdown County Council's Green Roofs Guidance Document. The design and acceptance of these solutions shall form part of pre planning discussions with the Planning Authority.	W1 W2 W3 B1 B2 HH1		CH1	L1 C1 C2 M2 M1 S1 CH2
Commentary:				
Sustainable Urban Drainage Systems (SUDS) would contribute towards the minimisation of flood risk (W3) as well as providing for the treatment of potentially polluted surface water run-off - this could contribute towards the protection of water bodies (W1 W2), biodiversity (B1 B2) and human health (HH1). SUDS areas can often provide habitats for flora and fauna (B2). Construction of SUDS could potentially conflict with the protection of unknown archaeology (CH1).				

8.6.4 Water Supply Objectives

	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
Objectives				
WS1 It is an objective of the Council to increase the capacity of the linking water main to Zone A (Drawing 3). Development will be limited in this area until the additional main is in place.	M2 HH1		B1 B2 W1 W2 CH1 CH2	S1 W3 C1 C2 L1

WS2 It is an objective of the Council to assist applicants at preplanning stage to identify local water mains that may need to be altered so as to facilitate their proposal.	M2 HH1		B1 W1 CH1	B2 W2 CH2	S1 W3 C1 C2 L1
Commentary:					
These Objectives would help enable new development to be served by an appropriate amount and quality of drinking water (M2) - this would be likely to benefit the protection of human health (HH1). During construction, the upgrading of existing infrastructure has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2) and cultural heritage (CH1 CH2).					
Exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements could - alone or in combination with other actions - affect water resources and biodiversity and flora and fauna beyond the Variation lands (W1 W2 B1 B2). A Plan for the Water Supply of the wider Dublin Region has been subject to both SEA and Appropriate Assessment and current recommendations are being considered by the 7 Dublin Region Local Authorities.					

8.6.5 Multi Modal Transport Infrastructure

	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	
Policy					
Policy SUP7 Multi Modal infrastructure; public transport, cycling, walking and private car It is Council Policy to develop and support a culture of sustainable travel into and within the Sandyford Business District.	C1 HH1	C2	B2 W2 CH1 L1	W1 W3 CH2	B1 M1 M2 S1
Commentary:					
Developing and supporting a culture of sustainable travel into and within the Variation lands would reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The construction of infrastructure has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2), flood risk (W3), the landscape (L1) and cultural heritage (CH1 CH2).					
Objectives					
TAM1 It is an objective of the Council to require all future development in the Sandyford Business District to constrain private vehicular access so as to achieve a transport mode split of 45% trips by car drivers (maximum) and 55% trips by public transport, walking, cycling and other sustainable modes (minimum) as per Government policy stated in the document published by the Department of Transport entitled, 'Smarter Travel, A Sustainable Transport Future 2009-2020'.	C1 HH1	C2	B2 W2 CH1 L1	W1 W3 CH2	B1 M1 M2 S1

<p>TAM2</p> <p>It is an objective of the Council to construct a Luas / Bus Interchange at the Stillorgan Luas stop on Blackthorn Avenue. This will be done in two phases, to meet the increasing demand. The first phase will consist of a bus lay-by constructed on the area between the roadway and the Stillorgan Luas carpark. This will provide for existing and short-term development of the bus services. As the supply of bus services increases in the future the Interchange can be developed, as per the enclosed sketch, to include an area of the Luas carpark.(Drawing 4)</p>	<p>C1 HH1</p> <p>C2</p>		<p>B2 W3 L1</p> <p>W2 CH1</p>	<p>B1 M1 M2 S1 W1 CH2</p>
<p>TAM3</p> <p>It is an objective of the Council to implement the following Quality Bus Corridors that shall benefit the Sandyford Business District. (Drawing No. 5)</p> <ul style="list-style-type: none"> • Lower Kilmacud Road Quality Bus Corridor and Infrastructure Project, presently at Design Stage and due to start construction in 2011. This project is subject to available funding. • Internal circular Quality Bus Corridor from a LUAS / Bus Interchange at the Stillorgan LUAS stop, proceeding in a clockwise direction via Blackthorn Avenue, Blackthorn Road and Blackthorn Drive. This proposed route shall be implemented following the reverting of the section of Blackthorn Road, between Blackthorn Avenue and Burton Hall Road, to two-way traffic. The above route will be modified to proceed via Corrig Road, left on Carmanhall Road and via the existing bus gate onto Blackthorn Drive. Provide a QBC from Tallaght to Sandyford 	<p>C1 HH1</p> <p>C2</p>			<p>B1 M1 M2 S1 W1 CH2 B2 W2 W3 CH1 L1</p>
<p>TAM4</p> <p>It is an objective of the Council to encourage the expansion of bus services for Sandyford Business District:</p> <ul style="list-style-type: none"> • Fast and frequent shuttle bus service from the Blackrock Dart station to the Stillorgan LUAS and Sandyford Business Estate. This service shall open up public transport as an option to the vast hinterland of the DART line from Greystones to Malahide and Howth. • An internal shuttle bus service. This service will provide a more sustainable travel opportunity and provide a campus feel to the area. It will also aid in the transporting of people from the LUAS / Bus Interchange to their destination within the Sandyford Business Estates. 	<p>C1 HH1</p> <p>C2</p>			<p>B1 M1 M2 S1 W1 CH2 B2 W2 W3 CH1 L1</p>
<p>TAM5</p> <p>It is an objective of the Council to facilitate the development of the BlueLine Bus Rapid Transit Service from St. Vincent's University Hospital (Nutley Lane) to Sandyford via UCD providing integration between DART, bus and Luas services. (Drawing 13)</p>	<p>C1 HH1</p> <p>C2</p>		<p>CH2 CH1 L1</p>	<p>B1 M1 M2 S1 W1 B2 W2 W3</p>
<p>TAM6</p> <p>It is an objective of the Council to implement the following cycling and walking access routes by upgrading existing routes and as part of the provision of new road proposals: (Drawing No 6)</p> <p>Six-year objectives Cycling and Walking</p> <ul style="list-style-type: none"> • Old Harcourt Street Railway Line, (Leopardstown Road to Brewery Road), to be upgraded to provide a pedestrian / cycle link into Sandyford including a pedestrian crossing at Brewery Road to connect to the Sandyford Luas stop. • Road Proposal (2a) – Leopardstown Link Road from South County Business Park. • Pedestrian / Toucan Crossing, on Leopardstown Road, linking Burton Hall Drive with Central Park. • Upgrading the existing signalised junction on Leopardstown Road, at the entrance to Central Park, to improve cycle and pedestrian facilities. • Road Proposal (5) – Extension of Burton Hall Drive onto Leopardstown Road. • Road Proposal (6) – E.S.B. Roundabout, on Leopardstown Road to Arena Road and Blackthorn Road. • Road Proposal (7) – Leopardstown Roundabout Re-configuration to a signalised junction. • Cycle / Pedestrian bridge from Leopardstown Road West, over the M50 Motorway, to Sandyford Business Estate, via Heather Road. 	<p>C1 HH1</p> <p>C2</p>		<p>S1</p>	<p>W1 W2 B1 CH1 CH2 M1 M2</p>

<p>Long-term objectives Cycling and Walking</p> <ul style="list-style-type: none"> Road Proposal (2b) – Central Park to South County Business Link Road. Road Proposal (8) – Drummartin Link Road / Blackthorn Drive Grade Separation. Road Proposal (10) – Murphystown Road, over the M50 Motorway, to Central Park and South County Business Park. Cycle / Pedestrian Link, via the existing M50 access bridge, from Ballyogan Road into Horse Racing Ireland property and connecting to Central Park and South County Business Park. 				
<p>TAM7</p> <p>In order to improve circulation and permeability within the Sandyford Business District, it is an objective of the Council to create a more friendly environment for cyclists and pedestrians by implementing the following internal circulation routes, traffic management measures (incl traffic calming and traffic signal measures). (Drawing No. 7)</p> <ul style="list-style-type: none"> Construct or complete, on-road cycle lanes on roads identified for a Quality Bus Corridor or a Bus Priority Route, which are as follows: <ul style="list-style-type: none"> Blackthorn Drive, from the junction of Blackthorn Road to Benildus Avenue. Blackthorn Avenue, from the junction of Benildus Avenue to Blackthorn Road. Blackthorn Road, from the junction of Blackthorn Avenue to Blackthorn Drive. Burton Hall Road, from the junction of Burton Hall Drive to Blackthorn Road. Corrig Road, for its full length. Carmanhall Road, from the junction of Corrig Road to Blackthorn Drive. Provision of traffic calming measures and traffic management at key junctions and routes in the area to reduce inappropriate traffic speeds and improve safety for all users. (See Drawing 7) Provide a Toucan crossing on Blackthorn Avenue, at the Sandyford LUAS station, with a direct cycle / pedestrian link to Burton Hall Avenue. Encourage and support proposed pedestrian links from the Central Park LUAS station and the adjoining areas. Blackthorn Road, between Blackthorn Avenue and Burton Hall Road, to revert to two-way traffic. Upgrade existing signalised junctions to incorporate better cyclist and pedestrian facilities. Install new toucan crossing on Blackthorn Avenue, at the junction with Ballymoss Road in order to provide better connectivity between the Stillorgan Luas station / new Bus Interchange and the centre of Sandyford Business Estate To prioritise Ballymoss Road to facilitate a quality cycle / pedestrian link from the Stillorgan Luas station to the heart of Sandyford Business Estate. Encourage and support landowners and developers in Central Park and South County Business Park to provide footpaths, road crossings and other additional pedestrian facilities. 	<p>C1 C2 HH1</p>		<p>S1</p>	<p>W1 W2 B1 CH1 CH2 M1 M2</p>
<p>TAM8</p> <p>It is an objective of the Council to require future developments within the Sandyford Business District that impact on the road network to submit Road User Audits to be carried out in accordance with best UK practice.</p>	<p>C1 C2 HH1</p>			<p>B1 M1 M2 S1 B2 W1 W2 W3 CH1 CH2 L1</p>

<p>TAM9 It is an objective of the Council to prepare an area wide Mobility Management Plan for Sandyford Business District in conjunction with stakeholders in the area and in consultation with the National Transport Authority.</p>	<p>C1 HH1</p>	<p>C2</p>	<p>B2 W2 CH1 L1</p>	<p>W1 W3 CH2</p>	<p>B1 M1 M2 S1</p>
<p>TAM10 It is an objective of the Council to require that a Traffic and Transport Assessment is submitted for developments that exceed the thresholds and requirements set out in the National Roads Authority publication, 'Traffic and Transport Assessment Guidelines', September 2007.</p>	<p>C1 HH1</p>	<p>C2</p>			<p>B1 M1 M2 S1 B2 W1 W2 W3 CH1 CH2 L1</p>
<p>TAM11 It is an objective of the Council that a Mobility Management Plan will be required for developments in the Sandyford Urban Framework Plan that exceed the thresholds set in the following table or in accordance with thresholds and requirements set out in UK Department of Transport Guidance documents.</p>	<p>C1 HH1</p>	<p>C2</p>	<p>B2 W2 HH1 CH2 L1</p>	<p>W1 W3 CH1</p>	<p>B1 M1 M2 S1</p>
<p>TAM12 It is an objective of the Council to set up a database of MMP's to facilitate the ongoing annual monitoring and annual reviews of MMP's for development in the Sandyford Business District. The 'outcome' based Mobility Management Plan shall set out how the end users of the development will accord with sustainable travel objectives and show how the modal split targets as per Smarter Travel- A Sustainable Transport Future (2009) will be met. All developers will be required to commit to achieving the targets set in Smarter Travel and agree to ongoing monitoring and compliance as part of the planning process. If the end occupier of the development is not known, the developer shall provide an interim MMP with the application. A full final MMP will then be required within 6 months of occupation. For development that does not meet the thresholds, a Travel Statement will be required focusing on specific measures within the development to encourage and promote sustainable travel.</p>	<p>C1 HH1</p>	<p>C2</p>	<p>B2 W2 HH1 CH2 L1</p>	<p>W1 W3 CH1</p>	<p>B1 M1 M2 S1</p>
<p>TAM13 It is an objective of the Council to require developments in the Sandyford Business District to provide motorcycle parking spaces at a minimum of four or more spaces per 100 car parking spaces.</p>					<p>B1 B2 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2 L1</p>
<p>TAM14 It is an objective of the Council to manage the provision and use of car parking and cycle spaces and cycle facilities through mobility management plans. Cycle parking and cycle facilities shall be in accordance with the Council's Cycling Policy.</p>	<p>C1 HH1</p>	<p>C2</p>	<p>B2 W2 HH1 CH2 L1</p>	<p>W1 W3 CH1</p>	<p>B1 M1 M2 S1</p>
<p>TAM15 It is an objective of the Council to apply appropriate car parking controls on all public roads in the area.</p>					<p>B1 B2 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2 L1</p>

<p>TAM16 It is an objective of the Council to encourage alternatives to on site parking (e.g. use of excess parking spaces in an existing premises)</p>				<p>B1 B2 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2 L1</p>
<p>TAM17 It is an objective of the Council to require applicants to explore the potential to share access points with adjoining properties so as to limit the number of entries and exits.</p>				<p>B1 B2 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2 L1</p>
<p>TAM18 It is an objective of the Council that the maximum car parking standards for the entire Sandyford Business District will not exceed the Dún Laoghaire-Rathdown County Development Plan 2010-2016 car parking standards, identified in Section 16.10.6, for designated areas along public transport corridors and more restrictive standards may apply at appropriate locations.</p>	<p>C1 C2 HH1</p>			<p>B1 B2 HH1 S1 W1 W2 W3 M1 M2 C1 C2 CH1 CH2 L1</p>
<p>TAM 19 : Six-Year Roads Objectives (Drawing No. 8) It is an objective of the Council to implement the following six year roads objectives, This combination of schemes represents the road infrastructure configuration required to facilitate traffic growth (based on implementing a significant modal shift to more sustainable travel modes) that will result from the future development of Sandyford Business District. (The phasing of the development of these schemes is set out in Section 5)</p> <ul style="list-style-type: none"> • M50 Junction 14 Diverge ramp access to Sandyford (provided via a freeflow slip to the ESB Link Road (preferred option) or Heather Road) • Revised Access to South County Business Park (No.2a) including an access to the car parks within Central Park.(SLO 122) • Bracken Road Extension to the Drummartin Link Road (No.3) • Burton Hall Road Extension to Leopardstown Road (No.5) • ESB Link Road and Link to Arena Road (No.6) • Reconfiguration of the Leopardstown Roundabout (No.7) • Quality Bus Corridors (No.9) 	<p>C1 C2 HH1</p>		<p>B2 W1 W2 W3 HH1 CH1 CH2 L1 C1 C2 HH1</p>	<p>B1 M1 M2 S1</p>
<p>TAM20 It is an objective of the Council to facilitate the following long term road objectives (Drawing 9):</p> <ul style="list-style-type: none"> • A link road connecting the South County Business Park to the Central Park junction on the Leopardstown Road (No.2b). • M50 southbound on-ramp from the N31 Leopardstown Road (No.4). • Grade Separation at the Junction between Blackthorn Drive and the Drummartin Link Road (No.8). • Leopardstown Road (East) to Murphystown Road (No.10). 			<p>B2 W1 W2 W3 CH1 CH2 L1 C1 C2 HH1</p>	<p>B1 M1 M2 S1</p>

<p>TAM21 Within the boundary of the Sandyford Urban Framework Plan, it is an objective of the Council to preserve the route corridor for the Dublin Eastern Bypass that is identified by the National Roads Authority in the Dublin Eastern Bypass Corridor Protection Study, March 2009. (Map 1)</p>	<p>B2 W2 W3 HH1 CH1 L1</p>	<p>L1</p>	<p>B1 B2 W1 W2 W3 CH1 CH2 C1 C2 HH1</p>	<p>M1 M2 S1</p>
<p>Commentary:</p> <p>Most of these objectives would help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective TAM1 - Construction and upgrading of transport related infrastructure has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2), flood risk - and consequently human health - (W3 HH1), the landscape (L1) and cultural heritage (CH1 CH2).</p> <p>Objective TAM2 - See comment under Objective TAM1. Note that there are no Protected Structures or bodies of surface water in this area.</p> <p>Objective TAM3 - The development of these bus corridors are on existing routes and would be unlikely to have significant effects.</p> <p>Objective TAM4 - The bus services would use existing routes and would therefore be unlikely to conflict with environmental components.</p> <p>Objective TAM5 - Although Blue Line would use existing routes, the development of stations could potentially conflict with environmental components.</p> <p>Objective TAM6 - The development of cycle routes would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The development of cycle routes could potentially conflict with the maximisation of brownfield development.</p> <p>Objective TAM7 - The development of cycle routes would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. The development of cycle routes could potentially conflict with the maximisation of brownfield development.</p> <p>Objective TAM8 - The submission of such audits would benefit mobility and would be unlikely to conflict with environmental components.</p> <p>Objective TAM9 - Although the provisions of such a Plan are uncertain they would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective TAM10 - The submission of such assessments would benefit mobility and would be unlikely to conflict with environmental components.</p> <p>Objective TAM11 - Although the provisions of such a Plan are uncertain they would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective TAM12 - Although the provisions of reviewed Plans are uncertain they would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p>				

Objective TAM13 - This objective would be unlikely to have significant environmental effects.

Objective TAM14 - The provision of car parking and cycle spaces and cycle facilities could conflict with various environmental components.

Objective TAM15 - This objective would be unlikely to have significant environmental effects.

Objective TAM16 - This objective would be unlikely to have significant environmental effects.

Objective TAM17 - This objective would be unlikely to have significant environmental effects.

Objective TAM18 - This Objective could improve sustainable mobility and contribute towards protecting human health.

Objective TAM19 - The provision of new roads would be likely to potentially conflict with various environmental components. The provision of quality bus corridors would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.

Objective TAM20 - The provision of new roads would be likely to potentially conflict with various environmental components.

Objective TAM21 - In the short term, the protection of these lands from development would be likely to benefit the protection of biodiversity (B2), the landscape (L1), groundwater (W2) and unknown archaeology (CH1) and could provide increased options for flood risk management (W3 HH1). Protecting these lands in the short term would help to facilitate the longer term development of the Dublin Eastern Bypass. The development of this route would potentially conflict on various environmental components with impacts upon the landscape (L1) unavoidable. The Bypass will be subject to its own environmental assessment procedures.

8.6.6 Community Infrastructure - Open Space

	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
Policy				
Policy SUFP8-Open Space It is Council policy to provide for a variety of open spaces that cater for the different requirements of the diverse users.	C1 C2 HH1 W3 B2 L1		CH2 S1	W1 W2 B1 CH1 M1 M2
Commentary:				
The provision of Open Spaces, close to working and resident populations would be likely to: <ul style="list-style-type: none"> Reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2) - this would contribute towards protecting human health (HH1) with regard to air quality and noise; and, 				

- Contribute towards the protection of local habitats and residential amenity and provide increased options for flood risk management (**B2 L1 W3 HH1**).

The provision of Open Space would potentially conflict with the maximisation of brownfield development (**S1**). In order to provide for space for active recreation, existing space may be altered and this could potentially conflict with the protection of the context of Protected Structures (**CH2**).

Objectives

OS1 It is an objective of the Council to create a clear hierarchy of open spaces that addresses the needs of the different users and to do this in a manner that reinforces the Plan for the area. Class 1, active public open space (Drawing 10, A1,A2, and B) will be located at St. Benildus and in the Civic Park. Class 2, communal open space, inclusive of pocket parks and urban plazas (Drawing 10, C) will be located and designed in a manner appropriate to meet the needs of its users, as set out under each land use zoning. Private open space will be provided in accordance with the standards set down in Section 16.3.2 and 16.3.3 of the Dún Laoghaire-Rathdown County Development Plan 2010-2016, for residential developments.	C1 HH1 B2 L1	C2 W3		CH2 S1	W1 B1 M1 M2	W2 CH1
OS2 It is an objective of the Council to provide Green Routes that will link the open space network (in particular the pocket parks/Urban Plazas), along streets within the Sandyford Business District, to cater for pedestrians and cyclists. The routes shall provide the connectivity identified in Drawing 10, C.	C1 HH1 B2 L1	C2 W3		S1	W1 B1 CH2 M2	W2 CH1 M1
OS3 It is an objective of the Council to open the Maretimo stream culvert, where feasible, and use it as a water feature within landscaped areas, as shown in Drawing 10, D.	W1	B2		B1 W1 HH1	B2 W3	HH1 S1 W2 M1 M2 C1 C2 CH1 CH2 L1
OS4 It is an objective of the Council to retain the sylvan setting within South County Business Park. This area currently provides visual amenity both within the business estate and from surrounding areas. The scale of development, positioning and landscape treatment within this area will be required to demonstrate that it maintains this sylvan setting.	L1 CH1 W3	B2 CH2 HH1		S1	B1 W2 M2	W1 M1 C2
OS5 It is an objective of the Council to actively pursue the use of the existing reservoir site as active open space (Class 1) when the use of part of this area as a reservoir is abandoned and the remaining part is covered over. Due regard will be given in the design of the open space to insure there will be no over looking of houses. This space will compensate for any future loss of the parklands at St. Benildus associated with the construction of the Eastern Bypass. (Drawing 10, A2)	C1 HH1 B2 L1	C2 W3		CH2 S1	W1 B1 M1 M2	W2 CH1
OS6 It is an objective of the Council to actively pursue the potential to improve links from Sandyford Business District with lands at the far side of the Motorway with the potential to link in with a future Greenways Strategy. This will link the area to the proposed facilities including the swimming pool at the Samuel Beckett Centre, Ballyogan and the 40ha park at Jamestown Park. These routes will provide pleasant pedestrian and cycle links for recreational and commuter journeys. The existing bridge at Leopardstown Race Course as well as future links identified in the transport objectives would assist in achieving this objective.	C1 HH1	C2		S1	W1 B1 CH2 M2	W2 CH1 M1

Commentary:

Objective OS1: See Commentary under Policy above.

Objective OS2: See Commentary under Policy above.

Objective OS3: Opening up the Maretimo Stream would improve the morphological status of this water body (**W1**) and enhance ecological connectivity (**B2**) however it could potentially conflict with the biological and/or chemical status of the river body (**W1**), with the protection of biodiversity downstream of the Urban Framework Plan lands (**B1 B2**) and with efforts to minimise flood risk within the Plan area (**W3**), which also relates to human health (**HH1**).

Objective OS4: Retaining the sylvan setting within the Estate would benefit the protection of biodiversity (**B2**), the landscape (**L1**) and cultural heritage (**CH1 CH2**) - including the setting of architectural heritage - and could provide increased options for flood risk management (**W3 HH1**).

Objective OS5: See Commentary under Policy above.

Objective OS6: Improving pedestrian and cycle links between Sandyford Business District lands and lands at the far side of the Motorway would help to reduce travel related greenhouse gas emissions to air (**C1**) and encourage a modal change from car to more sustainable forms of transport (**C2**) - this would contribute towards protecting human health (**HH1**) with regard to air quality and noise. The links identified in the transport objectives section could potentially conflict with the maximisation of brownfield development.

8.6.7 Community Infrastructure - Community facilities

	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
Policy				
Policy SUFP 9- Community facilities It is Council Policy to encourage the provision of community facilities within appropriate locations to cater for local needs.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
Commentary:				
<p>Providing for community facilities within appropriate locations to cater for local needs, this Policy would help to avoid unnecessary journeys thereby reducing car dependency and minimising increases in greenhouse gas emissions (C1 C2 HH1). Such provision would also contribute towards the maximisation of brownfield development (S1). New development to accommodate community facilities would potentially conflict with various environmental components.</p> <p>The development of community facilities could contribute towards cumulative effects on various environmental components: exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services (M1 M2) and drainage infrastructure capacity (W3) could alone - or in combination with other actions - affect water resources and biodiversity and flora and fauna beyond the Variation lands (W1 W2 W3 B1 B2) and human health - related to flooding - (HH1). It is noted however that the UFP provides specific consideration of such needs for the area (see the provisions assessed under Section 8.6).</p> <p>There would be potential construction effects on unknown archaeological and architectural heritage (CH1 CH2), water resources (W1 W2) and human health (HH1) - air and noise. The height of any development at the periphery of these zones would have to be carefully considered in order to prevent significant effects on residential amenity (L1).</p>				

8.6.8 Community Infrastructure - Education

	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
Policy				
Policy SUFP 10 - Education It is Council policy to either provide for and/or facilitate access to the full spectrum of educational needs required to support Sandyford Business District.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
Commentary:				
<p>Providing for the educational needs required to support the District within the District itself, this Policy would help to avoid unnecessary journeys thereby reducing car dependency and minimising increases in greenhouse gas emissions (C1 C2 HH1). Such provision would also contribute towards the maximisation of brownfield development (S1). New development to accommodate educational needs would potentially conflict with various environmental components.</p> <p>The development of educational facilities could contribute towards cumulative effects on various environmental components: exceedences in abstractions of water which would compromise the ability of water bodies to meet legislative requirements and any exceedences in water services (M1 M2) and drainage infrastructure capacity (W3) could alone - or in combination with other actions - affect water resources and biodiversity and flora and fauna beyond the Variation lands (W1 W2 W3 B1 B2) and human health - related to flooding - (HH1). It is noted however that the UFP provides specific consideration of such needs for the area (see the provisions assessed under Section 8.6).</p> <p>There would be potential construction effects on unknown archaeological and architectural heritage (CH1 CH2), water resources (W1 W2) and human health (HH1) - air and noise. The height of any development at the periphery of these zones would have to be carefully considered in order to prevent significant effects on residential amenity (L1).</p>				
Objectives				
E1 It is an objective of the Council to encourage the inclusion of childcare facilities in school campuses in mixed use areas, residential areas and office areas particularly where they can make use of identified open space areas.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
E2 It is an objective of the Council to retain 2 no. core sites for the provision of 2 primary schools (equivalent) and 1 no. post primary school. The Council shall liaise with the Department of Education in the development of these site (SLO112 Map 1).	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	

E3 It is an objective of the Council to explore the potential use of sports facilities in schools by the wider community outside of school hours.	C1 HH1	C2		S1 W1 W2 W3 B1 B2 CH1 CH2 L1 M1 M2
E4 It is an objective of the Council to require schools to submit Mobility Management Plans.	C1 HH1	C2	B2 W1 W2 W3 CH1 CH2 L1	B1 M1 M2 S1
E5 It is an objective of the Council to facilitate access to third and fourth level facilities by encouraging and facilitating the provision of good public transport networks (e.g. Bus to IADT, Dún Laoghaire, Smurfit School, Blackrock and UCD, Clonskeagh; LUAS and DART to City Centre Universities and Colleges; and the potential of Blue Line Bus Rapid Transport to UCD and St. Vincent's Hospital).	C1 HH1	C2		S1 W1 W2 W3 B1 B2 CH1 CH2 L1 M1 M2
E6 It is an objective of the Council to encourage the development of third and fourth level educational facilities in Sandyford Business District.	C1 HH1	C2 S1	W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
<p>Commentary:</p> <p>Objectives 1 and 2: see Commentary under Policy above.</p> <p>Objective 3: Use of such facilities would help to avoid unnecessary journeys thereby reducing car dependency and minimising increases in greenhouse gas emissions (C1 C2 HH1).</p> <p>Objective 4 - Although the provisions of such Plans are uncertain they would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective 5: This objective would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise.</p> <p>Objective 6: see Commentary under Policy above.</p>				

8.6.9 Communication

	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
Policy				
Policy SUFP11 – Communication It is Council Policy to work with providers to facilitate investment in communication networks.	C1 HH1		CH1 CH2 L1	W1 W2 W3 B1 B2 HH1 M1 M2 C2 S1
Objective – Communication C1 It is an objective of the Council to actively engage with providers of communication links so as to support the growth of knowledge economy in Sandyford Business District.	C1 HH1		CH1 CH2 L1	W1 W2 W3 B1 B2 HH1 M1 M2 S1
Commentary: Provision of communication infrastructure could potentially conflict with various environmental components and would be likely to reduce the need to travel thereby helping to reduce travel related greenhouse gas emissions to air (C1). This would contribute towards protecting human health (HH1) with regard to air quality and noise.				

8.7 Section 5: Phasing and Funding

8.7.1 Phasing

	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
Policy				
Policy SUFP12 -Phasing It is Council policy to ensure the orderly development of Sandyford Business District by the phasing of future development around the delivery of infrastructure	M1 M2 W1 W2 W3 HH1 B1 B2 C1 C2		W1 W2 B1 B2 CH1 CH2 L1	L1 S1

See Commentary for Infrastructure Policy SUFP6 under Section 8.6.1.						
P1	It is an objective of the Council that no additional residential accommodation will be permitted until either the land at St. Benildus or the Civic Park has been procured or made available for public use.	C1 HH1 B2	C2 W3 L1	S1	W1 B1 CH2 M2	W2 CH1 M1
P2	It is an objective of the Council that the planning approval process for the following road schemes shall be complete and planning granted prior to any further development being permitted for office based employment within Sandyford Business District. <ul style="list-style-type: none"> Reconfiguration of the Leopardstown Roundabout (No.7) Revised Access to South County Business Park (No.2a) Burton Hall Road Extension to the Leopardstown Road (No.5) 			S1	W1 B1 CH2 M2	W2 CH1 M1 C1 C2 W3 L1
P3	It is an objective of the Council that the planning approval process for the following road schemes shall be complete and planning permission granted prior to further development being permitted for office based employment within Sandyford Business District that exceeds 70,000 sqm of the potential 350,000 sqm identified. <ul style="list-style-type: none"> ESB Link Road, M50 Diverge ramp free-flow lane and Link to Arena Road (No.6) Prior to the implementation of these road schemes, that consultation and review will be carried out with the National Transportation Authority based on their adopted Transport Strategy for the Greater Dublin Area.			S1	W1 B1 CH2 M2	W2 CH1 M1 C1 C2 W3 L1
P4	It is an objective of the Council that the planning approval process for the following road schemes shall be complete and planning permission granted prior to further development being permitted for office based employment within Sandyford Business District that exceeds 164,000 sqm of the potential 350,000 sqm identified. <ul style="list-style-type: none"> Bracken Road Extension to the Drummartin Link Road (No.3) M50 Junction 14 Diverge Ramp access to Heather Road (No.1) [Only included if not provided as part of the ESB Link Road] Prior to the implementation of these road schemes, that consultation and review will be carried out with the National Transportation Authority based on their adopted Transport Strategy for the Greater Dublin Area.			S1	W1 B1 CH2 M2	W2 CH1 M1 C1 C2 W3 L1
P5	It is an objective of the Council that satisfactory progress should be made with the implementation of all of the Transportation and Multi-Modal six-year objectives prior to further development being permitted within Sandyford Business District that exceeds 250,000 sqm of the potential 350,000 sqm identified.			S1	W1 B1 CH2 M2	W2 CH1 M1 C1 C2 W3 L1
P6	It is an objective of the Council that an area wide Mobility Management Plan for the wider Sandyford Business District shall be prepared prior to any further development being permitted within the Sandyford Business District.	C1 HH1	C2	B2 W1 W2 W3 CH1 CH2 L1	S1	B1 M1 M2
P7	It is an objective of the Council that within Sandyford Business Estate no additional development shall be permitted to commence construction until the new tank sewers in the Blackthorn Avenue environs commences construction.	M1 W2 B2	W1 B1 HH1	W1 W2 W3 CH1 S1		L1 C1 C2 M2 CH2
P8	It is an objective of the Council that within Central Park and South County Business Park no additional development shall be permitted to commence construction until the new foul sewer line from Central Park across Leopardstown Road to Burton Hall Road commences construction.	M1 W2 B2	W1 B1 HH1	W1 W2 W3 CH1 S1		L1 C1 C2 M2 CH2

<p>P9</p> <p>It is an objective of the Council to ensure the orderly development of the area and accordingly the following restrictions will apply:</p> <ul style="list-style-type: none"> No additional development will be permitted off Arena Road or the ESB roundabout until the link between the ESB Road and Arena Road and the link to Blackthorn Road is facilitated⁶. (Drawing 8 Scheme No. 6) No additional development will be permitted off the Burton Hall Road until the Burton Hall Road has been upgraded and a junction with Leopardstown Road facilitated. (Drawing 8 Scheme No. 5) No additional development will be permitted in South County Business Park or at Leopardstown Race Course until a new entry point for South County Business Park has been facilitated⁶. (Drawing 8 Scheme No. 2A) No additional development will be permitted in Central Park or lands accessed from Central Park until a vehicular link is provided from Central Park to South County Business Park accessing a new entrance off Leopardstown Road. (Map 1 SLO 122) No additional development or new permission will be permitted on the medical zoned lands adjacent to Bracken Road and Blackthorn Road until the Bracken Road extension is facilitated⁶. (Drawing 8 Scheme No. 3) <p>Note Number 7: The alignment of the Road between the ESB roundabout and Arena Road , and the ESB roundabout and Blackthorn Road has not been finalised. The critical factor is the connection between these two points.</p> <p>Note Number 2: The development of the lands within Sandyford Business District is dependent on a significant shift in transport modal choice, on upgrading environmental services and on the Council's ability to acquire land for open space.</p>			S1	W1 W2 B1 CH1 CH2 M1 M2 C1 C2 HH1 W3 B2 L1
<p>P10</p> <p>It is an objective of the Council that satisfactory progress should be made with the implementation of the Public Transport, Walking & Cycling and Mobility Management Planning Objectives in tandem with phasing objectives P2, P3 and P4.</p>	C1 C2 HH1		B2 W1 W2 W3 CH1 CH2 L1 S1	B1 M1 M2
<p>Commentary:</p> <p>Objective P1: By not permitting additional residential accommodation until either the land at St. Benildus or the Civic Park has been procured or made available for public use, Objective P1 will help to ensure that when development happens, it will be accompanied by nearby open space. This will contribute towards preventing increases in travel related greenhouse gas emissions to air and in car usage (C1 C2 HH1). Objective P1 potentially conflicts with the maximisation of brownfield development (S1) as such development could be prevented if the land at St. Benildus or the Civic Park has not been procured or made available for public use.</p> <p>Objectives P2 to P5: These Objectives potentially conflict with the maximisation of brownfield development (S1) if the named infrastructure is not in place.</p> <p>Objective P6: Although the provisions of such a Plan are uncertain they would be likely to help to reduce travel related greenhouse gas emissions to air (C1) and encourage a modal change from car to more sustainable forms of transport (C2). This would contribute towards protecting human health (HH1) with regard to air quality and noise. This Objective potentially conflicts with the maximisation of brownfield development (S1) as such development could be prevented if a mobility management plan for the wider Sandyford Business District is not prepared.</p> <p>Objectives P7 and P8: Upgrading foul sewer infrastructure (M1) and drainage infrastructure would be likely to contribute towards the protection of water bodies (W1 W2), human health (HH1) and biodiversity (B1 B2). The construction of tank sewers has the potential to conflict with a number of environmental components including water bodies (W1 W2), biodiversity (B2), flood risk (W3 HH1) and cultural heritage (CH1). This Objective potentially conflicts with the maximisation of brownfield development (S1) as such development could be prevented if construction does not commence on new tank sewers in the Blackthorn Avenue environs.</p> <p>Objective P9: This Objective potentially conflicts with the maximisation of brownfield development (S1) as such development could be prevented if the road schemes listed are not undertaken. The effects of road schemes are identified in Section 8.6.5.</p>				

Objective P10: Such progress as identified by this Objective would reduce travel related greenhouse gas emissions to air and encourage a modal change from car to more sustainable forms of transport. This would contribute towards protecting human health with regard to air quality and noise. The construction of infrastructure has the potential to conflict with a number of environmental components including water bodies, local habitats, flood risk, the landscape and cultural heritage. Potential significant adverse effects arising from such conflicts will be avoided, reduced or offset through: adherence to measures which have been integrated into the Variation; and/or, adherence to relevant mitigation measures which are currently in force through the existing County Development Plan.

8.7.2 Funding

	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
Policy				
Policy SUFP13 - Funding It is the policy of the Council that infrastructure facilities and services that benefit the development of the area will be funded by way of a special levy scheme under Section 49 and or an additional Section 48 Levy Scheme as facilitated by the Planning and Development Acts 2000-2010.	M1 M2 W1 W2 W3 HH1 B1 B2 C1 C2		W1 W2 B1 B2 CH1 CH2 L1	L1 S1
Funding Objective M1 It is an objective of the Council to prepare a levy scheme that covers the future cost of providing infrastructure that benefits the development of the area.	M1 M2 W1 W2 W3 HH1 B1 B2 C1 C2		W1 W2 B1 B2 CH1 CH2 L1	L1 S1
Commentary: See Commentary under Section 8.6.1.				

8.8 Specific Local Objectives

	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
SLO109 To seek the provision of a use that animates the street corners e.g. Hotel/Apart Hotel at north western end of Ballymoss Road at the junction with Blackthorn Avenue.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2
SLO110 To provide for/improve or preserve a hotel at Central Park.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2	CH2
SLO 111 To protect and or improve travellers accommodation adjacent to Burton Hall.			CH2 B2	C1 C2 HH1 S1 W1 W2 W3 B1 B2 CH1 HH1 L1 M1 M2
SLO112 To provide for primary and post primary education facilities at Legionaries of Christ lands and at Stillorgan Industrial Estate/Benildus Avenue.	C1 C2 HH1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 L1 M1 M2	
SLO113 To facilitate the provision of community infrastructure at ground floor along the eastern outer edge of the Carmanhall residential neighbourhood along Blackthorn Road, to create active street frontage and to ensure the appropriate provision of social and community infrastructure to serve the needs of the resident and employee population.	C1 C2 HH1 S1		W1 W2 B1 HH1 M1 M2	CH1 CH2 L1 W3 B2
SLO114 To provide a Public Transport Interchange along Blackthorn Drive.	C1 C2 HH1		B2 W2 W3 CH1 L1	B1 M1 M2 S1 W1 CH2
SLO115 To retain and enhance the Sylvan character at South County Business Park.	L1 B2 CH1 CH2 W3 HH1		S1	B1 W1 W2 M1 M2 C1 C2

SLO116 To facilitate the provision of, uses that will create an active street frontage and provide a transition between the residential neighbourhood and the opposing employment based areas along Blackthorn Road (where Blackthorn Road runs parallel with Carmanhall Road only). It is anticipated that these will be provided as own door units for small business.	C1 C2 HH1 S1			B1 M2 CH1 L1 B2 CH2 L1 W3
SLO117 To provide for the expansion of the existing use at Burton Hall in accordance with the Institutional Lands Objective.	C1 C2 HH1		CH2 S1 W3 B2 L1	W1 W2 B1 CH1 M1 M2
SLO118 To provide for a pedestrian link and cycle way along the former Harcourt Street Railway line.	C1 C2 HH1		S1	W1 W2 B1 CH1 CH2 M1 M2
SLO119 To develop a Sandyford Business District Civic Park at the corner of Corrig Road and Carmanhall Road.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH2 CH1 M1 M2
SLO120 To facilitate the further development of Sandyford Business Estates in accordance with the policies and objectives of the Sandyford Urban Framework Plan.	C1 C2 HH1 M1 M2 W1 W2 W3 B1 B2 L1 S1		W1 W2 W3 B1 B2 CH1 CH2 HH1 B2 L1	
SLO121 To ensure the provision of pocket parks and urban plazas in accordance with locations specified on Map 1 and Drawing no.10.	C1 C2 HH1 W3 B2 L1		S1	W1 W2 B1 CH1 CH2 M1 M2
SLO122 To facilitate the provision of an access from South County Business Park to the Car Parks within Central Park			B2	B1 M1 M2 S1 W1 CH2 W2 W3 CH1 L1 C1 C2 HH1
SLO123 To facilitate the attraction of internationally trading services to South County Business Park. Office based employment will be permitted on these lands to a similar plot ratio to that of the remainder of the South County Business Park. In preparing a Masterplan for the area regard should be given to providing activity along the route to the Luas and to the residential amenity of the local residents.	C1 C2 HH1		CH2 L1	B1 B2 M1 M2 S1 W1 W2 W3 CH1
Commentary:				
SLO109 and SLO110: See Commentary for Objective MC8 in Section 8.4.2.				
SLO111 - new development adjacent to Burton Hall could potentially conflict with the protection of the content of architectural heritage and mature trees.				
SLO112: See Commentary for Policy SUFP 9 under Section 8.6.7.				

SLO113: The facilitation of community infrastructure at this location to serve the needs of the resident and employee population will contribute towards preventing increases in travel related greenhouse gas emissions to air and in car usage (**C1 C2 HH1**). Occupation of these already existing blocks has the potential to potentially conflict with water services and related SEOs (**W1 W2 B1 HH1 M1 M2**).

SLO114: See Commentary for Objective TAM2 under Section 8.6.5.

SLO115: Retaining the sylvan setting within the Estate would benefit the protection of biodiversity (**B2**), the landscape (**L1**) and cultural heritage (**CH1 CH2**) - including the setting of architectural heritage - and could provide increased options for flood risk management (**W3 HH1**).

SLO116: Uses at ground floor level which create an active street frontage and contribute to the vitality and viability of the area will contribute towards preventing increases in travel related greenhouse gas emissions to air and in car usage (**C1 C2 HH1**) as well as maximising sustainable brownfield development.

SLO117: New development at Burton Hall could potentially impact with a number of environmental components including architectural heritage and biodiversity.

SLO118: This objective would help to reduce travel related greenhouse gas emissions to air (**C1**) and encourage a modal change from car to more sustainable forms of transport (**C2**). This would contribute towards protecting human health (**HH1**) with regard to air quality and noise.

SLO119: By providing for open space close to working and resident populations, this Policy could:

- Reduce travel related greenhouse gas emissions to air (**C1**) and encourage a modal change from car to more sustainable forms of transport (**C2**) - this would contribute towards protecting human health (**HH1**) with regard to air quality and noise; and,
- Contribute towards the protection of local habitats and residential amenity and could provide increased options for flood risk management (**B2 L1 W3 HH1**).

SLO120: See Commentary under Section 8.3 Rationale.

SLO121: See Commentary under High Level Objective F in Section 8.4.7.

SLO122: The provision of such access could potentially conflict with the protection of local biodiversity.

SLO123: This Objective could contribute towards maximising the uptake in smarter, more sustainable modes of transport, reducing travel related greenhouse gas emissions to air and encouraging a modal change from car to more sustainable forms of transport. This would contribute towards protecting human health with regard to air quality and noise. Development in this area could potentially conflict with residential amenity and the context of architectural heritage. Potential significant adverse effects arising from such conflicts will be avoided, reduced or offset through: adherence to measures which have been integrated into the Variation; and/or, adherence to relevant mitigation measures which are currently in force through the existing County Development Plan.

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 Variation No. 2 (Sandyford Urban Framework Plan) to the Dún Laoghaire-Rathdown County Development Plan 2010-2016.

Likely significant beneficial effects of implementing the Variation have been and will be maximised and potential adverse effects have been and will be avoided, reduced or offset through:

- The consideration of alternatives for the Variation;
- Adherence to measures which have been integrated into the Variation; and,
- Adherence to relevant mitigation measures which are currently in force through the existing County Development Plan.

The mitigation measures may be incorporated into the briefing of design teams as well as the subsequent design, specification and development management of the landuses to be accommodated at the Variation lands.

Additional more detailed mitigation measures to those identified below would be likely to be required by the development management and EIA processes of individual projects and would be likely to be required to be integrated into relevant lower-tier plans and programmes.

Note that mitigation measures generally benefit multiple environmental components i.e. a measure providing for the protection of surface water resources could beneficially impact upon the protection of biodiversity, flora and fauna, drinking water resources, human health and provision of appropriate waste water treatment infrastructure.

9.2 Mitigation through Consideration of Alternatives

A range of potential alternative scenarios for the Variation 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 Sections 3 and 4) were used in order to predict and evaluate the environmental effects of implementing the alternatives.

Communication of the findings of this evaluation helped the planning team make an informed choice as to which alternative was to be put before the Members of the Council.

Communication of this evaluation to the Members of the Council through this report will help the Members to make an informed choice with regard to the placing of the Variation on public display.

9.3 Measures integrated into the Variation

A number of measures have been integrated into the Variation which are likely to maximise the likely significant beneficial environmental effects of implementing the Variation and contribute towards the avoidance, reduction or offsetting of potential adverse environmental effects. These measures include those which are listed under the topics overleaf.

The policy and objective numbers are those which accompany the relevant measures in Section 8 of this report and in the Variation.

Sustainable Mobility⁷⁵

- Overall strategy/provisions adopted by the SUIFP
- Height Policy SUIFP3 and Objectives BH1, BH2 and BH3
- Public Realm Policy SUIFP 4 and Objectives PR1, PR2, PR3, PR5, PR6, PR7 and PR8
- Way Finding Policy SUIFP 5 and Objectives WF1, WF2 and WF3
- Infrastructure Policy SUIFP6
- Multi Modal Transport Infrastructure Policy SUIFP7 and Objectives TAM1 to TAM12, TAM14, TAM19 and TAM21
- Density Policy SUIFP2 and Objectives DS1 to DS4
- Various Community Infrastructure provisions, including those relating to open space, community facilities and education
- Phasing Objectives P1 and P6
- Funding Policy SUIFP13 and Objective M1
- Specific Local Objectives 109 to 114 and 116 to 121

Water Services Infrastructure⁷⁶

- Infrastructure Policy SUIFP6
- Foul Drainage Objectives FD1 to FD3
- Water Supply Objectives WS1 & WS2
- Phasing Objectives P7 and P8

⁷⁵ Note that these measures are likely to benefit:

- reductions in transport related greenhouse gas emissions;
- a modal change from car to more sustainable forms of transport; and,
- the protection of human health with regard to transport related air and noise emissions.

⁷⁶ Note that these measures are likely to benefit:

- the provision of appropriate waste water treatment;
- the provision of sufficient quality and quantity of drinking water;
- the protection of the quality of water bodies; and,
- the protection of biodiversity.

Drainage Infrastructure⁷⁷

- Infrastructure Policy SUIFP6
- Surface Water Objectives SWD1 and SWD2
- Public Realm Objective PR10

Open Space⁷⁸

- Open Space Objective F - Zone 7 - and Objectives F1 to F6
- Open Space Policy SUIFP8 and Objectives OS1 to OS4
- Public Realm Objectives PR8 and PR9
- Phasing Objective P1
- Specific Local Objectives 115 and 121

Providing for Brownfield Development

- By providing for development in Sandyford, the overall strategy/provisions adopted by the SUIFP is likely to reduce the need to develop greenfield areas elsewhere; this will benefit the protection of various environmental components.

9.4 Mitigation Measures already in force through the existing County Development Plan

The Dún Laoghaire-Rathdown County Development Plan (CDP) 2010-2016 to which Variation No. 2 (Sandyford Urban Framework Plan) relates has undergone a process of Strategic Environmental Assessment which resulted in the integration of a number of mitigation measures into the Plan through Policy LHB27. New development in the Urban

⁷⁷ Note that these measures are likely to benefit:

- the minimisation of flood risk; and,
- the protection of human health.

⁷⁸ Note that these measures are likely to benefit:

- the protection of local habitats;
- the protection of residential amenity;
- the protection of cultural heritage and its setting; and,
- the availability of flood risk management options.

Framework Plan area must comply with these measures.

On making of the Variation, the Variation becomes part of the County Development Plan and any development which arises on foot County Development Plan as varied by the SUFP will have to comply with these measures.

Mitigation measures which are already in force through the existing County Development Plan and will apply to developments within the Variation lands are detailed below:

Biodiversity and Flora and Fauna I

No projects giving rise to significant direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects)⁷⁹.

Biodiversity and Flora and Fauna II

All subsequent plan-making and adoption of plans arising from this plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive.

Biodiversity and Flora and Fauna III

The Council shall set up procedures to ensure compliance by plan-makers with the requirement of Article 6 of the Habitats Directive for land use plans.

Biodiversity and Flora and Fauna IV

No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity are to be lost without remediation as a result of implementation of the CDP.

⁷⁹ 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.

Water Protection I

The Council shall address the significant water management issues identified in the Water Matters Consultation publications for the Eastern River Basin District.

Water Protection II

When adopted, the relevant policies and objectives of the Eastern River Basin Management Plan and associated Programme of Measures shall be integrated into the Plan through amendment or otherwise.

Water Protection IV

The Council shall ensure that the ongoing development of the County is undertaken in such a way so as not to compromise the quality of surface water (and associated habitats and species) and groundwater.

Landuses shall not give rise to the pollution of ground or surface waters during the construction or operation of developments. This shall be achieved through the adherence to best practice in the design, installation and management of systems for the interception, collection and appropriate disposal or treatment of all surface waters and effluents.

Bathing Water I

The Council shall comply with the provisions of the Bathing Water Regulations to ensure that where any bathing water fails the mandatory bathing standards that the public are made aware of this fact by means of information notices posted at the bathing area.

Bathing Water II

The Council shall ensure compliance with Directive on bathing water (Directive 2006/7/EC) as implemented by the Bathing Water Quality Regulations 2008 (S.I. No. 79) of 2008 and particular to:

- ensure bathing waters achieve "sufficient or better status by 2015".
- increase the number of bathing waters classified as "good or "excellent".

Waste Water I

Development under the Plan shall be preceded by sufficient capacity in the public waste water treatment plants and appropriate extensions in

the existing public waste water treatment catchments.

Waste Water II

The Council shall implement the relevant recommendations set out in *Urban Waste Water Discharges in Ireland for Population Equivalents Greater than 500 Persons – A Report for the Years 2006 and 2007* (EPA Office of Environment Enforcement, 2009).

Waste Water III

The Council shall examine the feasibility of connecting of unsewered, areas including individual properties/ premises, serviced by septic tanks to existing and planned sewer networks.

Drinking Water I

Dún Laoghaire-Rathdown County Council shall ensure conformance with the relevant recommendations set out in *The Provision and Quality of Drinking Water in Ireland - A Report for the Years 2007-2008* (EPA Office of Environment Enforcement, 2009).

Drinking Water II

Existing and new populations under the CDP shall be served with clean and wholesome drinking water. The Council will help to ensure that compliance is achieved as a minimum with regard to the 48 parameters set out under the European Communities (Drinking Water) Regulations (No. 2) 2007 and will help to resolve any issues if they arise in order to achieve the removal of public water supplies from the EPA remedial action list of public water supplies.

Flooding III

It is Council policy to implement the recommendations of the most recent version of the Department of the Environment, Heritage and Local Government and the Office of Public Works Guidelines on "The Planning System and Flood Risk Management" including using the Guidelines to assess applications for planning permission.

Flooding IV

The Council shall fulfil its responsibilities under the Flood Risk Directive 2007/60/EC and it is Council policy to assist and cooperate with the Office of Public Works in developing

Catchment-based Flood Risk Management Plans. Any recommendations and outputs arising from the Flood Risk Management Plans for Dún Laoghaire-Rathdown will require to be incorporated into the Development Plan.

Flooding V

It is Council policy to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SUDS).

Soil and Contamination I

The Council shall ensure that adequate and appropriate investigations are carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

Cultural Heritage I

Landuses shall not give rise to significant losses of the integrity, quality or context of archaeological material - except as may be conditioned or directed by the appropriate heritage agencies. This shall be achieved by the application of appropriate design standards and criteria.

Cultural Heritage II

It shall be ensured that pre-development archaeological testing, surveying, monitoring and recording are carried out where appropriate.

Cultural Heritage III

In order to protect, strengthen and improve the presentation and the general character of Dún Laoghaire-Rathdown, alterations and interventions to Protected Structures shall be executed to the highest conservation standards, and shall not detract from their significance or value.

Cultural Heritage IV

Planning applications for developments in sensitive areas shall be accompanied by an assessment undertaken by an accredited conservation architect, where appropriate, detailing the impacts of the relevant development upon the special interest and character of the surrounding architectural heritage. Dún Laoghaire-Rathdown County Council shall be consulted at an early stage in this regard in order to determine whether

there is a need for such an assessment or for specific mitigation measures.

of Waste Management Plans for Construction & Demolition Projects" July 2006.

Cultural Heritage V

It is Council policy to consider further amendments to the record of Protected Structures following the publication of the National Inventory of Architectural Heritage of the County.

Landscape

Planning Applications that have the potential to significantly adversely impact upon landscapes attributed with a High Amenity zoning objective or upon protected views or prospects shall be required to be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape.

Air and Noise I

It is Council policy to implement the provisions of National legislation and EU Directives on air and noise pollution in conjunction with other agencies as appropriate.

Air and Noise II

The Council shall minimise increases in, and where possible, reduce, the quantity of the County's population exposed to excessive noise levels arising from land uses

Transportation I

It is Council policy to introduce traffic calming and traffic management schemes on particular roads and in appropriate areas throughout the County to effect an overall reduction in vehicle speeds to an acceptable level and to reduce the potential for traffic congestion and associated vehicular emissions in urban areas.

Waste Management I

The Council shall ensure the implementation of an integrated approach to waste management for any proposed development(s) within the lands in question – to include wastes generated during the construction phase of development as well as the operation and maintenance phases – having particular regard to "Best Practice Guidelines on the preparation

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 Variation.

Monitoring enables, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. In addition to this, monitoring can also play an important role in assessing whether the Variation of the County Development Plan (CDP) is achieving environmental objectives and targets - measures which the Variation can help work towards - whether these need to be re-examined and whether the proposed mitigation measures are being implemented.

10.2 Indicators and Targets

Monitoring is based around the indicators which were chosen earlier in the process. These indicators allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives used in the evaluation. Focus is given to indicators which are relevant to the likely significant environmental effects of implementing the Variation and existing monitoring arrangements will be used in order to monitor the selected indicators. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant legislation (see Section 4).

Table 10.1 below shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Variation. The indicators used are either the same or similar to those which are being used for monitoring the existing CDP.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing

monitoring sources exist for each of the indicators and include those maintained by Dún Laoghaire-Rathdown County Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

The *Development Management Process* in Dún Laoghaire-Rathdown County Council will provide passive monitoring of various indicators and targets on an application by application basis. Where significant adverse effects - including positive, negative, cumulative and indirect - are likely 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

A preliminary monitoring evaluation report on the effects of implementing the CDP is to be prepared to coincide with the Manager's report to the elected members on the progress achieved in securing CDP objectives within two years of the making of the plan (this Manager's report is required under section 15 of the Planning and Development Act 2000 as amended).

This report should address the indicators set out below for the Sandyford Urban Framework Plan area to which the Variation relates.

10.5 Responsibility

Dún Laoghaire-Rathdown County Council is responsible for collating existing relevant monitored data, the on-going review of environmental targets and indicators, the preparation of preliminary and final monitoring evaluation reports, the publication of these reports and, if necessary, the carrying out of corrective action.

The CDP SEA recommended that a Steering Committee be established within the Council to oversee the monitoring process. This Steering

Committee should also oversee the monitoring in this section.

10.6 Thresholds

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Arts, Heritage and the Gaeltacht (DAHG) regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places; and,
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the County Development Plan as varied.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source	Monitoring Frequency
Biodiversity, Flora and Fauna	<p>B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive</p> <p>B2: Percentage loss of functional connectivity to corridors and areas of habitat which are important at the local Sandyford level without remediation as a result of implementation of the Variation</p>	<p>B1: Maintenance of favourable conservation status for all habitats and species protected under national and international legislation</p> <p>B2: No significant corridors and areas of habitat or parts thereof which are important at the local Sandyford level and which provide functional connectivity to be lost without remediation as a result of implementation of Variation</p>	<p>a) DEHLG report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive; and,</p> <p>b) Consultations with the NPWS.</p> <p>a) CORINE mapping resurvey</p> <p>b) Development Management Process in the Council</p>	<p>a) Every 6 years</p> <p>b) At preliminary monitoring evaluation - see Section 8.4</p> <p>a) Unknown</p> <p>b) Per granted permission; compile at preliminary monitoring evaluation - see Section 8.4</p>
Population and Human Health	<p>HH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors as identified by the Health Service Executive and Environmental Protection Agency</p>	<p>HH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Variation</p>	<p>Consultations with EPA and Health Service Executive</p>	<p>At preliminary monitoring evaluation - see Section 8.4</p>
Soil	<p>S1: Area of brownfield lands developed at the Variation lands over the lifespan of the County Development Plan</p>	<p>S1: Arising from increased levels of brownfield development, a reduced availability of brownfield land at the Variation lands (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used) at the end of the County Development Plan's lifespan</p>	<p>Development Management Process in the Council</p>	<p>Per granted permission; compile at preliminary monitoring evaluation - see Section 8.4</p>

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources	Monitoring Frequency
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: To achieve 'good status' in all bodies of surface waters by 2015 and to not knowingly allow deterioration in the status of any surface water	Data issued under the Water Framework Directive Monitoring Programme for Ireland (EPA, 2006)	Unknown
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	Data issued under the Water Framework Directive Monitoring Programme for Ireland (EPA, 2006)	Unknown
	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 <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities</i>	Development Management Process in the Council	Per granted permission; compile at preliminary monitoring evaluation - see Section 8.4
Material Assets	M1i: Number of new developments granted permission which can be adequately served with waste water treatment over the lifetime of the County Development Plan as varied	M1i: All new developments granted permission to be connected to and adequately served by waste water treatment over the lifetime of the County Development Plan as varied	Development Management Process in the Council	Per granted permission; compile at preliminary monitoring evaluation - see Section 8.4
	M1ii: Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands	M1ii: For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act	Dún Laoghaire-Rathdown County Council	Detail status of Plan preparation at preliminary monitoring evaluation - see Section 8.4

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources	Monitoring Frequency
Material Assets cont.	<p>M2i: 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</p> <p>M2ii⁸⁰: Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands</p>	<p>M2i: 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</p> <p>M2ii: For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act</p>	<p>a) EPA The Provision and Quality of Drinking Water in Ireland reports (EPA); b) EPA Remedial Action List; and, c) Dún Laoghaire-Rathdown County Council.</p> <p>Dún Laoghaire-Rathdown County Council</p>	<p>a) Annual/biannual; b) Annual/biannual; c) Council's Water and Waste Services Department to confirm - as appropriate - status of supplies listed on Remedial Action List.</p> <p>Detail status of Plan preparation at preliminary monitoring evaluation - see Section 8.4</p>
Air and Climatic Factors	C1: Percentage of population working within the Variation lands travelling to work by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work by public transport or non-mechanical means	Central Statistics Office	Next Census 2011
Cultural Heritage	<p>CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant) protected</p> <p>CH2i: Percentage of entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant) protected</p>	<p>CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant)</p> <p>CH2i: Protect entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant)</p>	<p>a) Development Management/ Enforcement Processes in the Council; and, b) Consultation with DAHG.</p> <p>a) Development Management/ Enforcement Processes in the Council; and, b) Consultation with DAHG.</p>	<p>a) Per granted permission/ enforcement action; compile at preliminary monitoring evaluation - see Section 8.4 b) Compile at preliminary monitoring evaluation - see Section 8.4</p> <p>a) Per granted permission/ enforcement action; compile at preliminary monitoring evaluation - see Section 8.4 b) Compile at preliminary monitoring evaluation - see Section 8.4</p>

⁸⁰ Indicator and Target M2i are the same as Indicator and Target M1

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources	Monitoring Frequency
Cultural Heritage cont.	CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs	CH2ii: Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate	Dún Laoghaire-Rathdown County Council	Compile at preliminary monitoring evaluation - see Section 8.4
Landscape	L1: Number of avoidable significant adverse impacts on the views and amenity of existing developments within and adjacent to the Variation lands	L1: No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the County Development Plan as varied	a) Development Management Process in the Council; and, b) Consultation with DAHG.	a) Per granted permission; compile at preliminary monitoring evaluation - see Section 8.4 b) Compile at preliminary monitoring evaluation - see Section 8.4

Section 11 SEA Summary Table

Below is a summary table outlining how likely significant effects (if unmitigated) are linked to relevant mitigation measure(s) - which have been integrated into the Variation or which are already in force under the existing County Development Plan (CDP) (Policy LHB27 - see Section 9) - and indicator(s) which will be used for monitoring.

Table 11.1 SEA Summary Table: Likely Significant Effects, Mitigation Measures and Indicators for Monitoring

No.	Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from Variation/the CDP	Primary Indicator(s) for Monitoring
1.	Increases in travel related greenhouse gas emissions, increases in car dependency, increases in transport related air and noise emissions - which relates to human health	<p>Integrated into the Variation:</p> <ul style="list-style-type: none"> • Overall strategy/provisions adopted by the SUFP • Height Policy SUFP3 and Objectives BH1, BH2 and BH3 • Public Realm Policy SUFP 4 and Objectives PR1, PR2, PR3, PR5, PR6, PR7 and PR8 • Way Finding Policy SUFP 5 and Objectives WF1, WF2 and WF3 • Infrastructure Policy SUFP6 • Multi Modal Transport Infrastructure Policy SUFP7 and Objectives TAM1 to TAM12, TAM14, TAM19 and TAM21 • Density Policy SUFP2 and Objectives DS1 to DS4 • Various Community Infrastructure provisions, including those relating to open space, community facilities and education • Phasing Objectives P1 and P6 • Funding Policy SUFP13 and Objective M1 • Specific Local Objectives 109 to 114 and 116 to 121 <p>Existing under CDP Policy LHB27:</p> <ul style="list-style-type: none"> • Transportation I 	<p>C1: Percentage of population working within the Variation lands travelling to work by public transport or non-mechanical means</p> <p>HH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors as identified by the Health Service Executive and Environmental Protection Agency</p>

No.	Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from Variation/the CDP	Primary Indicator(s) for Monitoring
2.	<p>Inadequate waste water treatment for new populations, inadequate drinking water supply for new populations, reduction in drinking water quality which would present a potential danger to human health. Consequent potential impacts upon biodiversity and the quality of water bodies.</p>	<p>Integrated into the Variation:</p> <ul style="list-style-type: none"> • Infrastructure Policy SUFP6 • Foul Drainage Objectives FD1 to FD3 • Water Supply Objectives WS1 & WS2 • Phasing Objectives P7 and P8 <p>Existing under CDP Policy LHB27:</p> <ul style="list-style-type: none"> • Waste Water I • Waste Water II • Waste Water III • Drinking Water I • Drinking Water II 	<p>M1i: Number of new developments granted permission which can be adequately served with waste water treatment over the lifetime of the County Development Plan as varied</p> <p>M1ii: Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands</p> <p>M2i: 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</p> <p>M2ii⁸¹: Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council, which includes the Variation lands</p>
3.	<p>Flooding - also related to human health</p>	<p>Integrated into the Variation:</p> <ul style="list-style-type: none"> • Infrastructure Policy SUFP6 • Surface Water Objectives SWD1 and SWD2 • Public Realm Objective PR10 <p>Existing under CDP Policy LHB27:</p> <ul style="list-style-type: none"> • Flooding III • Flooding IV • Flooding V <p>See also No. 4. overleaf.</p>	<p>W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>

⁸¹ Indicator and Target M2i are the same as Indicator and Target M1

No.	Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from Variation/the CDP	Primary Indicator(s) for Monitoring
4.	Loss of open space; resulting in impacts upon local habitats, ecological connectivity, residential amenity, cultural heritage and its setting and flood risk (also related to human health)	<p>Integrated into the Variation:</p> <ul style="list-style-type: none"> • Open Space Objective F - Zone 7 - and Objectives F1 to F6 • Open Space Policy SUFP8 and Objectives OS1 to OS4 • Public Realm Objectives PR8 and PR9 • Phasing Objective P1 • Specific Local Objectives 115 and 121 <p>Existing under CDP Policy LHB27:</p> <ul style="list-style-type: none"> • Landscape • Biodiversity and Flora and Fauna IV 	<p>B2: Percentage loss of functional connectivity to corridors and areas of habitat which are important at the local Sandyford level without remediation as a result of implementation of the Variation</p> <p>L1: Number of avoidable significant adverse impacts on the views and amenity of existing developments within and adjacent to the Variation lands</p> <p>CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant) protected</p> <p>CH2i: Percentage of entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant) protected</p> <p>CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs</p> <p>W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>
5.	Failure to maximise the sustainable reuse of brownfield lands	Overall strategy/provisions adopted by the SUFP	S1: Area of brownfield lands developed at the Variation lands over the lifespan of the County Development Plan
6.	Loss of biodiversity with regard to Natura 2000 Sites and habitats and species listed under Annexes I and II of the Directive	<p>Existing under CDP Policy LHB27:</p> <ul style="list-style-type: none"> • Biodiversity and Flora and Fauna I • Biodiversity and Flora and Fauna II • Biodiversity and Flora and Fauna III 	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive

No.	Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from Variation/the CDP	Primary Indicator(s) for Monitoring
7.	Spatially concentrated deterioration in human health arising from exposure to incompatible land uses	Existing under CDP Policy LHB27: <ul style="list-style-type: none"> • Soil and Contamination I • Air and Noise I • Air and Noise II • Waste Management I See also No. 1, 2, 3 and 4 previous and No. 8 overleaf.	HH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors as identified by the Health Service Executive and Environmental Protection Agency
8.	Adverse impacts upon the quality of water bodies (rivers, lakes, transitional waters, coastal, ground waters)	Existing under CDP Policy LHB27: <ul style="list-style-type: none"> • Water Protection I • Water Protection II • Water Protection IV • Bathing Water I • Bathing Water II See also No. 2 previous.	W1i: 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
9.	Effects on archaeological heritage including entries to the Record of Monuments and Places	Existing under CDP Policy LHB27: <ul style="list-style-type: none"> • Cultural Heritage I • Cultural Heritage II See also No. 4 previous.	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant) protected
10.	Effects on architectural heritage including entries to the Records of Protected Structures and Architectural Conservation Areas	Existing under CDP Policy LHB27: <ul style="list-style-type: none"> • Cultural Heritage III • Cultural Heritage IV • Cultural Heritage V See also No. 4 previous.	CH2i: Percentage of entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant) protected CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs