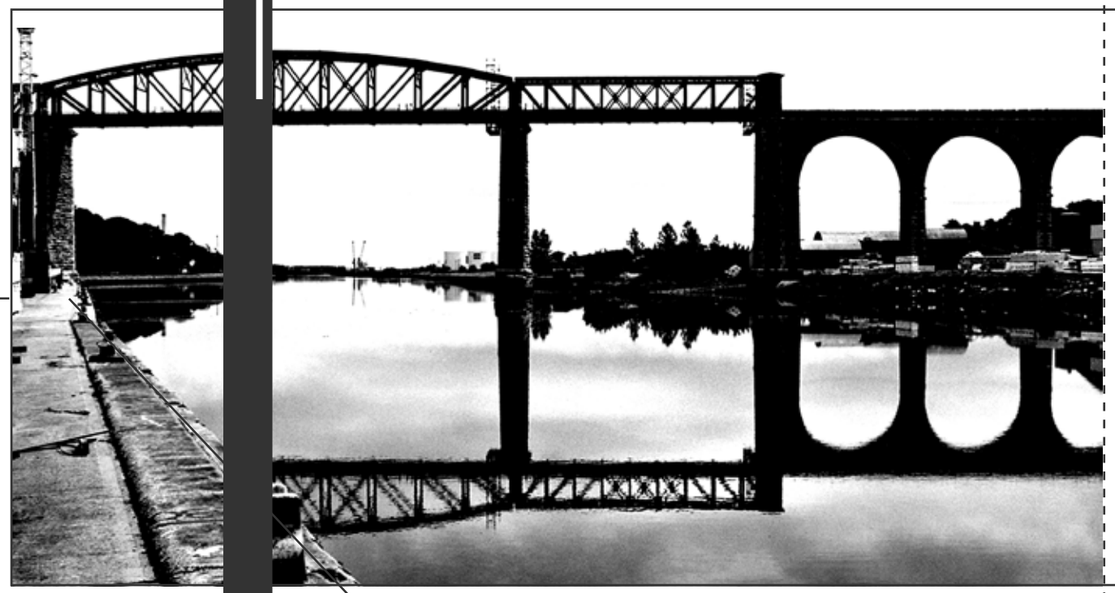
2007

Drogheda Docklands Area Plan



Strategic Environmental Assessment

Drogheda Borough Council

Loci

This SEA accompanies the Drogheda Docklands Area Plan which was adopted by Drogheda Borough Council as part of a variation of the Drogheda Borough Council Development Plan 2005-2011, on 5 February 2007.

This SEA was prepared by Loci Urban Design, Architecture and Planning in conjunction with:

Bailey Crowley, Engineers and Managers
Irish Archaeological Consultants
Natura Environmental Consultants

Contents

Non Technical Summary

1 Introduction

1.1 SEA Process
1.2 Drogheda Docklands Area Plan

2 Methodology

2.1 Scoping
2.2 Baseline study
2.3 Environmental criteria
2.4 Environmental assessment of the Plan
2.5 Mitigation
2.6 Monitoring

3 National, Regional and Local Planning Context

3.1 Sustainable Development - A Strategy for Ireland, 1997
3.2 National Spatial Strategy, 2002
3.3 Regional Planning Guidelines for the Border Region, 2005
3.4 Regional Planning Guidelines for the Greater Dublin Area, 2004
3.5 Residential Density Guidelines for Planning Authorities, 1999
3.6 County Louth Development Plan, 2005
3.7 Drogheda Borough Council Development Plan, 2005-2011
3.8 Planning Strategy for the Greater Drogheda Area, 2007
3.9 Drogheda Transportation Study, 2007

4 The State of the Environment

4.1 County Louth and Drogheda
4.1.1 Population and demography
4.1.2 Special environmental designations
4.1.3 Protected Structures and ACA's
4.1.4 Archaeology
4.1.5 Soil and geology
4.1.6 Air quality
4.1.7 Water quality
4.1.8 Urban quality

4.2 The Area
4.2.1 Population and demography
4.2.2 Protected Structures and ACA's
4.2.3 Archaeology
4.2.4 Soil and geology
4.2.5 Air quality
4.2.6 Water quality
4.2.7 Flora and fauna
4.2.8 Urban quality
4.3 Existing environmental problems
4.3.1 Traffic congestion
4.3.2 Water pollution
4.3.3 Soil contamination
4.3.4 Flooding
4.3.5 Foul drainage infrastructure
4.3.6 Storm drainage infrastructure

5 Environmental Criteria
5.1 Population and demography
5.2 Special environmental designations
5.3 Protected structures and ACA's
5.4 Archaeology
5.5 Soil and geology
5.6 Air quality
5.7 Water quality and supply
5.8 Flora and fauna
5.9 Urban quality
5.10 Traffic congestion
5.11 Flooding
5.12 Foul drainage infrastructure
5.13 Storm drainage infrastructure

6 Consideration of Alternative Plans
6.1 Evolution without implementation of the DAP
6.2 Low to medium scale and intensity of development
6.3 Ad hoc development
6.4 The Preferred Plan

7 Assessment of the Effects of the Plan
7.1 Heritage
7.2 Movement and access
7.3 Land use
7.4 Density and intensity
7.5 Building height and massing
7.6 Urban structure

8 Mitigation
8.1 Environmental criteria SED1 and SED2
8.2 Environmental criteria ARC1
8.3 Environmental criteria SG1
8.4 Environmental criteria WS1
8.5 Environmental criteria F1

9 Monitoring

10 Report Findings

Appendices

1 Introduction

This Environmental Report was undertaken in tandem with the preparation of the Drogheda Docklands Area Plan ("The Plan"). The report is a key element of the Strategic Environmental Assessment (SEA) of the Plan as required by EU and Irish Planning Law.

The key Environmental Authorities were consulted and they recommended the preparation of an Environmental Report as part of the SEA for the Plan. The likely environmental effects of the Plan were assessed in accordance with screening and scoping criteria.

The Environmental Report includes a description of the existing environment of the Area, evaluates the likely, significant environmental effects of implementing the Plan and identifies possible alternatives and mitigation measures. The Report also assesses alternative plans and gives reasons for the selection of the preferred option. Mitigation measures are established where negative impacts are identified. The Report includes measures for monitoring the effects of implementing the Plan.

Prior to adoption, the Draft Docklands Area Plan and associated Environmental Report were made available to the public and referred to the prescribed environmental authorities, and submissions invited. The Council will issue a statement demonstrating how the findings of the Environmental Report and the consultation process were taken into account following this process.

2 Docklands Area Plan

Drogheda Borough Council commissioned the preparation of the Plan in order to inform future planning and development of the Inner Quays and adjoining areas of the Town. The Council adopted the Plan as a Variation of the Drogheda Borough Council Development Plan, 2005-2011, on the 5 February, 2007.

The boundaries of the Plan are defined generally by North Strand to the north and Marsh Road to the south, St. Mary's Bridge and abutting areas of the town centre to the west, and the eastern extremity of Doner's Green to the east.

The main objective of the Plan is to facilitate the sustainable expansion of Drogheda Town Centre and the regeneration of the Docklands Area. The proposed land uses for the Area promote an appropriate mix and intensity of compatible land uses such as commercial, retail, cultural, leisure and residential development.

The Plan promotes greater access to public transport and includes a new urban structure of streets and spaces, capable of providing for vehicles, bicycles and pedestrians. In order to deliver this structure, appropriate building heights, street widths, plot ratios and building typologies have been identified. The Plan also seeks to develop new river-based activities along the waterfront and on the river.

3 The Area

A baseline study was undertaken of Town and the Area in order to establish the existing environmental context of the Plan. This includes a description of the existing bio-diversity, population, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage, including architectural and archaeological heritage, and landscape of the Town and the Area. The findings of this study are described below.

Population and demography

Census figures show that the rate of population and household growth in the town centre has slowed over recent years. Population has declined in parts of the Area. This contrasts starkly with significant population and household growth in the suburbs. The population of the town is relatively young, with smaller than average household size, when comparing the County and State figures.

Special environmental designations

The Boyne is designated a candidate Special Area of Conservation (cSAC) under the terms of the EU Habitats Directive (92/43/EEC) and the European Communities (Natural Habitats) Regulations, 1997. This designation is due to the presence of internationally important species and habitats. The Boyne Estuary, downstream of the Area, is also designated a Special Protection Area (SPA) under the terms of the EU Birds Directive (79/409/EEC). This is primarily due to the presence of wintering water birds.

Flora and Fauna

On the south bank, immediately east of the Area, there is an area of increasingly rare, semi-natural grassland of local conservation value. This area has developed a high bio-diversity with typical plant species and birds. Mature tree groups are a feature of some sections of the Area. These trees are potential bat roosts and merit consideration.

Protected Structures and ACA's

Drogheda contains an extensive number of structures of architectural, historical and archaeological interest. There are 26 protected structures and three Architectural Conservations Areas in and in the immediate vicinity of the Area. An additional area worthy of architectural conservation is located at Merchant's Quay where several fine warehouses are located. Of the identified protected structures, the Railway Viaduct is of particular significance to the character of the Area.

Archaeology

An area surrounding the medieval part of the town is identified in the Record of Monuments of Places as a Zone of Archaeological Potential, and is protected under the National Monuments Act. Drogheda's location on a historically significant inland routeway, linked to the Brú na Boinne World Heritage Site, and its historic function as an important medieval port, warrants consideration of underwater archaeology that has not been identified in the Record of Monuments and Places. There are three Areas of Archaeological Potential, which may include significant terrestrial and underwater medieval deposits, in the Area.

Soil and Geology

The underlying bedrock and overlying soils are typical of the locality. There is a small, disused limestone quarry adjacent to the Viaduct, on the southern side of Marsh Road. Silt and ground/fill material make up much of the ground surface of the Area.

The existing and historical land uses in the Area vary from port and industrial to residential. Soil contamination may be present given the past nature and extent of port and industrial uses. The nature and extent of this potential contamination can only be determined by site-specific investigations, carried out through the planning and development process.

Air quality

The Greater Drogheda Area is in one of four air quality zones in Ireland and according to recent data there have been no breaches of threshold levels in this zone. There is a smoke and sulphur dioxide monitoring station in Drogheda Town. According to data recorded by the EPA in 2005, there have been no breaches of threshold levels.

Flooding

Parts of the Area are subject to flooding. Major flooding incidents occur when easterly or southerly winds combine with spring tides and heavy rainfall. The effects of climate change are likely to exacerbate this situation in the future.

Drainage and Water

Drainage infrastructure in the Area currently provides for existing development. The infrastructure is generally near or at capacity and will need upgrading to accommodate future development. Surface water in the Area drains to the river and this system is currently at capacity.

A drop in water quality has occurred over the past 35 years and this is a likely outcome of increases in population living close to the river and subsequent increases in sewage discharges. The local groundwater aquifer is locally important, moderately productive with low vulnerability. Contamination of groundwater from contaminants cannot be ruled out.

The Greater Drogheda Area is close to the limit of available water supply and as a consequence many parts of the Town are experiencing low service levels. Extra capacity will be required to serve the needs of the growing Town.

Urban Quality

The Town is characterised by its unique character and sense of place. An important part of this is its historic and a fine network of streets and lanes. The urban quality of the Area is typical of traditional Town Quays undergoing change, with positive and negative elements. Some of the positive and negative elements of the Area are listed here:

Positive urban characteristics:

:: The river Boyne and topography;
:: A distinct identity and enclosed sense of place, and
:: Buildings and areas of architectural interest.

Negative urban characteristics:

:: Deteriorating urban fabric;
:: A weak urban structure;
:: Low level of permeability and access, and
:: Low level of activity.

Traffic Congestion

The Town and parts of the Area experience high levels of traffic congestion. The Area includes the heavily trafficked routes of the Dublin Road (R132) and the port access at North Mall/North Strand. St. Mary's Bridge, is the most easterly north-south connection across the river and it is severely congested. The Drogheda Transport Study considers and addresses these issues for the Greater Drogheda Area.

4 Environmental Criteria

In order to assess the effects of alternative plans and the Plan, environmental criteria were formulated for the Area. These were based on the findings of the baseline study. The criteria headings are:

:: Population and demography
:: Special environmental designations
:: Protected structures and ACA's
:: Soil and geology
:: Air quality
:: Water quality
:: Flora and fauna
:: Urban Quality
:: Traffic Congestion
:: Flooding
:: Foul drainage infrastructure
:: Storm drainage infrastructure

5 Consideration of Alternative Plans

At an early stage, three preliminary, alternative Plans were evaluated alongside the preferred Docklands Area Plan. The three alternative plans considered were:

:: Evolution of the docklands in the absence of development.
:: Ad hoc development in the absence of a Plan.
:: Low to medium scale and intensity of development.

The compatibility of these plans with the environmental criteria was then considered under the following effect categories:

:: Neutral effect
:: Positive effect
:: Uncertain effect
:: Negative effect

It was considered that the preferred Docklands Area Plan would have the most positive and least negative environmental effects of the alternatives considered.

6 Assessment of the Effects of the Plan

The compatibility of the policies and objectives of the Plan were assessed in detail against the environmental criteria. The outcome of these assessments is described in the following sections.

Heritage strategy

The assessment of the heritage strategy objectives found that the strategy was likely to have significant positive impacts on protected structures and ACA's. No negative impacts on environmental criteria were anticipated. Some uncertain impacts may be incurred on special environmental designations during the construction of the quay walls.

Movement and access

When considered against movement and access objectives, the Plan was found, on balance, to have positive environmental effects on both the Area and the Town in terms of the promotion of sustainable modes of transport and improved accessibility to and through the Area. It was considered that the proposals for new routes and river crossing would serve the needs of the Area. It was considered that the larger traffic issues would need to be addressed as part of the Strategic Transport Planning for Drogheda Town.

Potential, related impacts on environmental criteria such as archaeology, air quality, flooding and river ecology were not considered to be significant.

Land use

On the balance, the land use objectives of the Plan are likely to have positive environmental impacts on the Area. The compatible land uses proposed are likely to facilitate the regeneration of the Area and the development of a sustainable urban community within close proximity of the Town Centre and public transport.

Residential land use objectives are likely to reverse negative population trends in the Area and the Town Centre. Objectives to develop commercial and retail uses along the waterfront are likely to maximise access to the river and facilitate the reactivation of the north and south quays.

It was found that proposals to develop a weir on the Boyne could give rise to significant environmental effects.

Density and intensity

The density and intensity objectives of the Plan are likely to have positive effects on population and urban quality of the Area. The objectives are consistent with national policy and guidelines.

Building height and massing

The building and height objectives of the Plan are likely to have a positive impact on urban quality. These objectives are likely to have no negative impacts.

Urban structure

The proposed urban structure is likely to enhance the existing urban condition in the Area and facilitate the use of sustainable modes of transport. The development of the urban structure is likely to have uncertain effects on special environmental designations during the reconstruction of the quays.

7 Mitigation

The assessment of the Plan revealed some conflicts between environmental criteria and the objectives of the Plan. For this reason, measures to mitigate the negative environmental effects were formulated. The mitigation measures identified are described here.

Environmental designations

Given the uncertain environmental effects on special environmental designations, it is recommended that the development of a weir becomes a medium-term objective of the Plan, subject to further environmental investigations.

The construction periods relating to the development of new quay walls and river crossings have also been identified as having uncertain effects on special environmental designations. Construction should be carried out in accordance with the recommendations of the relevant Environmental Authorities.

Archaeology

Given the potential for undiscovered archaeology in the area, it is the recommended that all development proposals, and proposals that involve the alteration of the Boyne riverbed, are subject to full archaeological investigations and resolution of any archaeological deposits or features that may be discovered.

Soil contamination

In order to address possible cases of soil contamination, all proposals must establish the existence and extent of soil contamination and, where necessary, carry out the appropriate remedial action, prior to the commencement of works.

Flooding and drainage

Flooding may impact on the future use of the Area. It is therefore necessary to adopt the following measures in order to minimise the effects of future flooding events:

:: Set the ground floor level and any access to basements of new developments at a suitable level.
:: Carry out comprehensive improvements to the quay walls as an integral part of development.
:: Provide for separate drainage systems for foul and surface water drainage in all new developments;
:: Incorporate the principles of Sustainable Urban Drainage Systems into all new developments in order to reduce peak flows, and,
:: Provide new foul and surface water collection systems within the Area in order to relieve the existing system and reduce pollution from foul sewage discharges to the environment.

8 Monitoring

Monitoring of the significant environmental effects of Plan is required to identify at an early stage any unforeseen adverse effects and to allow prompt and appropriate response.

A Review Group should be established to ensure the implementation of the Plan does not compromise the environmental criteria identified for the Area. The Review Group will seek to:

:: Carry out appropriate survey work and collate the necessary data required to effectively monitor the environmental effects of the Plan.
:: Prepare an annual monitoring report on the implementation of the Plan.

The areas to be considered in the monitoring of the Plan will broadly include heritage, movement and access, land use, density and intensity, building height and massing and urban structure. Monitoring will have particular regard for key issues in the Area such as special environmental designations, archaeology, water quality, flooding, air quality and traffic.

9 Report Findings

This report finds that the Plan, as informed and amended by the SEA, represents a strategic framework for the proper planning and sustainable development of the Area. The assessment of the Plan found that, on balance, the Plan has positive environmental effects on the Area and Drogheda as a whole. Where negative effects were expected, mitigation measures were identified and the policies and objectives of the Plan adjusted accordingly.

1 Introduction

Loci was requested by Drogheda Borough Council to prepare the Drogheda Docklands Area Plan (hereafter referred to as "The Plan") to inform the future development of the Docklands Area of the town (hereafter referred to as the "The Area"). This Environmental Report was undertaken in tandem with the preparation of the Plan. It is a key element of the Strategic Environmental Assessment of the Plan as required by EU and Irish Planning Legislation.

The EU Directive on Strategic Environmental Assessment, or SEA (Directive 2001/42/EC), was transposed into Irish Planning Law by the Planning and Development (SEA) Regulations of 2004. Article I of the SEA Directive states:

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

The EU Directive requires that an environmental assessment be carried out for all plans and programmes prepared for specified sectors. In addition, an assessment must also be carried out for plans and programmes which set the framework for future development consent of projects subject to an Environmental Impact Assessment, and all plans or programmes that may impact upon sites protected under the Habitats Directive (Directive 92/43/EEC).

The likely environmental effects of the Plan were assessed under the screening criteria described in Schedule 2A of the Planning and Development Regulations and the recommendations of Environmental Authorities were sought. It was subsequently established that the preparation of an Environmental Report as part of an SEA for the Plan would be appropriate.

1.1 SEA process

Article 2 of the EU Directive defines environmental assessment as "the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of consultations in decision making and the provision of information on the decision…."

The purpose of the Environmental Report is to evaluate the likely significant environmental effects of implementing a plan and to identify possible alternatives and mitigation measures. The information to be provided in the Environmental Report is described in Annex I of the SEA Directive and can be summarised as follows:

:: An outline of the contents and objectives of the plan or programme, and its relationship with other plans and programmes;
:: Existing environmental conditions of the study area, including existing environmental problems, and the likely evolution of this area in the absence of the programme or plan;
:: Environmental characteristics of the areas to be significantly affected;
:: Likely significant effects on the environment, including issues such as bio-diversity, population, human health, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological, landscape, and the interrelationship between these factors;
:: Mitigation measures;
:: Reasons for the selection of alternatives considered, and the methods of assessment undertaken;
:: Description of monitoring measures, and
:: Non-technical summary.

Prior to adoption, a Draft Plan and/or Variation and associated Environmental Report must be made available to the general public, prescribed environmental authorities, and where necessary, affected Member States, and submissions invited.

A statement demonstrating how environmental considerations have been integrated into the Plan, how the Environmental Report and the outcome of submissions were taken into account, and the reasons for selecting the plan as adopted in light of other reasonable alternatives must also be provided.

1.2 Drogheda Docklands Area Plan

Drogheda Borough Council commissioned the preparation of the Docklands Area Plan (DAP) in order to inform future planning policy and guidance for the Inner Quays Area and adjoining areas of the town. The Council adopted the Plan as a Variation of the Drogheda Borough Council Development Plan, 2005-2011, on 5 February, 2007. The boundaries of the Plan are defined generally by North Strand and Marsh Road to the north and south respectively, St. Mary's Bridge and abutting areas of the town centre to the west, and the eastern extremity of Doner's Green to the east. When adopted, the Plan will provide a detailed framework for the development of the Docklands Area over the lifetime of the current Town Development Plan. The key policy objectives of the Plan are described below.

1.2.1 Strategic objectives

The main strategic objective of the Docklands Area Plan is to facilitate the sustainable expansion of Drogheda Town Centre and to promote the regeneration of the Docklands Area by:

:: Identifying the main issues affecting the Docklands Area;
:: Outlining the constraints and opportunities for regeneration;
:: Presenting a new vision for the area;
:: Providing a detailed and robust framework for achieving the vision;
:: Providing a basis for consensus among the main actors in the planning and development of the area, and,
:: Forming the basis of planning policy and guidance.

1.2.2 Land use

Much of the Area is zoned "to provide for major new town centre activities in accordance with an approved local area plan and subject to the provision of necessary physical infrastructure". The land use objectives of the Plan reinforce the existing zoning objectives for the Area, and seek to promote an appropriate mix and intensity of compatible land uses such as commercial, retail, cultural, leisure, and residential development, reinforce the existing zoning objective for the area. In addition, the Plan identifies appropriate locations in the Plan Area for the development of these uses.

1.2.3 Urban form

The streets and spaces envisaged for the Docklands Area will largely be informed by a new and extended proposed urban structure. The Plan identifies appropriate building heights relative to existing and proposed streets and favours a form of massing characterised by the perimeter block model. The Plan advocates plot ratios of up to 2.5:1 as this would accommodate medium/high density development while remaining within the plot ratio parameters identified within the current Drogheda Borough Development Plan.

1.2.4 Movement and access

The Plan seeks to promote sustainable trip patterns within and beyond the Area. It identifies a new urban structure with the objective of providing a permeable and efficient movement network for vehicular, bicycle and pedestrian movement.

The Plan seeks to prioritise pedestrian and bicycle movement along the waterfront and public spaces. It provides for new bridges designed primarily for use by pedestrians and cyclists in order to improve access between the north and south quays and larger town centre. It is also an objective of the Plan to improve access to McBride Railway Station and promote the use of public transport.

1.2.5 River activities

The Plan envisages significant new river-based activities along a new waterfront/marina and on the water. Investigating the provision of a weir is included as a medium to long term objective, subject to further detailed environmental consideration.

The methodology employed for the purposes of the Environmental Report was largely derived from the requirements of the SEA Directive and the Guidelines for Regional Authorities and Planning Authorities on the implementation of the SEA Directive published by the Department of the Environment, Heritage and Local Government. This process is outlined in the following sections.

2.1 Scoping

Scoping is undertaken to ensure all relevant environmental issues are identified and addressed at an appropriate level of detail within the environmental report. The scoping process requires that the prescribed Environmental Authorities are consulted on these issues and that their recommendations are taken into account when preparing the report.

Scoping the contents of the Environmental Report was undertaken in two stages:

(i) The relationship between the Docklands Area Plan and other national, regional and local plans and guidance documents was established in order to assess the consistency of the Plan with existing plans/guidance.

(ii) Consultation was undertaken with the prescribed environmental authorities and their recommendations on the contents of the environmental report sought.

2.2 Baseline study

The baseline data collated for the purposes of the environmental report was derived from the requirements of Annex I of the SEA Directive. This data includes a description of the bio-diversity, population, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape of the study area, as existing. For the purposes of this report a broad contextual study was conducted for Drogheda Borough followed by detailed analysis of the Area. The research was undertaken by Loci in conjunction with Bailey Crowley, Engineers and Managers, Irish Archaeological Consultants and Natura Environmental Consultants. The information collated is primarily based on existing data available at the time of the report. Key sources include national and local statistical information, reports from environmental and archaeological agencies, and the Environmental Impact Statements prepared for recent development proposals in the Area.

2.3 Environmental criteria

In order to assess the impacts of the DAP and alternative plans, environmental criteria was established for the Area and Drogheda Town, against which policies and objectives were tested. The criteria are primarily based on the findings of the baseline study and seek to protect and enhance the existing environment of the Area and Drogheda.

2.3 Consideration of alternatives

Prior to assessing the Plan, three preliminary alternatives were examined and their impacts considered. The scenarios are largely based on parameters that the current Development Plan sets for the future development of the Docklands Area. These alternatives include:

:: Evolution of the docklands in the absence of development.
:: Ad hoc development in the absence of a Plan
:: Low to medium scale and intensity of development.

2.4 Environmental assessment of the Plan

The main objective of this report is to assess the likely significant environmental impacts of the Plan. This process involves establishing the effects of the Plan on the existing docklands environment in terms of bio-diversity, population, human health, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological, landscape, and the interrelationship between these factors. These assessments are presented as a series of tables that establish the compatibility of the plan with environmental criteria formulated for the Area.

2.5 Mitigation

Where the objectives of the plan were found to be incompatible with environmental criteria, the objectives and policies of the Plan were adjusted appropriately. In addition, where it is beyond the scope of this assessment to establish the full environmental impact of future developments, mitigation measures have been identified which seek to ensure the environmental criteria formulated for the Area are not compromised.

2.6 Monitoring

The SEA Directive requires that the environmental effects of the implementation of a plan be monitored "in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action". For the purposes of the Plan, structures and arrangements were identified for the monitoring of the implementation of the plan and its environmental effects.

It is important that the Plan is consistent with national, regional and local policy. At present, a hierarchy of plans and strategies exists which set the context for the Plan.

3.1 Sustainable Development – A Strategy for Ireland, 1997

This strategy was developed to ensure that the principles of sustainability are systematically applied to a broad range of policy and decision-making processes. The Strategy provides a framework for the promotion of sustainable development across key sectors such as agriculture, forestry, marine resources, energy, industry, transport, tourism and trade.

With regard to sustainable urban development, the Strategy recognises the importance of reactivating redundant and derelict land and buildings in meeting sustainability objectives. Regeneration promotes the reuse of available resources, contributing toward energy efficiency, sustaining the urban fabric, reducing the need to develop green field sites and protecting the countryside.

3.2 National Spatial Strategy: 2002

The National Spatial Strategy (NSS) is a twenty-year planning framework designed to achieve a better balance of social, economic, and physical development between the regions and a better spatial distribution of population growth in Ireland. The strategy seeks to establish a network of development locations by identifying a hierarchy of gateways and hubs with the necessary critical mass to become self-sustaining development centres of national and regional importance.

Although the National Spatial Strategy identifies Drogheda as being within the Border Region, it is noted that the town's close functional and physical links with the Greater Dublin Area and its location along the Dublin-Belfast Corridor requires that the role of Drogheda be considered in relation to the GDA as well the Border Region. The strategy recognises that:

"Drogheda has much potential for development given its scale, established enterprise base, communications and business and other links with the Greater Dublin Area."

This potential is reflected in the designation of Drogheda as a primary centre, a role which requires that the town establishes a population level that supports self-sustaining growth, but which does not undermine the promotion of critical mass in other regions.

3.3 Regional Planning Guidelines for the Border Region, 2005

The Regional Planning Guidelines for the Border Region seek to reinforce the objectives of the NSS through a regional strategic planning framework that will inform subsequent plans and policies at a local level. The vision for the Border Region seeks to establish a "competitive area recognised for, and prospering from, its unique interface between two economies, where economic success will benefit all, through the building of distinct sub-regional identities, in an outstanding natural environment…"

The guidelines recognise that Drogheda occupies a strategic location on the Dublin-Belfast Economic Corridor, within close proximity of Dublin City and Dublin International Airport. It is acknowledged that the continued development of Drogheda will be driven in part by factors originating outside the Border Region. However, it is an objective of the guidelines to establish Drogheda as an economically self-sustaining town within its own catchment area, as well as maintaining close links to surrounding areas.

3.4 Regional Planning Guidelines for the Greater Dublin Area, 2004

The Dublin Regional Authority and the Mid-East Regional Authority produced the Regional Planning Guidelines for the Greater Dublin Area in 2004. The Guidelines build on the objectives of the NSS and the earlier Strategic Planning Guidelines for the Greater Dublin Area, 1999. The Guidelines set out a strategic planning framework for subsequent plans and future investment within the region with the objective of consolidating growth within the Dublin City Metropolitan Area and key centres in the surrounding hinterland.

Although Drogheda is geographically located within the Border Region, its development is greatly influenced by its proximity to Dublin. In seeking to develop the potential future role of Drogheda, the RPG's recommend that account be taken of:

- Drogheda's relationship with its own catchment;
- Its role within the Border Region;
- Its role as a significant port, and
- Its role in the spatial development of the Greater Dublin Area having regard to the town's close functional and physical links with the area.

3.5 Residential Density Planning Guidelines for Planning Authorities, 1999

The Residential Density Guidelines produced by the Department of the Environment and Local Government identify appropriate locations for the development of increased residential densities. These locations include town and city centres, brownfield sites and inner suburban/infill sites. Where sites are located within close proximity of existing or proposed transport corridors, higher densities are also acceptable. The Guidelines specify that qualitative standards such as high quality design and layout must be maintained in all efforts to achieve increased residential densities.

3.6 County Louth Development Plan: 2003

The County Louth Development Plan provides an overall development strategy for the sustainable development of the County for the period 2003-2009. The vision for Louth is to establish:

"a prosperous and thriving county where no individual or social group will be excluded from the benefits of development and where such development is soundly based on principles of sustainability, protection of the county's resources, heritage and the natural and built environments".

The Plan identifies Dundalk and Drogheda as Level One towns with a wide variety of services and employment opportunities for County Louth and the wider regional population. The plan seeks to promote and facilitate the development of Drogheda as a self-sustaining primary development centre that will energise development within its own catchment.

3.7 Drogheda Borough Council Development Plan, 2005-2011

The Drogheda Borough Council Development Plan, 2005-2011 outlines a set of strategic land use policies for the area under the jurisdiction of Drogheda Borough Council. The aim of the plan is "to promote, develop and regulate the resources of Drogheda Borough in order to maximise the benefit whilst minimising the cost for all citizens of the Borough under both present and future circumstances".

The Plan sets the immediate context for the DAP and identifies a number of important policies, which establish the parameters within which the future development of the area can occur. The Area includes one of two transition zones for the town and is described as follows:

"Inner Quays Development Area (IQDA)
The boundaries of the Inner Quays development Area are defined by the railway viaduct to the east, North Strand, Marsh Road and abutting areas of the town centre to the east, both North and South of the River Boyne. Long-term expansion of town centre type activities are envisaged towards the railway viaduct on both the north and south sides of the river. This area is currently characterised by port and related industrial and commercial uses. Ultimately, the area might be better utilised as an extension of the Town Centre containing as it does, potentially attractive streetscapes, protected structures and features. Drogheda Borough Council will encourage development proposals which are sympathetic to, and build on the maritime nature of the area and which directly utilise the presence of the River Boyne. Drogheda Borough Council may request that the sequential test be demonstratively applied to major retail proposals".

The Plan requires a priority for higher density residential development in the area to take advantage of proximity to public transport. Closer links between working and living are also promoted. Community policies seek adequate provision for education and childcare, and the Plan requires new walkways on both sides of the river for recreation and leisure.

Development control principles seek to ensure existing townscape, topography, built form and character are respected. Assessment of impact on structures, space, visual appearance and built heritage is required for high building proposals. The indicative plot ratio for the Inner Quays Area is 1.0:1 to 2.5:1, with site coverage not to exceed 80% in normal circumstances. The public open space standard is a minimum 10% of the total site area.

3.8 Planning Strategy for the Greater Drogheda Area, 2007

The Draft Planning Strategy for the Greater Drogheda Area is currently being prepared "to provide for the growth of the town [in order] to enhance its status in the region as an excellent place to live, visit and do business". The Strategy, which will be the remit of the Louth, Meath and Drogheda Borough Councils, will inform the management of growth within the Greater Drogheda Area over the next 20 years.

Within the draft report, a spatial strategy for the town has been identified. This strategy primarily focuses on enhancing and regenerating central Drogheda and the river corridor as the driver of economic, social and cultural activity in the area. The Strategy also seeks to promote the amenity value of the river and to enhance the image of the town.

The North and South Quays are identified as being central to the regeneration of Drogheda. It will be an objective of the Strategy to promote the efficient use of land and to achieve medium to high-densities in the town core and along transport corridors. The Strategy also recommends improved access to the Inner Quays Area from Marsh Road and the railway station and a new bridge provided to increase connectivity between the north and south quays.

3.9 Drogheda Transportation Study, 2007

In 2005 Drogheda Borough Council commissioned the preparation of a transport management study to address all aspects of transportation within the town boundary and extending into urban areas of the northern and southern environs of the town. The study assessed the existing transport situation in Drogheda and made recommendations for future transport objectives.

In broad terms the study addresses the following transportation issues:

:: The traffic route network;
:: Needs of pedestrians and cyclists;
:: Parking requirements, and
:: General transportation and other needs.

The study specifically focused on the provision of slow mode access to the town centre and prioritised pedestrian and cycle movement.

Transportation recommendations pertinent to the Area include a new vehicular bridge crossing east of the viaduct linking North Strand to the R132. On the North Quays a pedestrian river walk through the Inner Quays Development Area to the eastern side of the railway viaduct is also recommended.

This section of the report briefly describes the existing state of the environment within Drogheda Borough. This is followed by a detailed environmental analysis of the Area. The purpose of this approach it to establish the broad environmental context of the Area. In doing so, the assessment of the Plan will not confine itself solely to addressing environmental concerns within the Area, but will also consider broader environmental problems experienced in the town.

4.1 County Louth and Drogheda

The environmental assessment of the County Louth Development Plan finds that the County "enjoys a high quality environment with unpolluted waterways and beaches, clean air, unspoiled diverse rural landscapes, a wide range of flora and fauna and good quality of life for its inhabitants". Drogheda Borough, which is located to the south of the County, also enjoys a high quality environment. This environment is described in brief in the following sections.

4.1.1 Population and demography

This section of the report examines the existing population figures and demographic structure of Drogheda Borough and its environs. The analysis presented here is based on recent and historical data available from the Central Statistics Office. This data includes the 1991, 1996 and 2002 census reports and preliminary data from the 2006 census of population where available.

Drogheda Borough comprises five electoral divisions; Fair Gate, St. Laurence Gate, West Gate, St. Peter's* and St. Mary's*. Areas beyond the Drogheda Borough boundary have also been considered within this analysis. These areas include Drogheda's northern environs (parts of St. Peter's electoral division, Co. Louth) and its southern environs (parts of St. Mary's and Julianstown electoral divisions, Co. Meath).

Population

Over the last three intercensal periods the population of Drogheda Borough has increased from 23,848 to 28,894. During this time the greatest level of growth was experienced in the 1996 to 2002 period when the population increased by 3,871 people or 15.8 percent. Since 2002, the rate of population growth in Drogheda Borough has declined considerably. The 2006 Census recorded a population increase of just 561 persons or 2 percent over the last intercensal period. This increase was largely confined to St. Peter's* and St. Mary's* electoral divisions. Population decreases were experienced in the Fair Gate and West Gate electoral divisions.

During this time significant levels of growth occurred within Drogheda's north and south environs. Between 1996 and 2002 the population of the St. Peter's ED (Drogheda North Environ) increased from 36 to 554 people. Within the same period, the population of the St. Mary's and Julianstown electoral divisions (Drogheda South Environ) increased from 786 to 2,133 people. These trends indicate that growth in the suburbs is occurring at a significantly higher rate than in the town centre.

Age structure

The 1996 and 2002 Census figures show that Drogheda and its environs has a young population structure relative to national figures. The dependency ratio (persons aged 14 and younger and persons aged 65 and over) for the area closely correlates with that of the State and did not change significantly over the 1996 to 2002 period. The percentage of the population within the working age cohort (15-64) in Drogheda and its environs also correlates with the 1996 and 2002 figures for the State.

Households

The total number of households in Drogheda and its environs increased from 8,101 in 1996 to 10,696 in 2002, an increase of over 33 percent. This rate of increase is significantly greater than the 18.7 percent increase experienced in the county as a whole. Although 2006 Census figures for household numbers were unavailable at the time of this report, the significant population increases experienced in the St. Mary's electoral division (Drogheda south environs) suggests substantial growth in the number of new households in Drogheda's environs.

Census findings indicate that the average household size in Ireland is decreasing. Between 1996 and 2002, these figures fell from 3.14 to 2.94 persons per household, bringing the average household size closer to the EU average of 2.63. In 2002, the average household size in Drogheda and its environs of 2.84 was less than national and county averages.

	Electoral Division	1996 Population	2002 Population	2006 Population
Drogheda Borough	Fair Gate	10,454	10,852	9,761
	St. Laurence Gate	3,423	3,566	3,730
	West Gate	5,868	6,412	5,880
	St. Peter's (part of)	1,756	2,765	3,471
	St. Mary's (part of)	2,959	4,738	6,052
Sub Total		24,460	28,333	28,894
North Environs	St. Peter's (part of)	36	554	unavailable
South Environs	St. Mary's and Julianstown (part of)	786	2,133	unavailable
Sub Total		822	2,678	unavailable
Total		25,282	31,020	unavailable

Table 1 Drogheda Borough and Environs population 1996-2006

	State			Drogheda & Environs		
Age Cohort	1996	2002	Change (%)	1996	2002	Change (%)
0-14	23.70%	21.10%	-2.6	24.10%	22.30%	-1.8
15-19	9.40%	8.00%	-1.4	8.90%	7.00%	-1.9
20-34	22.40%	24.10%	1.7	24.90%	28.70%	3.7
35-44	13.70%	14.40%	0.7	13.10%	14.70%	1.6
45-64	19.40%	21.20%	1.8	19.10%	18.50%	-0.6
65+	11.40%	11.10%	-0.3	10.00%	9.00%	-1
Dependency Ratio	35.10%	32.30%	-2.9	34.10%	31.30%	-2.8
Working Age Cohorts	64.90%	67.70%	2.9	65.90%	68.70%	2.8

Table 2 State and Drogheda age structure 1996-2002

Area	Number of Households		% Change	Average Household Size		% Change
	1996	2002	1996-2002	1996	2002	1996-2002
Drogheda and Environs	8,010	10,696	33.5	3.09	2.84	-8.1
County Louth	28,207	33,495	18.7	3.21	2.99	-6.9
State	1,127,318	1,287,958	14.2	3.14	2.94	-6.4

Table 3 State and Drogheda households and household size 1996-2002

*Forms part of composite electoral division

4.1.2 Special environmental designations

The river Boyne is designated as a candidate Special Area of Conservation (cSAC) under the terms of the EU Habitats Directive (92/43/EEC) and the European Communities (Natural Habitats) Regulations, 1997. This is the highest level of nature conservation protection available and indicates the international importance of the river. It is designated due to the presence of internationally important species listed in Annex II of the Directive, namely the otter, Atlantic salmon, lamprey species and a number of important habitats.

The Boyne Estuary, from within 500 metres downstream of the eastern boundary of the Area, is also designated a Special Protection Area (SPA) under the terms of the EU Birds Directive (79/409/EEC). The SPA includes the river channel, the entire intertidal area and parts of the beach and sand dunes near the mouth of the Boyne. This is primarily due to the presence of wintering water birds.

4.1.3 Protected Structures and ACA's

Drogheda contains an extensive number of structures of architectural, historical and archaeological interest. Drogheda Borough Development Plan, 2005-2011 recognises that:

"The physical forms of the individual buildings, structures and places of historical value are symbols of the social, economic and cultural development of the town. They have acquired economic and aesthetic values and contribute to the town's distinctive character".

To date, 281 buildings in Drogheda are included on the Record of Protected Structures (RPS). In addition, 17 Architectural Conservation Areas have been included in Drogheda Borough Development Plan, 2005-2011.

The buildings on the RPS and within the ACA's have recently been reviewed and assessed in accordance with the National Inventory of Architecture rating system. Of these, 31 sites are recognised as being of National Architectural Significance, 192 sites are recognised as being of Regional Architectural significance, and 21 sites are recognised as being of local importance.

4.1.4 Archaeology

The Department of the Environment, Heritage and Local Government recognises several historic towns identified in the Urban Archaeological Survey of Louth as being worthy of protection. The guideline boundaries for these towns are illustrated within the Record of Monuments and Places and are considered to be Zones of Archaeological Potential containing an intensity of archaeological remains. A Zone of Archaeological Potential is identified surrounding the medieval part of Drogheda Town (LH024-04) and is protected under the National Monuments Act. Drogheda's location along a historically significant inland routeway linked to the Brú na Bóinne, World Heritage Site and its historical function as an important medieval port, also warrants the consideration of potential underwater archaeological structures, features and objects that have not been identified in the Record of Monuments and Places.

Much of Drogheda's archaeological heritage dates back to the medieval period when the Norman, Hugh De Lacy, founded the town. During this period, Drogheda was, after Dublin and Waterford, the leading medieval town in Ireland. Substantial remains of the town walls and other medieval buildings are still present within the town including the impressive 13th century barbican known as St. Laurence Gate, the finest surviving example of medieval fortification in Ireland today.

Following the medieval period, the town of Drogheda experienced rapid expansion. Surviving mapping suggests that by the 18th and 19th centuries industry was prevalent in the town. A map of Drogheda attributed to Ravell (1749) shows a well-developed quay system along the north and south banks of the Boyne as it passed through the town. By 1853 the construction of the railway viaduct was completed following the opening of the Great Northern Railway Line.

With regard to Drogheda's underwater archaeological heritage, there are over 60 wrecked vessels listed for Drogheda in the Maritime Sites and Monuments Record for Louth. The majority of these were wrecked in open water off Drogheda. However, a number were also wrecked on Drogheda Bar, just inside the mouth of the port. Traditionally, this area was only navigable during high tide. It is possible that wrecks of some of these ships survive within the harbour.

4.1.5 Soil and geology

The underlying bedrock in the greater Drogheda area is Dinantian Limestone. The depth to bedrock from the surface is generally in excess of 10 metres. Overlying soils are glacial gravels and brown boulder clays.

4.1.6 Air quality

For the purposes of measuring air quality, the Greater Drogheda Area is in zone D, one of four air quality zones in Ireland. The nearest continuous monitoring station is at Kiltrough, approximately three miles south of Drogheda. According to data recorded by the Environmental Protection Agency in 2005, there have been no breaches of threshold levels for particulate matter, sulphur dioxide, nitrogen dioxide, ozone, lead, carbon monoxide, or benzene within this zone.

4.1.7 Water quality

The following section assesses water quality in Drogheda Borough in terms of surface water, ground water and water supply.

Surface water

Surface water in the Greater Drogheda Area generally drains to the river Boyne through open streams or piped collection systems in built up areas.

The most recent water quality data information available for the river Boyne is from 2003. The Q values for the sampling station nearest to Drogheda Town (Obelisk Bridge) have been consistently deteriorating. By 2003 Q values for the Boyne had dropped from Q5 (Class A, condition: satisfactory) in 1971 to Q3-4 (Class B, condition: unsatisfactory). This drop in water quality is a likely outcome of increases in population living close to the river and consequent increases in sewage discharges.

Ground water

The National Draft Aquifer Maps produced by the Geological Survey of Ireland describe the groundwater aquifers in the Greater Drogheda Area as "Rk": regionally important karst aquifers. There is a pocket described as "Lm": locally important, moderately productive, to the southeast of the town, which includes the study area of this report. An aquifer vulnerability map is available for County Meath only. The study area is described as low vulnerability.

Water supply

The Greater Drogheda Area is close to the limit of available water supply and as a consequence many parts of Drogheda are experiencing low service levels. The available water supply from existing sources in the East Meath, South Louth and Drogheda area is 37 million litres per day. Current demand is for 32.7 Ml/d. Demand is likely to increase to 72.3 Ml/d by 2023. Therefore, new water sources must be found. The existing distribution network will not be able to distribute this volume of water. In addition, current high loss rates in the distribution of water are disrupting service. Current storage capacity is 33.8Ml. Extra capacity will be required to provide the required 24hour storage for 2023. Plans are already being developed to address storage issues in the region.

4.1.8 Urban quality

The urban fabric of Drogheda Town Centre is largely characterised by its medieval plan. Although the medieval fabric of the town has undergone considerable change, the town has retained an notable network of streets and lanes, and retained a rich inventory of historic sites, fine public buildings, and structures of significant architectural value. Drogheda Borough Council recognises the importance of this heritage and is committed to the protection and preservation of buildings, streetscapes, features and sites of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

4.2 The Area

The environmental quality of the Area deviates significantly from that of the town. This has largely been an outcome of the dockland activities that have historically taken place at this location. In recent times, much of this activity has moved seaward to the Tom Roe's Point Terminal. Consequently, parts of the area have become under utilised and experienced some environmental decline. The environmental characteristics of the area are described in the following sections.

4.2.1 Population

In the absence of 2006 Small Area Population Statistics for Drogheda it is not possible to provide exact information on the population and demography of the Area. However, given the low number of residential units in the docklands, it can be assumed that the population of the Area is low relative to the remainder of the town. Furthermore, the Fair Gate and West Gate electoral divisions, within which the Area falls, experienced population decreases over the last intercensal period. This trend suggests population decline within the Area.

4.2.2 Protected Structures and ACA's

There are 26 protected structures and three Architectural Conservation Areas in the Area and in its immediate vicinity. The ACA's are:

(i) ACA 10, North Quay's and Back Lanes
(ii) ACA 16, Ship Street
(iii) ACA 5, Laurence's Street

There also exists an additional area worthy of architectural conservation at Merchant's Quay. This area contains several fine warehouses characteristic of dockland areas and makes an important contribution to the urban fabric of the area.

The fabric of the identified ACA's varies in condition. Of particular concern is the deterioration of the Ship Street area, which has been exacerbated by flooding and title issues.

Of the identified protected structures, the Railway Viaduct is of particular significance, contributing greatly to the character and identity of the Docklands Area and the Drogheda skyline. The appreciation of this structure requires that several important views are protected.

4.2.3 Archaeology

The Excavations Bulletin (1910-2003) reveals an extensive amount of archaeological fieldwork has taken place in Drogheda and within the Area. At Marsh Road, more recent archaeological investigation has been carried out, including testing and an underwater assessment. This investigation relates to a development on the site of a mill, immediately to the east of the Scotch Hall development, where the remains of a medieval quayside house have been incorporated into the redevelopment of the area. Archaeological testing under license (License Ref: 05E0396) discovered nothing of archaeological significance on the site. An underwater assessment of the proposed location of a pedestrian bridge (License Ref: 05D072, 05R053) also revealed nothing of archaeological significance.

Three main zones of archaeological potential can be identified in the Area.

Zone of Archaeological Potential for Drogheda Town LH024-041

This area is protected under the National Monuments Act and encompasses some of the western section covered by the Plan Area. This area includes parts of the North and South Quays, St. Mary's Bridge, The Mall, Merchant's Quay, part of North Strand, Bachelors Lane, James St. and recent developments at Scotch Hall, which is located on the South Quay. Extensive archaeological excavations have been undertaken within this relatively small area, and in particular in relation to the replacement of St. Mary's Bridge in the 1980's and the Scotch Hall development. In the course of the earlier excavations, significant terrestrial and underwater medieval deposits were discovered that illustrate the archaeological potential of this area.

This area also includes the remains of the medieval town defences. Thomas (1992) suggests that two gates into the town may have been located at James Street and St. Catherine's Gate located at the Mall. In addition, excavations in the 1980's within the James St. area produced evidence of monastic activity close to Dublin gate, which is thought to be the remains of the Medieval Hospital of St. James.

Area of Archaeological Potential I

This area consists of the remaining area north and south of the river Boyne within the Area. Its designation is due to its proximity to the river and the medieval port of Drogheda. On the northern side of the river this area includes Merchant's Quay and North Strand, and is located to the immediate south east of the Chord Road. These quays were developed during the post medieval period, but it is possible that medieval activity took place along the river banks prior to the reclamation of the river. The Area also partially intrudes upon the RMP constraint that surrounds the Chord Burial Ground (LH024-030).

Area of Archaeological Potential II

The river Boyne, as it passes through what was once the medieval core of Drogheda, is included in the zone of archaeological potential that surrounds the town. Significant archaeological deposits have been found in the river in this area, and further out towards the estuary, where what may have been a medieval boat was excavated. Although the river has repeatedly been dredged and the river banks have been reclaimed as quaysides, the archaeological potential of this stretch of water cannot be ignored. A total of 60 previously recorded shipwrecks, which are also protected under the National Monuments Act, are listed in the vicinity of Drogheda. Given the river's frequent navigation by ships and boats to the port of Drogheda, unrecorded wrecks may be located within the section of the river contained within the Area.

4.2.4 Soil and geology

The underlying bedrock in the Docklands Area is also Dinantian Limestone. There is an outcrop of granite due east of the Area. Depth to bedrock from the surface is variable with different sources recording depths of greater than six meters to less than four meters. There is also a small, disused limestone quarry adjacent to the southern end of the viaduct, east of the viaduct and south of Marsh Road.

Overlying soils are glacial gravels and brown boulder clays, overlain by varying depths of silt and made ground/fill material.

4.2.5 Air quality

Of Ireland's four air quality zones, the Area is situated within zone C. As previously noted, the nearest continuous monitoring station is at Kiltrough, approximately three miles south of Drogheda. There is a smoke and sulphur dioxide monitoring station in Drogheda Town. According to data recorded by the EPA in 2005, there have been no breaches of threshold levels for particulate matter, sulphur dioxide, nitrogen dioxide, ozone, lead, carbon monoxide, or benzene in this zone.

4.2.6 Water quality

The following section assesses water quality in the DAP Area in terms of surface water, ground water and water supply.

Surface water

Surface water in the Drogheda Docklands drains to the river Boyne via a combined surface water and foul drainage collection system and treatment works. This collection system is at capacity due to extensive development of lands around the edges of the town.

The most recent water quality data information available for the river Boyne is from 2003. As previously described, the Q values for the sampling station nearest to Drogheda town (Obelisk Bridge) have been consistently deteriorating, most probably due to increases in population living close to the river and consequent increases in sewage discharges.

Ground water

The local groundwater aquifer is classified as "Lm", locally important, moderately productive with low vulnerability. The existence of possible contamination of groundwater from contaminants in the soil cannot be ruled out. Groundwater samples should be tested for chemical contamination as part of any site investigation for development projects.

Water supply

As previously noted, the existing water supply, distribution and storage system is in need of enhancement.

4.2.7 Flora and fauna

The habitats in the Area are described below.

River and estuary

The river Boyne flows through the centre of Drogheda and divides the Area in two. The river is tidal to a point west of Drogheda town.

Grassland

The DAP boundary includes a few areas of grassland. On the north bank, there is a linear area of mown grass at Doner's Green, which is used for amenity and recreation. This is of limited ecological value.

On the south bank, there is an extensive area of semi-natural grassland to the east of the railway viaduct and adjoining the Mornington Road. This is a mosaic of dry calcareous grassland, unimproved neutral grassland, wet grassland, reedswamp and scrub. This area was probably reclaimed from saltmarsh and may have been cultivated and grazed in historic times, but is now effectively abandoned. It has developed a high bio-diversity with typical calcareous plant species such as birds foot trefoil, stonechat, linnet and meadow pipit. This type of grassland is increasingly rare in eastern Ireland and is at least of local conservation value. Parts of the area are regularly flooded as indicated by the wet grassland plants such as meadowsweet and soft rush. Otherr parts of the site are permanently flooded as they are dominated by common reed, and are classified as reedswamp. The scrub in this area is mainly gorse but there are also areas of non-native shrubs such as butterfly bush (buddleija).

Trees and hedgerows

Mature treelines are a feature of some sections of the Area. At the northern boundary of Doner's Green there is a line of mature deciduous trees. These are potential bat roosts and are mainly sycamore, lime and horse chestnut. Along the Mornington Road on the south bank a line of mature sycamores also forms a valuable ecological corridor and potential feeding area for bats. A number of other groups of mature trees exist in the Area. These include a group of aspen and willow on the south bank of the river, just east of the railway viaduct. These are native species and they add diversity to the grassland area east of the former silica plant. On the north bank of the river, just east of the viaduct, a group of mature sycamore in a garden provides a dense canopy of some value for birds and bats.

4.2.8 Urban quality

The urban quality of the Inner Quays Area is typical of traditional dockland areas. Port-related structures are distributed along the quays and address the river. With the exception of the fine urban grain at Ship Street and sections along North Strand and Marsh Road, buildings are generally large in scale and of a freestanding nature. The urban structure of the Area is primarily focused on the quays and the river Boyne. The quality of the quays area has declined considerably and much of the south quay walls are in a state of disrepair. The positive and negative urban characteristics of the Area are listed below.

Negative urban characteristics:

:: Deteriorating urban fabric;
:: A weak urban structure;
:: Low level of permeability, and
:: Low level of activity.

Positive urban characteristics:

:: The river Boyne and the Town's topography;
:: A distinct identity and enclosed sense of place, and
:: Buildings and areas of architectural interest.

4.3 Existing environmental problems

There are a number of environmental problems in Drogheda and the DAP Area which must be considered in the planning and development of the Docklands Area. These problems are outlined below.

4.3.1 Traffic congestion

It is generally acknowledged that there is widespread traffic congestion in Drogheda Town. The Drogheda Transportation Study identifies the Dublin Road (R132) as the most heavily trafficked route in Drogheda, carrying volumes in the region of 2,000 vehicles two way flow in the evening peak hour. St. Mary's Bridge, which is the most easterly north south connection in Drogheda Town, is under severe pressure to accommodate much of this traffic. Access to the south quays from the Dublin Road via St. Mary's Bridge and Marsh Road is weak. Although the Transportation Study describes traffic volumes on Marsh Road as low, the limited capacity of this street will require upgrading in order to accommodate anticipated significant development in the Area. On the north quays, port related traffic continues to operate. Access to the national road network from this area is poor and forces heavy traffic onto St. Mary's Bridge.

4.3.2 Water pollution

As previously stated, the water quality data available for the river Boyne indicates Q values for the sampling station nearest to Drogheda town (Obelisk Bridge) have been consistently deteriorating since 1971.

4.3.3 Soil contamination

The existing and historical land uses in the Area vary from mainly port and industrial to some limited residential development. Industries in the Area have included flax milling, spinning and weaving, brewing, iron/steel production, gas production, corn milling, industrial and agricultural chemicals, coal yard, oil and cake milling, footwear, timber storage and treatment. The previous existence of a tannery is also noted, upstream of the Area, on early ordnance survey maps.

It is the nature of such dockland sites that the ground becomes contaminated from the industrial uses or from use of contaminated material for land reclamation. Establishing the detailed nature of possible contamination is beyond the scope of this report and will need to be determined by site-specific investigations as part of later development proposals. The existence and extent of contaminated material will also need to be confirmed by site investigation before main service infrastructure is installed.

4.3.4 Flooding

A significant proportion of the Area is subject to flooding. Major flooding incidents occur when easterly or southerly winds combine with spring tides and heavy rainfall. The highest recorded tide in the port is 3.05m O.D. (Malin Datum). Residents of Ship Street report regular flooding of the street, which implies flood levels could be higher than the recorded level. The level of Ship Street is approximately 3.02m O.D. at the junction with Marsh Road.

The effects of climate change will exacerbate this situation in the future. The Greater Dublin Strategic Drainage Study advises that rainfall event depths should be factored by 10% and that sea levels will rise by 400mm or more over the coming century. There is no specific advice for river flow rates, but the Defra advice in the UK suggests a 20% increase in flood flows.

As the town expands, considerable new areas of hard surface/landscape will contribute to flood flows in the already fully utilised drainage system.

4.3.5 Foul drainage infrastructure

The main sewer at Marsh Road is at or near capacity. This combined sewer serves the south of the town.

4.3.6 Storm drainage infrastructure

On the south bank of the Area most surface water is collected by the combined sewer at Marsh Road. This sewer is at or near capacity.

In order to assess the impacts of the Plan and alternative plans it was necessary to establish environmental criteria for the Area against which policies and objectives could be assessed. The criteria are primarily based on the findings of the baseline study and seek to protect and enhance the existing environment of Drogheda Town and the Area.

The main objectives of the criteria are to:

:: Protect the existing environment;
:: Address the environmental problems identified within the baseline study; and
:: Satisfy the objectives of national environmental policy identified during the scoping process.

Environmental research for Drogheda Town will ensure environmental problems outside the Area that may be affected by the Plan and alternative plans are also considered. The environmental criteria are described in the following sections.

5.1 Population and demography

Criteria to address the unsustainable growth of Drogheda's suburbs and and declining levels of population growth in the Drogheda Town Centre should seek to:

:: Achieve a balance of growth and reduce the suburban spread of the Town Environs;
:: Promote a choice of dwelling types and locations;
:: Maximise accessibility to the town centre and public transport, and
:: Make full use of and improve existing infrastructure and services.

Residential development should also provide for a variety of socio-economic groups. The following are the key criteria for population and demography:

PD 1 Promote population growth within the Area.
PD 2 Provide a wide variety of dwelling types in the Area.
PD 3 Provide for a socially balanced population in the Area.

5.2 Special environmental designations

The designation of the river Boyne and Estuary as a candidate Special Area of Conservation and Special Protection Area requires that the following criteria apply:

SED 1 Protect the species and habitats of the river Boyne.
SED 2 Protect the species and habitats of the Boyne Estuary.

5.3 Protected structures and ACA's

The presence of protected structures and ACA's in the Area necessitates the continued protection and preservation of these assets and the development of an appropriate context for their appreciation. The following are the key criteria for protected structures and ACA's:

ACA 1 Protect buildings, structures and features of architectural, historic, artistic, cultural, scientific, social or technical importance.
ACA 2 Enhance the context of protected structures and ACA's.

5.4 Archaeology

The Plan for the Area must ensure the protection of existing and potential archaeological assets and the integrity of their setting. The key criteria for archaeology is as follows:

ARC 1 Protect existing and potential archaeological resources and their settings.

5.5 Soil and geology

Proposed development should seek to remediate existing soil contamination and ensure no further contamination occurs. The following are the key criteria for soil and geology:

SG 1 Protect the bedrock and soil of the Area.
SG 2 Carry out remedial action where soil contamination has occurred.
SG 3 Ensure no further soil contamination occurs through development.

5.6 Air quality

Drogheda and the Area enjoy a high standard of air quality which the plan must seek to protect. The following are the key criteria for air quality:

AQ 1 Protect the existing standard of air quality in the Area and Drogheda insofar as possible.
AQ 2 Minimise levels of pollutants such as C02, SO2, NO2, O2, PM10, Pb, and Benzene.
AQ 3 Promote the use of sustainable modes of transport such as walking, cycling and public transport as a viable alternative to motorised transport.
AQ4 Promote the use of sustainable energy sources and the efficient use of energy.

5.7 Water quality and supply

The Plan must not compound, and where possible, should seek to improve water quality in both Drogheda and the Area. The Plan should also facilitate the enhancement of the existing water supply, distribution and storage system in Drogheda. The following are the key criteria for water quality:

SW 1 Minimise the level of surface run-off water generated in the Area.
SW 2 Protect the river Boyne from further deterioration in water quality.
GW 1 Protect the local groundwater aquifer from contamination.
WS 1 Facilitate the enhancement of water supply, distribution and storage systems in the Area and the efficient use of water.

5.8 Flora and fauna

Having regard to wider objectives, which seek to achieve a sustainable and compact urban settlement pattern, the value of locally important grassland and trees of ecological importance should be considered in the future development of the Area. The following are the key criteria for flora and fauna:

FF 1 Incorporate grassland areas of value into the planning and development of the Area, having regard to the development of a balanced and sustainable urban settlement pattern.
FF 2 Protect existing tree groups where significant ecological habitats have been or may be established.

5.9 Urban quality

The existing built heritage of the Area should be enhanced by the development of a strong urban structure that incorparates high quality streets, buildings, and public open spaces. The following are the key criteria for urban quality:

UQ 1 Retain and enhance the existing positive urban aspects of the Area.
UQ 2 Repair and improve the urban structure and fabric of the Area.

5.10 Traffic congestion

The Plan should seek to minimise traffic congestion in the Area, and if possible, alleviate traffic congestion problems experienced elsewhere in the town. The following are the key criteria for traffic management:

TC 1 Promote the use of sustainable modes of transport such as walking, cycling and public transport.
TC 2 Facilitate access and movement to and from and within the Area and the Town.

5.11 Flooding

The Plan should seek to minimise the adverse affects of flooding in vulnerable parts of the Area.

F 1 Minimise the adverse effects of flooding in the Area.

5.12 Foul drainage infrastructure

Foul drainage infrastructure at Marsh Road will require upgrading to accommoate future development.

FD 1 Facilitate the upgrading of fowl drainage infrastructure in the Area.

5.13 Storm drainage infrastructure

Storm water infrastructure at Marsh Road should be separated from the existing combined sewer.

SD 1 Develop separate storm drainage infrastructure in the Area based on sustainable urban drainage systems.

At an early stage in the preparation of the Plan three alternative plans were identified and their environmental impacts considered. These plans were based on the most likely scenarios to arise in the Area as derived from existing trends, similar scenarios elsewhere, and the parameters established by Drogheda Borough Council for future development in the Area. The level of compatability between alternative plans and the environmental criteria identifed in Section 5 was categorised under the following headings:

:: Neutral effect
:: Positive effect
:: Uncertain effect
:: Negative effect

6.1 Evolution without implementation of the DAP

This scenario is based on the evolution of the Area in the absence of signifficant development and assumes the following conditiions:

:: The character of the area would remain largely unchanged;
:: Environmental issues would remain largely unchanged;
:: Port and related uses would continue to decline, and
:: Possible renewed interest in industrial development.

The negative environmental consequences of this scenario are as follows:

:: Continuous decline in population;
:: Further decay of the quays area and possible dereliction of buildings;
:: Devaluation of existing cultural heritage;
:: Degradation of the town character;
:: Continued congestion in the Area;
:: Continued focus on suburban development;
:: Fewer options for living/working in the Area and the Town Centre as a whole;
:: Failure to take advantage of proximity to public transport.

Existing flora and fauna, soil, water, and air and climatic factors would largely remain unaffected. Environmental problems such as possible soil contamination and flooding would not be remedied.
This scenario fails to take advantage of the Area's close proximity to the Town Centre and public transport. The amenity value of the river is ignored and opportunities to extend Drogheda Town Centre and impove the fabric of the town are lost.

6.2 Low to medium scale and intensity of development

The Drogheda Borough Council Development Plan, 2005-2011 identifies an indicative plot ratio of 1.0:1 to 2.5:1 for the Inner Quays Area. This scenario considers the environmental impacts of development at a low to medium scale and intensity. This scenario assumes the following:

:: A planning framework is employed to guide development in the Area;

Positive and negative environmental impacts are listed below.

Positive Impacts
:: Moderate population increase;
:: Moderate increase in land-use activity;
:: Improved urban quality and landscape;
:: Improved access and permeability;
:: Increased cultural heritage value;
:: Improved access to public transport.

Negative Impacts
:: Moderate increase in local air pollution;
:: Moderate increase in traffic;
:: Continued degradation of water quality in the absence of improved infrstructure;
:: Additional demand on water supply;
:: Additional hard landscaping and subsequent increases in flood flows;
:: Limited living/working options;
:: Underscaling of urban fabric and poor continuity and enclosure, and
:: Failure to maximise proximity to Town Centre and public transport.

The flora and fauna described in Section 4.2.7 need not be affected should the planning framework employ appropriate safeguards.

Although this scenario will have some positive environmental effects on the Area, the intensity at which development would occur would limit the extent of these benefits. Consequently, many of the environmental benefits may be outweighed by negative impacts that are in some part generated by lower levels of intensity.

6.3 Ad hoc development

There is already evidence of investor interest in the Area. In the absence of a framework plan the resultant development pressure may lead to an ad hoc approach that will compromise the proper planning and sustainable development of the Area as a whole. This scenario assumes the following conditions:

:: The development of of individual sites in the absence of a planning or infrastructural framework;
:: The development of land uses dependant on market forces.
:: Infrastructure provided as development occurs.

Positive and negative environmental impacts are listed below.

Positive Impacts
:: Significant population increase;
:: Significant increase in land-use activity;

Negative Impacts
:: Possible incongruous and disconnected urban structure;
:: Unstructured and limited provision of public open space;
:: Narrow range of typologies and mix;
:: Piecemeal development patterns;
:: Decrease in the value of protected structures and ACA's,
:: Limited visual improvements and possible degradation of character;
:: Increase in local air pollution;
:: Increase in traffic and congestion;
:: Ad hoc provision of critical infrastructure.

The flora and fauna described in section 4.2.7 may be affected in the absence of a framework.

The positive effects of this scenario are significantly outweighed by negative impacts. Although the anticipated levels of intensity will induce increases in population and land-use activity, the Area would be significantly compromised by the absence of a proper urban structure.

6.4 The Preferred Plan

The Preferred Plan as described in section 1.2 is considered to best satisfy the environmental criteria for the Area. This Plan is assessed in detail in Section 7.

The main objectives and policies of the Plan were tested against the environmental criteria established in Section 5. This was done using a series of tables that categorise the level of compatibility between the Plan objectives and the environmental criteria under the headings identified in Section 6. The outcome of these assessments is described in the following sections.

7.1 Heritage strategy

The objectives of the heritage strategy were found to have significant positive effects in terms of the appreciation of protected structures and ACA's and improving urban quality. No negative impacts on environmental criteria are anticipated. The repair and construction of quay walls will have positive effects in terms of flooding. However, there may be some uncertain impacts on the species and habitats of the river during construction, which will require mitigation.

7.2 Movement and access

Objectives to promote pedestrian and bicycle movement in the Area were found to have positive environmental effects on the urban environment and air quality. These objectives were also found to be supportive of traffic alleviation and improved access and movement.

Vehicular movement objectives will have some negative effects on the Area. These effects are largely confined to increases in vehicular traffic. There may be some negative effects on air quality but it is not anticipated that acceptable and normal urban air quality levels will be breached. Increased levels of access, movement and permeability in the Area will have positive effects on traffic congestion in Drogheda as a whole.

Objectives to accommodate parking along the waterfront and the east-west spine street will have limited effects on the Area. The availability of parking may attract external traffic but the resultant effects on air quality are considered low. The development of underground parking will provide opportunities to carry out remedial action where soil contamination has occurred. Where archaeological remains are revealed, these would be protected.

Objectives relating to movement along the quays are considered to be compatible with environmental criteria. Objectives to provide pedestrian access along the waterfront and opportunities for crossing the river were found to be positive in terms of urban quality and promoting sustainable modes of transport. New water-based activity and movement on the river is likely to have a lesser impact than existing port related activity and is therefore considered to have positive environmental effects on the river.

7.3 Land use

On balance, the land use objectives of the Plan will have a positive impact on the Area. The compatible land uses proposed will facilitate the regeneration of the docklands and the development of a sustainable urban community within close proximity to the town centre and public transport.

The residential land use objectives of the Plan will have positive effects in terms of population increases and improved urban quality. In addition, the development of residential uses in the Area will require the enhancement of foul drainage and storm drainage infrastructure in the Area.

Objectives to develop commercial activities along the waterfront will maximise access to the river Boyne and the amenity value of the river. The development of commercial uses will also facilitate the reactivation of the north and south quays and the expansion of the Town Centre. Flooding effects will be minimised by the construction of new quay walls and the establishment of appropriate levels.

The environmental effects of the retail land use objectives are considered to be similar to those of the commercial objectives.

Objectives to develop civic or cultural uses in the Area are considered to be of benefit to the Area and Drogheda Town as a whole. Equally, objectives to provide créches or similar childcare facilities in the Area were found to have positive effects.

Proposals to develop a weir and water based activities on the river Boyne are likely to have significant effects on the ecology of the river. The Plan recommends that a detailed study of these effects should be undertaken before further proposals are advanced.

7.4 Density and intensity

The density and intensity objectives identified in the Plan will have a positive impact on the population and urban quality of the Area. The objectives are consistent with national policy, which promotes efficient use of urban land at locations close to town centres and public transport infrastructure. The impact of increased intensity on the contextual value of protected structures and ACA's has been addressed in the Plan by responding to sensitive areas.

7..5 Building height and massing

The building height and massing objectives of the Draft DAP will have a positive impact on urban quality, and a neutral impact on the protected structures and ACA's of the Area.

7.6 Urban structure

The proposed urban structure will have positive environmental effects in terms of urban quality and the use of sustainable modes of transport. The structure will have either positive or neutral effects on protected structures and ACA's. The negative environmental effects of the proposed urban structure are likely to be confined to possible impacts on special environmental designations during the reconstruction of the north and south quays.

Heritage Objectives — Environmental Criteria

		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.1 a	Consolidate and reinforce existing heritage	–	–	–	–	–	+	+	+	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–
3.1 b	Promote development that will complement and build upon the existing character of the docklands	+	–	–	–	–	+	+	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	+	–	–	–	–
3.1 c	Protect views of the viaduct	–	–	–	–	–	+	+	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–

Figure 1 Appraisal of heritage objectives

Movement Objectives — Environmental Criteria

Pedestrian and bicycle movement		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.2 a	Prioritise sustainable modes of transport	–	–	–	–	–	–	–	–	–	–	+	+	+	–	–	–	–	–	–	–	+	–	+	+	–	–	–
3.2 b	Prioritise pedestrian and bicycle movement along waterfronts and public spaces	–	–	–	–	–	–	–	–	–	–	+	+	+	–	–	–	–	–	–	–	+	–	+	+	–	–	–
3.2 c	Prioritise pedestrian and bicycle movement along new bridges	–	–	–	–	–	–	–	–	–	–	+	+	+	–	–	–	–	–	–	–	–	–	+	+	–	–	–

Figure 2a Appraisal of pedestrian and bicycle movement objectives

– Neutral effect
\+ Positive effect
? Uncertain effect
x Negative effect

Movement Objectives — Environmental Criteria

Vehicular Movement		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.2 d	Facilitate a permeable and efficient movement network	–	–	–	–	–	–	–	–	–	–	+	+	+	–	–	–	–	–	–	–	–	+	+	+	–	–	–
3.2 e	Provide a principal point of access into the south inner quays at the western end of the Dublin Road	–	–	–	–	–	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–
3.2 f	Provide secondary access off Marsh Road	–	–	–	–	–	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–
3.2 g	Provide principal access to north inner quays off Strand Road	–	–	–	–	–	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–

Figure 2b Appraisal of vehicular movement objectives

Movement Objectives — Environmental Criteria

Parking		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.2 i	Provide paralell on-street car parking along the waterfront and the east-west spine street	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	+	–	–	–
3.2 j	Accommodate all other parking associated with new development in underground parking areas	–	–	–	–	–	–	–	?	–	+	–	–	–	–	–	–	+	–	–	–	–	–	–	+	?	–	–

Figure 2c Appraisal of parking objectives

– Neutral effect
+ Positive effect
? Uncertain effect
x Negative effect

Movement Objectives — Environmental Criteria

River Movement		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.2 k	Provide pedestrian access along the waterfront	–	–	–	–	–	–	+	–	–	–	+	+	+	–	–	–	–	–	–	–	+	+	+	+	–	–	–
3.2 l	Provide opportunities for crossing the river	–	–	–	?	?	–	+	–	–	–	+	+	+	–	–	–	–	–	–	–	–	+	+	+	–	–	–
3.2 m	Facilitate movement along the river corridor	–	–	–	?	?	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	+	–	–	–

Figure 2d Appraisal of river movement objectives

Land use Objectives — Environmental Criteria

Residential		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.3 a	Focus residential development on internal streets	+	–	–	–	–	–	+	–	–	+	–	–	–	–	–	–	+	–	–	–	+	+	+	–	–	–	–
3.3 b	Provide a range of residential typologies and unit sizes	+	+	+	–	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–
3.3 c	Provide social and affordable housing in accordance with Part V of the Planning and Development Act, 2000	+	+	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Figure 3a Appraisal of residential land use objectives

– Neutral effect
+ Positive effect
? Uncertain effect
x Negative effect

Land use Objectives | Environmental Criteria

	Commercial	PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.3 d	Focus commercial uses along the waterfront	–	–	–	–	–	–	+	–	–	+	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–
3.3 e	Provide a mix of commercial unit sizes and floor plates	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–

Figure 3a Appraisal of commercial land use objectives

Land use Objectives | Environmental Criteria

	Retail	PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.3 f	Provide small and medium size retail at ground floor level on main frontages and on the proposed new square at the head of Ship street	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–
3.3 g	Maximise the number and frequency of retail units to reflect a fine grain of development at ground floor level	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Figure 3b Appraisal of retail land use objectives

– Neutral effect
\+ Positive effect
? Uncertain effect
x Negative effect

Land use Objectives | Environmental Criteria

Special uses		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.3 h	Provide new civic or cultural uses in the area	–	–	–	–	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–
3.3 i	Provide a créche or similar childcare facility in the area	–	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–

Figure 3c Appraisal of special land use objectives

Land use Objectives | Environmental Criteria

Water-based activities		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.3 j	Develop a weir east of the viaduct	–	–	–	x	x	–	+	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–
3.3 k	Develop water-based activities on the river Boyne	–	–	–	?	?	–	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Figure 3e Appraisal of water-based land use objectives

– Neutral effect
\+ Positive effect
? Uncertain effect
x Negative effect

Density and Intensity Objectives — Environmental Criteria

		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.4 a	Promote the development of medium to high densities at a plot ratio of up to 2.5:1 at appropriate locations	+	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–	–	–	+	+	+	–	?	–	–
3.4 b	Allow increased plot ratios of up to 3:1 in exceptional circumstances where there are significant benefits to the area	+	–	–	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–	–	–	+	+	+	–	?	–	–

Figure 4 Appraisal of density and intensity objectives

Building Height and Massing Objectives — Environmental Criteria

		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.5 a	Allow a maximum height of 6 storeys residential (plus set-back storey) or five storeys commercial (plus set-back storey) along the waterfronts	+	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–
3.5 b	Allow a maximum height of four storeys residential (plus set-back storey) or three storeys commercial (plus set-back storey) at areas adjacent to Marsh road, North Strand and the Viaduct	+	+	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	+	+	–	–	–	–	–

Figure 5 Appraisal of building height and massing objectives

– Neutral effect
\+ Positive effect
? Uncertain effect
x Negative effect

Urban Structure Objectives

Environmental Criteria

		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
3.6 a	Create a new pattern of streets and spaces that is integrated with the existing network	–	–	–	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	–	–	+	+	+	+	–	–	–
3.6 b	Create a new and continuous waterfront on the north and south quays	–	–	–	?	?	–	+	–	–	–	–	–	+	–	–	–	–	–	–	–	+	+	+	+	–	–	–
3.6 c	Create a new spine street running paralell and between the waterfront and Marsh Road	–	–	–	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	–	–	–	+	+	+	–	–	–
3.6 d	Create a network of north-south link streets that provide access from Marsh Road to the waterfront	–	–	–	–	–	–	+	–	–	–	–	–	+	–	–	–	–	–	–	–	–	+	+	+	–	–	–

– Neutral effect
+ Positive effect
? Uncertain effect
x Negative effect

Figure 6 Appraisal of urban structure objectives

The assessment of the Plan revealed some conflicts between environmental criteria and the objectives of the Plan. For this reason, measures that seek to mitigate the effects of these objectives were formulated. In some cases this involved making significant changes to the Plan. In instances where objectives were thought to have uncertain environmental effects, additional policies were formulated. The mitigation measures identified are described in the following sections.

8.1 Environmental criteria SED1 and SED2

The assessment of objectives 3.3j and 3.3k found that proposals to develop a weir east of the viaduct were in conflict with environmental criteria to protect the habitats and species of the river Boyne and estuary. Although it is beyond the scope of this assessment to establish the extent of these effects, it has been decided to remove any immediate objectives to develop a weir from the Plan. It is proposed that the development of the weir become a medium-term objective of the Plan subject to further environmental investigations.

It is anticipated that objective 3.1d, which seeks to construct new quay walls, will in the course of construction have uncertain effects on the habitats and species of the river Boyne. Construction of the new quay wall should be in accordance with the recommendations of the Environmental Authorities.

Objective 3.2l, which seeks to provide opportunities for crossing the river, will also require that the recommendations of the Environmental Authorities be sought.

8.2 Environmental criteria ARC1

Many of the objectives of the Plan may have uncertain effects on undiscovered archaeological remains. It is therefore the recommendation of this report that any development to take place within the zone of archaeological potential for Drogheda town (LH024-041) and the remaining Area is subject to archaeological investigations such as testing. Testing should be accompanied by a desktop study to trace the development of a particular site. An archaeologist under license to the Department of Environment, Heritage and Local Government should carry out these investigations. Full provision should always be made for the resolution of any archaeological deposits or features that may be discovered.

It is recommended that any development that involves the alteration of the Boyne riverbed is subject to a preliminary archaeological assessment. This requires that an archaeologist licensed to the Department of Environment, Heritage and Local Government carries out an underwater dive survey and metal detector survey on any part of the riverbed to be impacted.

8.3 Environmental criteria SG2

As previously noted, establishing the detailed extent of possible soil contamination in the Area is beyond the scope of this report. It is therefore necessary that all proposals, including those for the provision of main service infrastructure, establish the existence and extent of possible soil contamination and where necessary, carry out remedial action, prior to commencing works.

8.4 Environmental criteria SW1

The Plan will involve the development of large areas of hard landscaping that will have an impact on the level of surface water generated in the Docklands Area. This will require the drainage of surface water from the Area directly to the river Boyne. The policies of the Plan will provide for the application of Sustainable Urban Drainage Systems to all developments in the Area in order to minimise the effects of flooding on the river Boyne and to increase the quality of discharged water.

8.5 Environmental criteria F1

Several of the Plan objectives will have an effect on, and be impacted by, the effects of flooding. As previously noted, the use of hard landscaping will generate additional surface water. Mitigation measures for this purpose have been described in the previous section.

The land use objectives for the Area may be impacted by flooding prior to the completion of a new quay wall. It would therefore be prudent to adopt the following measures to minimise the effects of future flooding events:

:: Set the ground floor level and any access to basements of new developments above 3.6m O.D. Designers of developments should be satisfied that this level is sufficiently high to avoid possible future flooding;
:: Provide for separate drainage systems for foul and surface water drainage in all new developments within the town area;
:: Incorporate the principles of Sustainable Urban Drainage Systems into the drainage designs of all new developments in order to reduce peak flows, and
:: Provide new foul and surface water collection systems within the Area in order to relieve the existing system and reduce pollution from foul sewage discharges to the environment.

Particular attention should be paid to the design of quay walls at the head of Ship Street where the risk of flooding is high.

Objectives to provide two new bridges will almost certainly require some bridge structures (piers) to be placed within the River. It is anticipated that hydraulic and hydrological analysis will be carried out prior to construction as part of the bridge design. As there is a constriction in the river channel further downstream, east of the Area, it is not anticipated that the bridges will have adverse effects on flooding. This should be confirmed by hydraulic and hydrological studies.

9 Monitoring

It is a requirement of Article 10 of the EU Directive on SEA that Member States monitor the significant environmental effects of the implementation of plans in order to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.

For the purposes of monitoring the implementation and effects of the Plan, it is recommended that a Review Group is established. This group should be established by Drogheda Borough Council, and should include the Environmental Protection Agency and other relevant agencies to ensure the implementation of the Plan does not compromise the environmental criteria identified for the Area.

As part of the monitoring process, the Review Group will seek to:

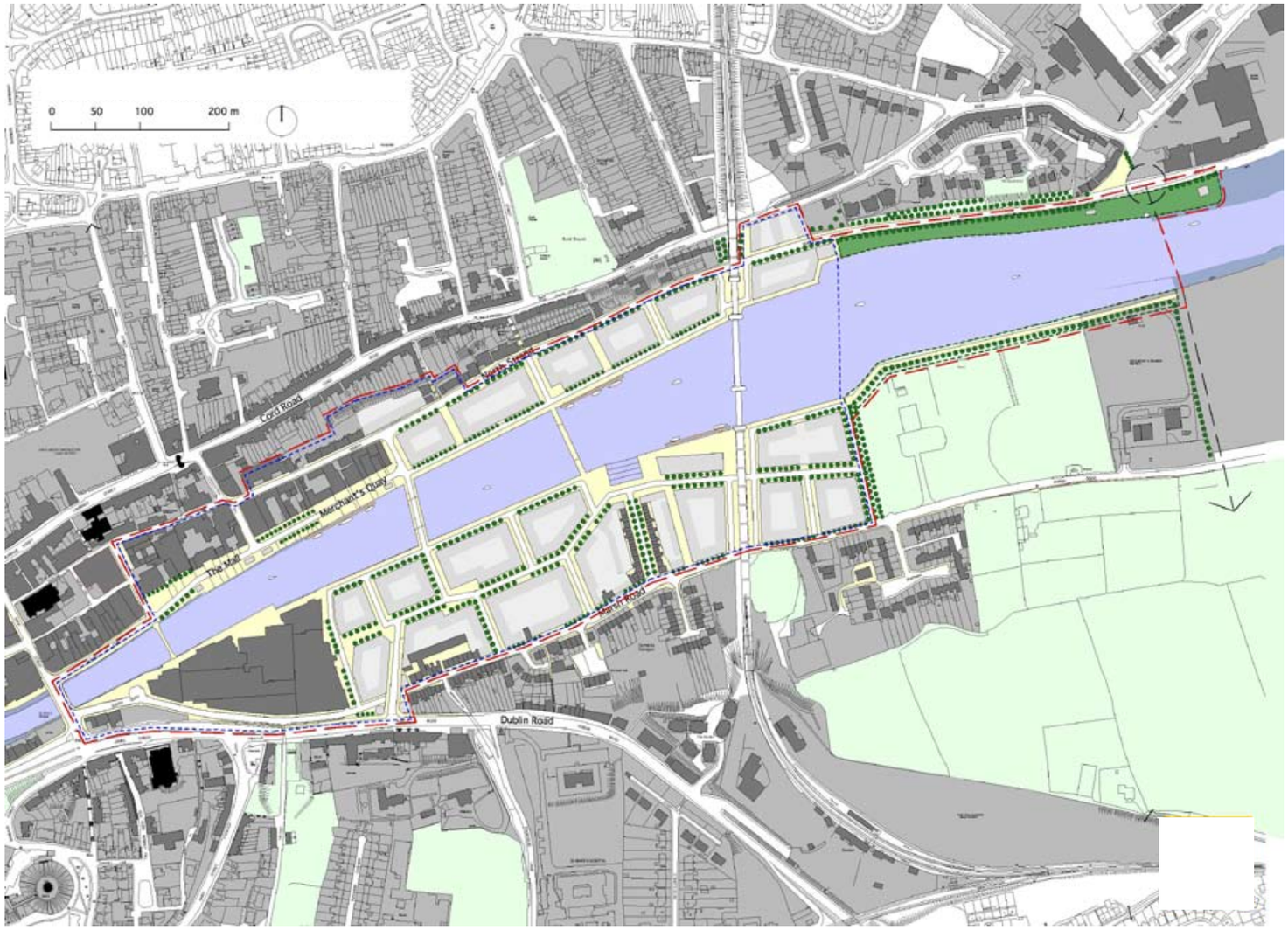
:: Carry out appropriate survey work and collate the necessary data required to effectively monitor the environmental effects of the Plan.
:: Prepare an annual monitoring report on the implementation of the DAP.

The areas to be considered in the monitoring of the Plan will broadly include heritage, movement and access, land use, density and intensity, building height, massing and urban structure.

Monitoring will have particular regard to the key issues identified in the assessment of the Plan, including special environmental designations, archaeology, water quality, flooding, air quality and traffic.

This report finds that the Plan, as informed and amended by the SEA, represents a strategic framework for the proper planning and sustainable development of the Area. The assessment of the Plan found that, on balance, the Plan has positive environmental effects on the Area and Drogheda as a whole. Where negative effects are expected, mitigation measures are identified and the policies and objectives of the Plan adjusted accordingly.

DAP Area and Indicative Framework



Bodies consulted during the SEA and Plan Preparation Process

Department of Communications, Marine and Natural Resources
Department of the Environment, Heritage and Local Government
Environmental Protection Agency
Heritage Council
Drogheda Port Authority
WSP Consultants
Irish Rail
ESB Networks
Bord Gais
An Taisce
Louth County Council
Bus Eireann
Boyne River Rescue
Border, Midland, Western Regional Authority
Eircom
Drogheda Chamber of Trade
Drogheda Chamber of Commerce
Drogheda Trades Council
Office of Public Works

Appraisal of Alternative Plans

– Neutral effect
\+ Positive effect
? Uncertain effect
x Negative effect

Alternative Plans | Environmental Criteria

		PD1	PD2	PD3	SED1	SED2	ACA1	ACA2	ARC1	SG1	SG2	AQ1	AQ2	AQ3	AQ4	SW1	SW2	GW1	WS1	FF1	FF2	UQ1	UQ2	TC1	TC2	F1	FD1	SD1
6.1	Evolution without implementation of the DAP	x	x	x	–	–	x	x	–	–	x	–	–	x	–	–	–	–	–	–	–	x	x	x	x	–	x	x
6.2	Low to medium scale and intensity of development	+	x	+	–	–	+	+	–	–	+	–	–	x	–	–	–	–	–	–	–	+	+	x	+	–	–	–
6.3	Ad hoc development	+	x	x	x	x	–	x	–	+	+	–	?	?	–	–	–	?	–	?	?	x	x	?	?	?	–	–

Loci

4 Lower Ormond Quay Dublin 1 Ireland phone +353 1 887 4448 fax +353 1 872 8383 e-mail info@loci.ie url www.loci.ie