

DUNBOYNE, CLONEE & PACE LOCAL AREA PLAN

STRATEGIC ENVIRONMENTAL ASSESSMENT

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incorporating assessment of
proposed material amendments
to Draft Local Area Plan

Technical Report Prepared For

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Our Reference

BT/09/4673WR01

Date Of Issue

16 July 2009

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NON TECHNICAL SUMMARY

1.0 Introduction

AWN Consulting Ltd. (AWN) has been commissioned to undertake a Strategic Environmental Assessment (SEA) of the Local Area Plan (LAP) of Dunboyne, Clonee and Pace, Co. Meath.

Strategic Environmental Assessment (SEA) is a process for evaluating at the earliest appropriate stage, the environmental quality, and consequences of policies, plans or programmes.

Screening is the term given to the process where the need for an SEA of a given plan or programme (P/P) is considered. Meath County Council (the Authority) considers that the preparation of the LAP for Dunboyne, Clonee and Pace requires an SEA to be undertaken, on the basis that the population exceeds the 10,000 persons threshold.

Scoping is the term applied to the consideration of the range of environmental issues that will be addressed in the Environmental Report of the SEA. While it is not a legal requirement it will ensure that all relevant environmental issues are properly addressed and determine the level of detail that will be provided in the Environmental Report.

The key environmental issues were identified through consultation with Meath County Council.

The methodology for SEA scoping was based on a combination of review of available SEA guidance, review of previous Environmental Reports in conjunction of examination of existing documents from the study area.

The Strategic Environmental Assessment (SEA) of the Draft Local Area Plan (LAP) was included in the Draft Plan published for public consultation by the County Council on 16 March 2009. The implications to this assessment as a result of the proposed modifications to the Draft LAP have been considered from an environmental perspective. These implications are included in this report in **bold italic text on pages 20 and 33**. This report should be read in conjunction with the Manager's Report prepared in respect of this Draft LAP.

2.0 Contents of Environmental Report

The required contents of an SEA Environmental Report can be found in Schedule 2B of the *Planning and Development (Strategic Environmental Assessment) Regulations 2004* and include an outline of the contents and main objectives of the plan or programme, the relevant aspects of the current state of the environment and the environmental characteristics of areas likely to be significantly affected.

3.0 Dunboyne, Clonee & Pace LAP Aims and Objectives & links to other environmental protection objectives

Section 10 of the *Planning & Development Act, 2000* sets out mandatory objectives, which shall be included in a Development Plan. This includes the zoning of land, the provision of infrastructure and the conservation and protection of the environment.

Numerous policy perspectives in the preparation of the Dunboyne, Clonee & Pace LAP were considered including the *Sustainable Development: A Strategy for Ireland 1997*, *National Development Plan 2007 – 2013* and *National Spatial Strategy 2002-2020*.

4.0 Consideration of Alternatives

With regard to the Dunboyne, Clonee & Pace LAP, no specific alternatives were considered but environmental considerations were considered through internal consultations within Meath County Council during the development of the LAP.

The key land use locations within the LAP area were selected on the basis of:

- Minimisation of impacts on environmental designations (pNHAs, aquifer protection areas etc.);
- Consideration and compatibility with neighbouring land uses; and
- Proximity to strategic infrastructure network.

5.0 Baseline Environment

5.1 Biodiversity & Flora and Fauna

There are no sites with special designations to protect natural heritage nor are there Areas of Geological Interest, as per the recent Geological Survey of County Meath, within the LAP area.

5.2 Human Beings

The population of Dunboyne Electoral Division (ED) in 2006 increased by 21.4% from 2002. This represents a significant slowdown from the 74.1% rate of increase experienced between 1996 and 2002. The population of Clonee is recorded at 1,000 in the 2006 census reflecting a significant increase. The bulk of the population growth is directed to the urban centre of Dunboyne.

In Dunboyne ED, the employment increased by almost 22% from 2002 to 2006. The overall participation rate in Meath increased by 9.4% while for Dunboyne it increased by 1.4% from the years 2002-2006.

The current provision of public open space, zoned as such in Dunboyne is 18 hectares. In Clonee, there is a lack of publicly accessible communal open space. Apart from the tennis club and pitch and putt club, the majority of the public open space zoned lands are in agricultural use.

5.3 Soils & Geology

According to the Soils Map of Ireland the LAP area lies on grey brown podzolics. The lighter texture grey brown podzolics are good all-purpose soils, while the heavier textured members are highly suited to pasture production.

The bedrock geology of the LAP area is dominated by rocks of Carboniferous Period. The site proposed for development rests on limestone bedrock from the Lower Carboniferous period.

5.4 Water

The LAP area falls within the remit of the recently published Eastern River Basin District (ERBD) Draft River Basin Management Plan, which was prepared in accordance with the Water Framework Directive. The ecological status of surface waters in the LAP area was found to be 'Moderate' or 'Bad', while groundwater in the LAP area was found to be of 'Good' status.

The groundwater vulnerability map for the LAP area shows that the area overlies an aquifer classed as predominantly low vulnerability with an area of moderate/high vulnerability to the north and south of Dunboyne. The aquifer is of Local Importance and is classified as being generally moderately productive.

The Tolka River flows through Dunboyne from the west, on towards Clonee and then into Fingal County. A significant portion of the central area of the LAP area comprises the flood plain of the Tolka. While river flows can be relatively low during dry weather periods, serious flooding of both settlements and the surrounding area has been caused by during extreme rainfall events. In response to the flood event of November 2002, The River Tolka Flood Study, 2003 was undertaken to assess flooding issues and to propose alleviation works along the Tolka from lands immediately west of Dunboyne to Dublin City Centre. The majority of these works have been completed.

5.5 Air & Climate

The major source of air pollution within the Dunboyne / Clonee / Pace LAP Area is road traffic, specifically that on the N3 (and in future the M3 Clonee to North of Kells Scheme). The highest levels of air pollution are experienced along the N3 national primary route and the R156 and R157 regional roads (particularly in Dunboyne).

5.6 Noise

The noise climate within the LAP is dominated by road traffic noise from the N3, which serves as the main traffic artery route between Navan and Dublin, with a high proportion of heavy vehicle traffic. Away from the close proximity to the roads local noise sources are from shops and restaurants, local traffic, community noise and distant sources such as noise from the N3

5.7 Material Assets

The terms material assets covers a wide range of items in the LAP area such as infrastructure, buildings, transport and natural resources. The existing material assets will be utilised, upgraded, and protected where applicable, in the future development of the area.

5.8 Cultural Heritage

Both Dunboyne and Clonee have a distinct character of their own. There are number of structures within the LAP area on the Record of Protected Structures as well as other buildings of architectural, artistic, cultural or historic interest within the LAP area.

5.9 Archaeological Heritage

There are a number of archaeological sites in the LAP area; however, many of these have little in the way of extant remains.

5.10 Landscape

The Landscape Character Assessment by Meath County Council, in 2007 places a value on each landscape character area, ranging from 'Exceptional' to 'Low'. Lowland Landscapes in the Dunboyne area ranged in classification from low to very high.

6.0 **Predicted Significant Effects on the Environment and Mitigation**

This section highlights the predicted significant effects on the environment of the implementation of the LAP and associated mitigation measures if applicable.

The policy and objective assessment process is based on a matrix-type assessment, whereby each policy is individually assessed against SEA assessment criteria. The criteria have been developed following a review of SEA guidance, both from Ireland and the UK, and recent examples of SEA's in Ireland. The following criteria were used:

Biodiversity, fauna & flora

Conserve and promote the diversity of habitats, protected/designated conservation areas and protected species

Human Beings

Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns

Promote social inclusion for all

Reduce and prevent crime and the fear of crime

Promote existing and new recreational, nature/wildlife, open space and community facilities

Noise and Vibration

Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry

Water

Promote sustainable water consumption patterns, based on long-term protection of available water resources

Reduce progressively discharges of polluting substances to all waters

Protect all sources of public drinking water supply

Soil

Maintain the quality of soils

Give preference to the re-use of brownfield lands, rather than developing of greenfield lands

Minimise the consumption of non-renewable sand, gravel and rock deposits

Minimise the amount of waste sent to landfill

Air & Climate

Reduce all forms of air pollution

Minimise emissions of greenhouse gases to contribute to the reduction and avoidance of human-induced global climate change

Reduce energy consumption patterns and maximise the use of renewable energy sources with respect to climate change

Material Assets

Maximise use of existing built environment
Avoid flood risk in selecting sites for development

Cultural Heritage

Promote the protection and conservation of cultural, architectural and archaeological heritage resources

Landscape

Conserve and enhance values and historic landscapes, and features within them
Promote conservation and enhancement of townscapes and the urban environment

7.0 Monitoring

Monitoring of the LAP area is essential to ensure that the environment is not adversely affected through the implementation of the LAP. Meath County Council will work with other agencies to gather data for the purposes of monitoring the implementation of the LAP.

7.1 Biodiversity & Flora and Fauna

A monitoring programme will be established by Meath County Council within the lifetime of the LAP. Habitat loss, habitat deterioration, loss in biodiversity, protected species and protected areas will be monitored. This programme shall be undertaken in consultation with the Biodiversity Officer and Heritage Officer of Meath County Council and in conjunction with the National Parks and Wildlife Service, Eastern Regional Fisheries Board and Birdwatch Ireland.

7.2 Human Beings

The LAP has taken into account and addressed issues relating to transportation, local service facilities, provision of pedestrian and cyclist facilities, provision of public open spaces and creation of high density well designed residential and urban quarters.

7.3 Soils and Geology

During the construction of proposed developments, it is recommended that a monitoring programme be put in place with regard to the potential for soil contamination from construction materials.

7.4 Water

Monitoring of all water bodies in the LAP area will be undertaken by Meath County Council in conjunction with the EPA at regular intervals. Water quality monitoring is required to protect and enhance the status of aquatic ecosystems with regard to their water needs.

In order to avoid flooding of developed areas while maintaining natural flood plains and avoid unnatural alterations to drainage systems which affect river flows the potential flood risk of proposed development will be monitored. This will be carried out by Meath County Council in conjunction with the Office of Public Works.

7.5 Air and Climate

Continuous EPA monitoring is carried out at a range of Zone C towns and both urban and rural Zone D locations using continuous monitors in 2007. Although no EPA or Local Authority monitoring has been carried out within the region of the Dunboyne / Clonee / Pace LAP, data from the Zone C and D locations can be used to provide an indication of the prevailing air quality conditions in the region.

7.6 Noise

Any noise complaints and/or noise nuisance issues will be dealt with by Meath County Council throughout the lifetime of the LAP.

7.7 Material Assets

Meath County Council will monitor the use of SUDS on all proposed developments at a planning and design stage.

Meath County Council water supply is not fully within the control of the Council. It is therefore recommended that a study be carried out for during the lifetime of the LAP to assess the future water supply in the area. Potential water losses and water quality will need to be monitored. This will be carried out in conjunction with other relevant local authorities and the EPA.

Monitoring will be carried out by Meath County Council to ensure that all zoned lands are connected to public sewer network ensuring treatment of wastewater prior to discharge. This will improve treatment at wastewater treatment facilities and limit potential pollution sources in vulnerable areas.

7.8 Cultural Heritage

Meath County Council will monitor all recorded buildings, monuments and areas of importance. This will be carried out in conjunction with other relevant local authorities and the DoEHLG.

7.9 Archaeological Heritage

it is recommended that a series of 'qualitative' indicators be drafted to monitor the effects of the Plan with regard to the architectural heritage. This will be carried out by Meath County Council and DoEHLG.

7.10 Landscape

In order to conserve and enhance valued natural landscapes and the features within them and protect and enhance the sustainable amenity value of water bodies, rivers, and wetlands in the area, Meath County Council will monitor all planning applications to prevent unacceptable alterations to landscape character.

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INTRODUCTION

AWN Consulting Ltd. (AWN) has been commissioned by Tiros Resources Ltd. to undertake a Strategic Environmental Assessment (SEA) of the Local Area Plan (LAP) for Dunboyne, Clonee and Pace, Co. Meath (2009 – 2015). This report describes the SEA process and documents its findings.

The LAP area is located at the edge of the Metropolitan Area of Dublin City, 13km from Dublin City Centre and 27km from Navan on the N2 corridor. It is 4 km from Blanchardstown. In terms of geographical area, the area is predominantly agricultural (75%), with urban & associated land uses comprising circa 15%. It is estimated that 5% of the land outside of the 2 no. main settlements of Dunboyne and Clonee is in residential use unrelated to agriculture.

1.1 Introduction to Strategic Environmental Assessment (SEA)

Directive 2001/41/EC environmental assessment of the effects of certain plans and programmes on the environment ("SEA Directive") came into force in Ireland on 21st July 2004. The SEA Directive applies to plans and programmes for which the first formal preparatory action is taken on or after 21 July 2004. The SEA Directive has been transposed into Irish Law through the following Regulations:

- *European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004); and*
- *Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436 of 2004).*

The main objective of the SEA Directive is to “*provide for a high level of protection for 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.*” There are four main requirements of the SEA Directive:

- The preparation of an Environmental Report, where the likely significant environmental effects are identified and evaluated.
- Consultation with the public, environmental authorities, and any EU Member State affected, on the environmental report and draft plan or programme.
- Consideration of the findings in the Environmental Report and the outcome of the consultations in deciding whether to adopt or modify the draft plan or programme.
- Publicising the decision on adoption of the plan or programme and how the SEA influenced the outcome.

It is widely believed that such environmental effects cannot be adequately addressed through project-level Environmental Impact Assessment (EIA), hence the development of the SEA Directive and associated methodology. It is intended that the application of SEA will lead to more sustainable development through the systematic appraisal of policy options. Ultimately, SEA seeks to address the more strategic environmental issues (such as cumulative and synergistic environmental impacts) through this ‘high-level’ form of appraisal.

1.2 Progress to Date

The publication of this Environmental Report was preceded by a number of earlier stages in the SEA process, as follows (from ‘*Assessment of the Effects of Certain Plans and Programmes on the Environment*’; Department of the Environment, Heritage and Local Government, 2004):

1. Screen certain plans (such as some Development Plans, Variations of Development Plans and Local Area Plans) to decide if SEA is necessary;
2. Where SEA is required, scope the Environment Report;
3. Collect baseline environmental data;
4. Prepare the Environment Report;
5. Consultation with designated environmental authorities, the public, and (if necessary) adjacent EU Members;
6. Provide specified information to the public, environmental authorities and any transboundary States, following adoption of the plan; and
7. Monitor the significant environmental effects of implementing the plan

1.3 SEA Screening Process

Screening is the term given to the process where the need for an SEA of a given plan or programme (P/P) is considered. Plans and Programmes can vary hugely in size and appearance. For the purposes of the SEA Directive, P/Ps are defined as:

“P/Ps shall mean plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- *which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and*
- *which are required by legislative, regulatory or administrative provisions.”*

Article 13A of the SEA Regulations refers to the “*determination of need for environmental assessment (i.e. SEA) of [a] development plan*”, i.e. SEA screening. The Article states that SEA is mandatory for specific development plans, and discretionary for others (depending of the potential for significant environmental effects).

In Ireland SEA is mandatory under the Regulations above for the following plans:

- Regional Planning Guidelines,
- City and County Development Plans,
- Development Plans by Town Councils, where the population of the area is 10,000 persons or more,
- LAPs for areas with a population of 10,000 persons or more, and
- Planning Schemes in respect of Strategic Development Zones (SDZs).

Meath County Council (the Authority) considers that the preparation of the LAP for Dunboyne, Clonee and Pace requires an SEA to be undertaken, on the basis that the population exceeds the 10,000 persons threshold. Section 3.4 of the SEA Directive Guidelines for Regional Authorities and Planning Authorities (November 2004, published by the Department for the Environment, Heritage and Local Government) states that “*if the planning authority considers there is a prima facie case for SEA, it should proceed to the scoping stage*”.

1.4 SEA Scoping

Scoping is the term applied to the consideration of the range of environmental issues that will be addressed in the Environmental Report of the SEA. It is not a legal requirement of the SEA Regulations, but is recommended as good practice. Scoping is a vital stage with respect to defining the scope and form of the SEA process. This will ensure that all the relevant environmental issues are properly addressed. The scoping stage of an SEA will also determine the level of detail that will be provided in the Environmental Report.

1.5 Key Environmental Issues

The key environmental issues were identified through consultation with Meath County Council.

The methodology for SEA scoping was based on a combination of:

- Review of available SEA guidance, both from Ireland and the UK;
- Review of previous Environmental Reports and other SEA documents;
- Examination of existing documentation from the study area; and
- AWN's experience in the field of SEA practice.

The key environmental issues for consideration in the preparation of the LAP are:

- The impact of an increasing population on existing services, facilities and housing
- Protection of the groundwater resource and water supply to the LAP area
- Protection of Dunboyne from potential flooding of the River Tolka
- Wastewater treatment capacity for the town
- Management of traffic volumes within and through the LAP area and provision of public transport infrastructure and for pedestrians/cyclists
- Preservation of the cultural heritage of the LAP area
- Landscape character of the LAP area

In order to address the key environmental issues identified above, the following environmental aspects are assessed in the SEA:

- Biodiversity and flora and fauna
- Human beings
- Soils and Geology
- Water
- Air and climate
- Noise
- Material assets
- Cultural heritage
- Landscape

1.6 SEA Scoping Consultation

The following organisations have been contacted with regard to scoping the SEA:

- Environmental Protection Agency (EPA)
- Department of Environment Heritage and Local Government (DoEHLG)
- Department of Communications Energy and Natural Resources

- Office of Public Works, flood relief division
- National Parks and Wildlife Service
- Eastern Regional Fisheries Board
- Department of Transport
- National Roads Authority
- Heritage Council
- Fáilte Ireland

2.0 CONTENTS OF THE ENVIRONMENTAL REPORT

The contents of the SEA Environmental Report can be found in Schedule 2B of the *Planning and Development (Strategic Environmental Assessment) Regulations 2004* (listed below), which itself based on Annex I of the SEA Directive.

The following information shall be contained in an environmental report:

- (a) An outline of the contents and main objectives of the plan or programme, or modification to a plan or programme, and relationship with other relevant plans or programmes
- (b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme, or modification to a plan or programme
- (c) the environmental characteristics of areas likely to be significantly affected
- (d) any existing environmental problems which are relevant to the plan or programme, or modification to a plan or programme, including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or the Habitats Directive
- (e) the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan or programme, or modification to a plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation
- (f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors
- (g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme, or modification to a plan or programme
- (h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information
- (i) a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan or programme, or modification to a plan or programme
- (j) a non-technical summary of the information provided under the above headings.

The Environmental Report shall be structured as follows:

- Section 3.0 Dunboyne/Clonee & Pace LAP aims, objectives, links to other environmental protection objectives.
- Section 4.0 Consideration of Alternatives in the Dunboyne/Clonee & Pace LAP development.
- Section 5.0 Baseline environmental conditions and problems; future baseline conditions.
- Section 6.0 Predicted Significant Effects on the Environment and Mitigation
- Section 7.0 Monitoring

3.0 DUNBOYNE, CLONEE & PACE LAP AIMS AND OBJECTIVES, AND LINKS TO OTHER ENVIRONMENTAL PROTECTION OBJECTIVES

3.1 Aims and Objectives of LAP

Section 10 of the *Planning & Development Act, 2000* sets out mandatory objectives, which shall be included in a Development Plan. These are summarised as follows:

- The zoning of land for the use solely or primarily of particular areas for particular purposes where to and to such extent as the proper Planning and sustainable development of an area requires the uses to be indicated;
- The provision or facilitation of the provision of infrastructure;
- The conservation and protection of the environment;
- The integration of the planning and sustainable development of the area with the social, community and cultural requirements of the area and its population;
- The preservation of the character of the landscape and the character of architectural conservation areas;
- The protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest;
- The development and renewal of areas in need of regeneration;
- The provision of accommodation for Travellers;
- The preservation, improvement and extension of amenities and recreational amenities;
- The provisions of the *Major Accidents Directive (Directive 96/82/EC)*;
- The provision or facilitation of provision of services for the community;
- The protection of the linguistic and cultural heritage of the Gaeltacht, where applicable.

3.2 Relevant Environmental Protection Objectives

The following policy perspectives in the preparation of the Dunboyne, Clonee & Pace LAP were considered.

- *Sustainable Development: A Strategy for Ireland 1997*, which provides a framework for the achievement of sustainability at a local level.
- *National Development Plan 2007-2013* is an investment plan, which outlines the government's approach to growth and development on a national level over the 6-year period.

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- *National Spatial Strategy 2002-2020* adds a spatial dimension to social and economic planning in Ireland. It provides a national framework for regional, county and town plans in relation to policy guidance for the long-term development of Ireland.
 - *Transport 21* forms part of the National Development Plan, providing the investment framework for infrastructural development and details specific infrastructural proposals.
 - *Regional Planning Guidelines for the Greater Dublin Area 2004 – 2016* provide a planning framework for the Greater Dublin Area (GDA) and give regional effect to the National Spatial Strategy by developing its policies within the regional context.
 - *Local Agenda 21* identifies the principles for the involvement and participation of local communities in the local democratic process. Meath County Council is committed to the objectives of Local Agenda 21 as indicated in the guidelines “*Towards Sustainable Local Communities*”.
 - *The National Biodiversity Plan 2002* which aims at the conservation including where possible the enhancement and sustainable use of biological diversity in Ireland and to contribute to the conservation and sustainable use of biodiversity globally.
 - *The Draft County Meath Heritage Plan 2007-2011* sets out a clear and coherent strategy and framework for the protection and enhancement of heritage over 4 years.
 - Ministerial Guidelines and Directives including those on Housing Strategies, Retail Planning, Childcare, Residential Density, Transport, Architectural Conservation, Landscapes, Sustainable Rural Housing Guidelines and Strategic Environmental Assessment Guidelines. Due regard will be taken of all future amendments during the plan period.

4.0 CONSIDERATION OF ALTERNATIVES

The consideration of alternatives is an important part of the SEA process. The aim of the consideration of alternatives is to look at differing ways to achieve a stated objective or intention. Through considering alternatives, it may be possible to achieve the overall goal whilst minimising environmental effects.

Regarding the Dunboyne, Clonee & Pace LAP, no specific alternatives were explicitly considered. Instead, environmental considerations were considered through internal consultations within Meath County Council during the development of the LAP. This section shall summarise how environmental considerations were taken into account during the development of the Dunboyne, Clonee & Pace LAP – a key objective of the SEA Regulations.

The key landuse locations within the LAP area were selected on the basis of:

- Minimisation of impacts on environmental designations (pNHAs, aquifer protection areas etc.);
- Consideration and compatibility with neighbouring landuses; and
- Proximity to strategic infrastructure network.

These factors were used in drafting the draft Dunboyne, Clonee & Pace LAP, the policies of which were assessed against environmental assessment criteria.

5.0 BASELINE ENVIRONMENT

5.1 Biodiversity & Flora and Fauna

There are no sites with special designations to protect the natural heritage (for example, candidate Special Area of Conservation (SAC), Special Protection Area (SPA), Natural Heritage Area (NHA)) within the LAP area. Nor are there Areas of Geological Interest, as per the recent Geological Survey of County Meath, within the LAP area. However nature conservation is not confined to designated sites, as wildlife heritage is found throughout urban and rural areas.

5.2 Human Beings

The LAP area lies entirely within the Dunboyne Electoral Division (ED); however, no data relating solely to the LAP area is available from the Census or Central Statistics Office (CSO). As such the population for the LAP area was derived from the 2006 Census, the CSO Small Area Population Statistics (SAPS) and from the GeoDirectory Data from An Post. The towns of Dunboyne and Clonee form part of the overall ED for Dunboyne, which also includes the rural hinterland.

5.2.1 Population

The population of Dunboyne ED was recorded at 8,702 in 2006, an increase of 21.4% on the 2002 figure of 7,757. This compares to an increase of just over 30% in Navan Town and its Environs and 10.5% in Dunshaughlin Town and represents a significant slowdown from the 74.1% rate of increase experienced between 1996 and 2002. The population of Clonee is recorded at 1,000 in the 2006 census. This reflects a significant increase from the population of 173 recorded in the 2002 census. Table 5.1 shows the population of County Meath and the LAP area

	2002	2006	Change 2002 – 2006	
			Actual	Percentage
County Meath	134,005	162,621	28,826	21.4
Dunboyne ED	7,757	8,702	945	12.2
Local Area Plan	5,919	7,335	1,416	23.9
Dunboyne Town	5,363	5,713	350	6.5
Clonee Town	173	1,000	827	478

Table 5.1 Population of County Meath, Dunboyne Town, Dunboyne ED, Clonee Town and Local Area Plan Area, 2002 and 2006

Source: Central Statistics Office (CSO): 2002, 2006 Census

A comparison on the rate of growth between the rural and urban areas indicates the limited expansion in the population in rural areas and that, in line with policy on rural housing, the bulk of the population growth is directed to the urban centre of Dunboyne.

5.2.2 Employment

The labour force comprises the total number of people at work, the number of unemployed and the number of first time job seekers. In 2006, the size of the labour force in Meath was 83,920 and in the Dunboyne ED it was 4,363. This represents an increase from 63,134 and 3,587, respectively on the 2002 figure. The overall participation rate in Meath was 67.5% in 2006, an increase from 61.7% in 2002. The comparable figures for the Dunboyne ED were 70% and 69%, respectively. The unemployment rate in Meath remained static during the period 2002 – 2006 at 6.5%. In the Dunboyne ED, the number of unemployed people (including first time job-seekers) increased slightly from 3.84% to 4.90% over the 2002-2006 period. The

number of people employed, however, increased by 20.2%. The corresponding figure for Meath was a very significant 36%.

5.2.3 **Prevention of Major Accidents**

There are three sites within the Damastown area within Fingal County Council adjacent to the LAP boundary, one of which is a notified upper tier Seveso site (EU Seveso II Directive (96/082/EEC)), and two notified lower-tier Seveso Site. While these sites are located outside the development boundary of LAP, it is important to note that some restrictions apply to proposed land uses in the surrounding area of a designated Seveso site, as identified by the Health and Safety Authority.

5.2.4 **Open Space and Amenities**

The current provision of public open space, zoned as such in Dunboyne is 18 hectares. In addition, there is some 5 hectares, which is publicly accessible open space, but not zoned as such. There are a number of sporting facilities in Dunboyne, including the GAA club, Soccer club, Athletic Club and Tennis Club. The provision of a playground and skate park to the park to the north of Dunboyne Castle Hotel is a welcome development.

In Clonee, there is a lack of publicly accessible communal open space. The tennis club and pitch and putt club provide an amenity to the community, but the majority of the public open space zoned lands are in agricultural use, and have been so zoned to serve as a visual amenity and buffer to residentially zoned lands rather than as a community resource.

5.3 **Soils and Geology**

5.3.1 **Soils & Subsoils**

The Teagasc Soil Map of Ireland shows the LAP area to be comprised of made ground with soil covering the area to be predominantly till derived from Carboniferous limestone. These sedimentary rocks have only been mildly affected by folding and retain many of their original sedimentary and depositional structures.

According to the Soils Map of Ireland the LAP area lies on grey brown podzolics. Grey brown podzolic soils are usually formed from a calcareous parent material, which counteracts the effects of leaching. The lighter texture grey brown podzolics are good all-purpose soils, while the heavier textured members are highly suited to pasture production, responding well to manurial and management practice. See Figure 5.1.

5.3.2 **Geology**

The bedrock geology of the LAP area is dominated by rocks of Carboniferous Period. The site proposed for development rests on limestone bedrock from the Lower Carboniferous (Dinantian) period. See Figure 5.2.

Much of the limestone found in Ireland was formed during the geological Upper Palaeozoic era, when a warm shallow sea covered a large area of what is now Ireland.

Limestone in Ireland was formed during the Carboniferous period, approximately 355 – 290 million years ago, by deposition of calcium carbonate (formed by the deposition

of marine organisms with calcium carbonate shells and skeletons) at the bottom of the sea. During the Carboniferous period in this area, general subsidence permitted the sea to invade the lower ground of the area. Continued subsidence resulted in the laying down of shallow and then deeper marine sediments.

The LAP area is located on the Lucan Limestone Formation, which is comprised of dark grey, well bedded, cherty, graded limestones and calcareous shales. There is a wide variation in grain size, colour and proportion of shale in this formation. The area to the north of the LAP area overlies the Meath Formation which comprises of varied shallow-water lithologies, including micrite, oolite, sandstone, argillaceous fossiliferous limestone, silty limestone and shale.

5.4 Water

5.4.1 Hydrology

The Water Framework Directive (WFD), which is currently being implemented throughout Ireland, requires Member States to implement the necessary measures to prevent deterioration of the status of all bodies of surface water, and protect, enhance and restore all bodies of surface water with the aim of achieving good status by 2015.

The WFD requires good water status for all European waters by 2015 through the implementation of River Basin Management Plans.

The LAP area falls within the catchment of the Tolka River, and is part of the Eastern River Basin District (ERBD). RBDs cross Local Authority boundaries, reflect the natural catchment areas of rivers, and were developed to improve water quality in Ireland in line with EU legislation.

The recently published Draft River Basin Management Plan for the Eastern Region included the results of extensive research and tests on water quality in the ERBD. It highlighted the poor quality of the River Tolka, and set out a series of measures to safeguard or improve their quality. The ecological status of surface waters in the LAP area was found to be 'Moderate' or 'Bad', while groundwater in the LAP area was found to be of 'Good' status. Figures 5.3 and 5.4 shows the water quality and WFD status of the river bodies in the LAP area.

As part of the draft ERBD Management Plan, specific rivers' issues were identified and actions as to improve the water quality were identified. In the Tolka, the problems identified are as follows:

- High Nutrients (Phosphorus and Ammonia)
- Oxygen Demand
- Low Ecological Rating
- Heavily modified channel

The causes of these problems have also been identified, with agriculture the main source, and wastewater and industrial discharges also featuring as a significant contributor.

5.4.2 Hydrogeology

Groundwater can be defined as water that is stored in, or moves through, pores and cracks in sub-soils. The potential of rock to store and transport water is governed by permeability of which there are two types, intergranular and fissure permeability.

The Geological Survey of Ireland (GSI), EPA, and the DoEHLG have developed a programme of Groundwater Protection Schemes, with the aim of maintaining the quantity and quality of groundwater in Ireland, and in some cases improving groundwater quality, by applying a risk assessment approach to groundwater protection and sustainable development.

The Ground Water Protection Scheme divides a chosen area into a number of Groundwater Protection Zones, according to the degree of protection required for the aquifer. To define Groundwater Protection zones, the area is first zoned according to groundwater vulnerability. The flow of groundwater through bedrock in Ireland is almost completely by means of fissure flow. Therefore the main feature which protects groundwater from contamination, and hence the most important feature in protection of groundwater, is the subsoil (which can consist solely of, or mixtures of, peat, sand, gravel, glacial till, clays or silts). Groundwater is most at risk where subsoils are absent or thin and in karstic areas, where surface streams sink underground at Swallow Holes. The area is then zoned according to the degree of importance the aquifer holds; regional, local or not important. Groundwater Protection Zones are then assigned to those aquifers, which are most at risk, and are also important as water supplies.

The Groundwater Protection Scheme for County Meath has been completed under the auspices of Meath County Council. This protection scheme has outlined the degree of vulnerability of the aquifers in the county, and guidelines as to how to protect these aquifers.

Figure 5.5 shows the groundwater vulnerability map for the LAP area under the County Meath Groundwater Protection Scheme. It can be seen from the map that the proposed area overlies aquifer classed as predominantly low vulnerability with an area of moderate/high vulnerability to the north and south of Dunboyne.

Figure 5.6 shows the aquifer classification map for the LAP area. It can be seen that the site overlies an aquifer which is of Local Importance only. It is classified by the GSI as being generally moderately productive.

5.4.3 Flooding

The Tolka River flows through Dunboyne from the west, on towards Clonee and then into Fingal County. A significant portion of the central area of the LAP area comprises the flood plain of the Tolka. While dry weather flow in the river can be relatively low, serious flooding of both settlements and the surrounding area has occurred extreme rainfall events. Historically, the Tolka suffered major floods in December 1954, 6th November 2000 and 28th October 1880.

The flood event of November 2002 was considered a 1:100 year event and caused extensive damage. In response to this The River Tolka Flood Study 2003 was undertaken to assess flooding issues and to propose alleviation works along the Tolka from lands immediately west of Dunboyne up to Dublin City Centre. According to the consultants who piloted the project, the majority of these works have now been completed.

The attenuation of flood water is of considerable importance in the LAP area, to mitigate the effects of the run-off from hard standing and impermeable surfaces in the event of heavy rainfall. Subsequent to the extensive flooding which occurred in 2000 and 2002, substantial flooding alleviation measures were put in place, in line with the River Tolka Flood Study 2003.

It is only possible to minimise the flooding and as such substantial areas around Dunboyne and Clonee will be required as floodplain for the various flood events arising from the Tolka, particularly the 1:100 year event.

5.5 Air and Climate

The major source of air pollution within the Dunboyne / Clonee / Pace LAP Area is road traffic, specifically that on the N3 (and in future the M3 Clonee to North of Kells Scheme). Air quality is variable and subject to significant spatial variation, with concentrations generally falling significantly with distance from major road sources. The highest levels of air pollution are experienced along the N3 national primary route and the R156 and R157 regional roads (particularly in Dunboyne). The remainder of the LAP Area generally experiences rural background concentrations of pollutants.

A review of IPPC licences issued by the EPA for the region shows no IPPC licensed facilities within the LAP Area. However, the IPPC licensed facilities of Kepak Clonee, Mallinckrodt Medical Imaging, Astellas Ireland and Helsin Chemicals are located nearby. The EPA documentation shows that abatement systems and emissions monitoring programmes are required at these facilities to ensure that air emissions do not have significant effects on the environment.

Ireland ratified the United Nations Framework Convention on Climate Change (UNFCCC) in April 1994 and the Kyoto Protocol in principle in 1997 and formally in May 2002(1,2). For the purposes of the EU burden sharing agreement under Article 4 of the Kyoto Protocol, in June 1998, Ireland agreed to limit the net growth of the six GHGs under the Kyoto Protocol to 13% above the 1990 level over the period 2008 to 2012(3,4). The UNFCCC is continuing detailed negotiations in relation to GHGs reductions and in relation to technical issues such as Emissions Trading and burden sharing. The most recent Conference of the Parties (COP14) to the agreement was convened in Poznan, Poland in December 2008.

5.6 Noise

At this strategic level of environmental assessment it is not considered necessary or feasible to establish the baseline noise environment across the LAP area by means noise monitoring surveys. It is however possible to broadly scope the noise environment through examination of the town plan and experience of typical environmental noise landscapes.

The N3 is the primary transport corridor within the Local Area Plan area. The existing N3 dual carriage way bounds Clonee and the village is effectively surrounded by interchange junctions with the road. The noise climate within the village would be expected to be dominated by road traffic noise from the N3, which serves as the main artery route between Navan and Dublin, with a high proportion of heavy vehicle traffic.

The existing N3 runs c. 1km from the centre of Dunboyne. The R157 Maynooth Road/Navan Road and the R156 Dublin Road/Summerhill Road both dissect the centre of Dunboyne and provide access to the N3. It would be expected that road

traffic noise from these two regional roads would be the primary contributor to the overall environmental noise climate throughout the town. However away from close proximity to the roads the noise climate would be expected to be more varied and influenced more by local noise sources such as building services equipment serving shops and restaurants, local traffic, community noise and distant sources such as noise from the N3. Noise levels in the vicinity of industrial and commercial premises may be exposed to operational noise from machinery and delivery lorries along with building services noise.

Although it has not been necessary to determine the localised noise environment in relation to this strategic assessment it should be noted that when assessing individual developments it is important that the local noise environment is adequately classified through appropriate environmental noise measurement survey. Noise measurements should be conducted in general accordance with the guidance set out in *ISO 1996: Acoustics – Description, measurement and assessment of environmental noise - 2008*.

5.7 Material Assets

The terms material assets covers a wide range of items in the LAP area. Material assets are taken to be infrastructure and buildings, transport infrastructure and utilities. Other material assets include natural resources covered in soils, landscape, and water. The existing material assets will be utilised, upgraded, and protected where applicable, in the future development of the area. This section addresses the following with regard to the LAP:

- Surface Water Drainage
- Waste water
- Water Supply
- Transportation
- Power
- Waste Management
- Information and Communications Technology (ICT)

5.7.1 Surface Water Drainage

Rainfall on a Greenfield site is either absorbed into the ground or runs off slowly to the nearest watercourse. With development, much of the LAP area becomes impermeable with runoff being piped to the nearest watercourse or storm drain. Thus both the volume and the rate of runoff can dramatically increase, which may lead to flooding or increased overflows from combined sewers, neither of which is acceptable. It is the policy of the Meath County Council to prevent flooding caused by poorly drained runoff. In order to achieve this, Sustainable Urban Drainage Systems (SuDS) will be incorporated into developments in order to reduce and ultimately prevent flooding. SuDS are effective technologies which aim to reduce flood risk, improve water quality and enhance biodiversity and amenity.

5.7.2 Waste Water

Meath County Council currently exports waste water from Dunboyne and Clonee to Fingal County Council via the '9C' trunk foul sewer at Mulhuddart which is then conveyed through its network to Dublin City Council for treatment at the Ringsend Water Treatment Plant. Meath County Council has recently completed sewer network rehabilitation and upgrading of the existing network in the Dunboyne and Clonee area which has reduced the level of groundwater infiltration and increased capacity.

The design of the sewer pipe system around Dunboyne could accommodate up to 16,000 - 18,000 PE. The drainage agreement in place between Meath County Council and Fingal County Council allows for up to 6,000 P.E. to be exported from Dunboyne and Clone to Fingal County Council.

The '9C' sewer is at capacity but there are plans to provide a duplicate sewer; however this is not expected until 2014. Ringsend Waste Water Treatment Plant is operating above capacity; an extension of the plant is not expected until 2014. This extension and the duplication 9C sewer will provide for population growth to 12,000 persons. A Regional Wastewater Treatment Plant and Orbital Sewer would provide a long term solution but will not be available prior to 2018 as stated in the GDSDS (Greater Dublin Strategic Drainage Strategy).

5.7.3 *Water Supply*

Due to the distance of the corridor from major drainage catchments or surface or ground water abstraction points, the provision of water continues to create difficulties for the development of settlements within the corridor. Providing these services is difficult on both economic and technical grounds necessitating regional solutions involving the co-operation of adjoining Local Authorities. Accordingly, Meath County Council currently imports potable water from Fingal County Council; Dunboyne is supplied at Clonee and Clonee from Coolquay. In 2002 it was calculated that the requirement to serve the then total zoned lands in the Dunboyne area was 5,872 cubic metres per day. While no formal agreement is in place, Fingal County Council has undertaken to provide Meath County Council with potable water up to this requirement until it can become self sufficient in this regard.

In 2005 Meath County Council imported 2,800 cubic metres of potable water per day from Fingal County Council to serve the Dunboyne area. Currently, there is a cap of 3,000 cu. m. per day in place; demand runs at c.1,800 cu. m. per day which has been reduced by c.1,000 cu. m. through the implementation of water conservation techniques. Accordingly, if there is increased demand in the interim it can be accommodated via the existing supply lines.

The current supply exceeds the design capacity of the water treatment plants. It is intended that supply this will be increased to 5,340 cu. m. per day; however, not before 2011 once the Leixlip Water Treatment plant has been upgraded to accommodate it. Upgrading of the Leixlip Water Treatment plant will commence in 2009 and be completed in 2011 and will provide short term improvements, which could cater for a population of approximately. The typical level of unaccounted for water in Meath is 50% due to consumer negligence, leaking pipes or lost through illegal or unknown connections. Unaccounted for water supply in the Local Area Plan area is assumed to be in the region of 40%. Current water conservation projects aim to reduce this to accepted economic levels of leakage which typically range from 25 – 35%.

The existing water supply line will have to be upgraded. The project is included in the Water Services Investment Programme 2007 – 2009. Current cost is €6million, total construction cost is unclear, funds to go to planning are available but not to construction. The longer term solution requires a new major supply source and a public consultation process is currently underway with a possible alternate supply being available from the River Shannon.

The availability of a long term water supply for this area needs to be addressed in conjunction with the phasing of construction of units in the LAP. Existing supply serves the entire LAP area except for the area to the north of the M3.

The supply of water network will be increased once the Leixlip Water Treatment plant has been upgraded. The plant upgrade will commence in 2009 and be completed in 2011 and will provide short term improvements, which could cater for a population of approximately. The upgrading of the existing water supply line is included in the Water Services Investment Programme 2007 – 2009. Current cost is €6 million, total construction cost is unclear, funds to go to planning are available but not to construction.

Current water conservation projects aim to reduce unaccounted for water supply in the Local Area Plan area from in the region of 40%.to accepted economic levels of leakage which typically range from 25 – 35%.

5.7.4 Transportation

Dunboyne lies at the intersection of the R156 and R157 regional roads and is served by Dublin Bus and the regional services operated by Bus Eireann. The town was served by rail until the 1960's as part of the Dublin-Clonsilla-Navan rail link. Finally, it is an objective to reserve potential sites for "Park and Ride" facilities in association with improved bus – QBC and potential future rail services into Dunboyne.

Public transport routes include Bus Eireann, Dublin – Dunboyne Summerhill and Dublin Bus – Route 70 to Dunboyne

The Clonsilla to Pace railway line, which will include stations at Dunboyne and Pace is provided for in Transport 21. It is currently being constructed and is due to open in 2010. The line is planned to extend to Navan in the future. The transportation and land use strategy of this LAP is compatible with the line terminus being Pace or Navan. The M3 Motorway upgrade, which is under construction is also being funded through Transport 21 and is due to be completed in 2010. These infrastructure improvements are at the core of the rationale of facilitating the population growth envisaged in the Corridor.

The Draft Integrated Framework Plans for Land Use and Transport (IFPLUT) sets out the most appropriate land use and transportation arrangement for the Corridor over the medium to long-term set out over a number of phases equating to the future sequence of LAP's. The focus of the Draft IFPLUT spatial strategy is to couple the future development of the Corridor with the railway line and retain the M3 Motorway for inter-regional vehicular traffic. This is manifested in the initial consolidation of development within 1kilometre of Dunboyne railway station with the majority of later development to be consolidated within 1 kilometre of the Pace Interchange. In this way, the future character of the Corridor will be that of a series of rail based settlements. The future growth of Clonee Village will be preserved for local infill development.

5.7.5 Power

Meath County Council supports national and international initiatives for limiting emissions of greenhouse gases, encouraging the development of renewable energy sources and reducing energy consumption. New technologies have enabled the development of sustainable energy sources. These include, wind, biomass and waste, solar, hydro, combined heat and power, geothermal heat transfer, etc. New building regulations have introduced strict policies with regard to energy efficient

building, including domestic dwellings. The Planning and Development Regulations 2007 and 2008 exempt a range of micro renewable technologies from the need to apply for planning permission. In addition to this, Meath County Council will seek to promote all appropriate technologies through the development management process.

5.7.6 Waste Management

In terms of waste management infrastructure, the Waste Management Plan for the North East Region 2005-2010 forecasts the use of the landfill for municipal waste disposal for the period 2005-2010.

In terms of waste management infrastructure the Waste Management Plan for the North East Region is taken into consideration for all policies and plans in the North East region. The plan was published in 2001 by Meath County Council, Louth County Council, Cavan County Council and Monaghan County Council. The Plan was reviewed in 2004, and the revised Plan for the 2005 – 2010 was published in 2006.

The need to progress towards waste management targets established at EU and National level is recognised in the Plan. As such, ambitious targets are stated in the revised (current) Plan, for businesses in terms of waste reduction, reuse, recycling and disposal. These are essentially unchanged from the original targets set for the region and are summarised in Table 5.2.

Source	Recycling	Energy Recovery	Landfill
Household	43%	39%	18%
Commercial & Industrial	43%	39%	18%
Construction & Demolition	85%	-	-

Table 5.2: Waste Management Targets for the North East Region (2005 – 2010)

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Meath Region, charges are approximately €120-140 per tonne of waste at Knockharley landfill, (which includes a €20 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) Order 2008*).

5.7.7 Information and Communications Technology (ICT)

High speed broadband is an essential requirement for the attraction of business into a town, particularly in the context of the objective to secure jobs in the town and to reduce commuting. The Department of Communications, Energy and Natural Resources has put in place a regional broadband programme which includes for the building of high speed, open space broadband networks, in association with the local and regional authorities, in major towns and cities.

The success of the first phase of the Metropolitan Area Networks (MANs) programme has led to a second phase of projects, for broadband provision in over 90 towns with a population in excess of 1,500 people. Dunboyne/Clonee are included in this phase. MANs are completed or under construction in 66 additional towns under Phase II of the Programme. The construction of the networks in these 66 towns was completed in mid 2008. Construction of MANs in the remaining 28 towns is currently under review pending the outcome of a value for money review of phase 1 of the programme and the outcome of the consultation on the Next Generation Broadband policy paper.

5.8 Cultural Heritage

Both Dunboyne and Clonee have a distinct character of their own; Dunboyne was based on an earlier Manorial settlement, and rebuilt in the nineteenth century with terraces planned in an orderly fashion around a central village square and green, while Clonee's development was more gradual, with a disjointed arrangement of buildings along the main road developing into Clonee's single street. The County Development Plan contains a number of policies to protect the built and natural heritage of the county, including the designation of the village centre of Dunboyne as an Architectural Conservation Area (ACA).

There are a number of structures within the LAP area on the Record of Protected Structures. These are listed as Appendix 3. These include several terraced houses in Dunboyne, thatched houses, country houses such as Dunboyne Castle and Summerseat near Clonee, both the Roman Catholic and Church of Ireland churches in Dunboyne, structures such as the bridge and water pump in Clonee, among others.

There are a number of other structures in Dunboyne which contribute to the sense of place and character of the village, including a terrace of ten houses to the north on the Navan Road, and a terrace of houses to the south of the Green.

It is noted that one structure in Clonee, although listed on the Record of Protected Structures (RPS) (MH051-102), was demolished subsequent to its recording by the National Inventory of Architectural Heritage (no. 14342004), but prior to its recommendation by the Minister for addition to the Record of Protected Structures. Its addition to the RPS was therefore a clerical error and this will be corrected during the forthcoming review of the RPS.

Other buildings of architectural, artistic, cultural or historic interest include Gunnocks House and Piercetown House.

5.9 Archaeological Heritage

There are a number of archaeological sites in the LAP area, however, many of these have little in the way of extant remains. It is thought that a motte was once sited in Dunboyne, based around the original manor. However, there is no physical evidence of this today. The medieval parish church was situated to the west of the village; and part of the tower survives today. The church is described as an Early Christian, multivallate, circular ecclesiastical enclosure with rectangular earthworks and D-shaped earthwork. There is also a liner ditch found in Dunboyne. The area surrounding this, and encircling most of the centre of the village, is an area of Archaeological Interest.

In Loughsallagh and Clonee, written evidence of the destruction of churches exists, however, there is no above ground evidence. There are three known earthworks and enclosures to the north of Dunboyne, and a possible Fulacht Fia in Clonee.

5.10 Landscape

A Landscape Character Assessment (LCA) was carried out by Meath County Council in May 2007. The LCA divides the county into 4 landscape character types (LCTs) representing generic areas of distinctive character such as uplands or river corridors. These LCTs are sub-divided into 20 geographically specific landscape character areas. Information has been gathered through extensive research and site survey work. The LCA is also accompanied by a database of photographs and a series of

maps showing, inter alia, the boundaries of Landscape Character Areas, statutory designations, land uses, water bodies, soil types, historic features and transportation routes. The LCA includes recommendations that would if implemented protect and enhance the landscape character, and facilitate and guide sensitively designed development.

The LCA places a value on each landscape character area, ranging from 'Exceptional' to 'Low'. The Landscape Character Areas are evaluated using criteria which takes account of scenic quality, tranquility, remoteness, rarity, cultural associations, history, conservation, recreational interests and broader social, economic and environmental aspects. A judgement has also been made of the importance of each landscape character area in an international, national, regional or local context.

This does not always relate directly to its value or sensitivity - locally important areas can make as much of a contribution to strong landscape character. However, an internationally important area may require greater consideration in terms of statutory protection and management (e.g. if it is a major tourist attraction).

The sensitivity of the Landscape Character Areas is defined as its overall resilience to sustain its character in the face of change and its ability to recuperate from loss or damage to its components.

Sensitivity is evaluated using criteria ranging from 'High' to 'Low' and is based on the interaction of individual components such as landform, amount of evident historical features (time depth) and distribution of viewers. A highly sensitive landscape is likely to be vulnerable, fragile and susceptible to change whereas a landscape with low sensitivity is likely to be more robust and / or tolerant of change. Table 5.3 shows the Landscape Character Summary Matrix for the LAP area.

Landscape Character Type	Landscape Character Area	Value: Exceptional, Very High, High, Moderate, Low, Very Low	Importance: International, National Regional, Local	Sensitivity: High, Medium, Low
Lowland Landscapes	10. Ashbourne-Dunboyne Farmland	Low	Regional	High
	11. Dunboyne Farmland	Very High	Regional	Medium

Table 5.3: Landscape Character: Summary Matrix - Value, Importance and Sensitivity of Landscape Character Areas

Finally, the potential capacity of each LCA is based on indicative types of development that are likely to occur within the study area. Capacity is the ability that the landscape has to absorb specific types of development. It is only possible to define actual capacity on a case-by-case basis because it will vary according to the type and form of development, its location in relation to the landscape character area in question and its visibility from it.

6.0 PREDICTED SIGNIFICANT EFFECTS ON THE ENVIRONMENT AND MITIGATION

This section highlights the predicted significant effects on the environment of the implementation of the LAP and associated mitigation measures if applicable.

6.1 Assessment Methodology and Environmental Criteria

The policy and objective assessment process is based on a matrix-type assessment, whereby each policy is individually assessed against the SEA assessment criteria in Table 6.1. The criteria have been developed following a review of SEA guidance, both from Ireland and the UK, and recent examples of SEA's in Ireland.

Aspect	Environmental criteria
Biodiversity, fauna & flora	<ul style="list-style-type: none"> Conserve and promote the diversity of habitats, protected/designated conservation areas and protected species
Human Beings	<ul style="list-style-type: none"> Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns Promote social inclusion for all Reduce and prevent crime and the fear of crime Promote existing and new recreational, nature/wildlife, open space and community facilities
Noise and vibration	<ul style="list-style-type: none"> Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry
Water	<ul style="list-style-type: none"> Promote sustainable water consumption patterns, based on long-term protection of available water resources Reduce progressively discharges of polluting substances to all waters Protect all sources of public drinking water supply
Soil (inc. minerals)	<ul style="list-style-type: none"> Maintain the quality of soils Give preference to the re-use of brownfield lands, rather than developing of greenfield lands Minimise the consumption of non-renewable sand, gravel and rock deposits Minimise the amount of waste sent to landfill
Air & climate	<ul style="list-style-type: none"> Reduce all forms of air pollution Minimise emissions of greenhouse gases to contribute to the reduction and avoidance of human-induced global climate change Reduce energy consumption patterns and maximise the use of renewable energy sources with respect to climate change
Material assets	<ul style="list-style-type: none"> Maximise use of existing built environment Avoid flood risk in selecting sites for development
Cultural heritage	<ul style="list-style-type: none"> Promote the protection and conservation of cultural, architectural and archaeological heritage resources
Landscape	<ul style="list-style-type: none"> Conserve and enhance values and historic landscapes, and features within them Promote conservation and enhancement of townscapes and the urban environment

Table 6.1 SEA Assessment – Environmental Criteria

The information sources used in developing the environmental assessment criteria are detailed as follows:

- Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland; prepared for the Environmental Protection Agency (Ireland) by ERM Ireland Ltd (2003)
- Implementation of the SEA Directive, Guidelines for Regional Authorities and Planning Authorities; DoEHLG (November 2004)
- The Strategic Environmental Assessment Directive: Guidance for Planning Authorities; Office of the Deputy Prime Minister, UK; (October 2003)

6.2 Significant Environmental Effects and Mitigation

Much of the LAP area is rural and in agricultural use; the LAP contains goals, policies and objectives providing strong protection for the natural heritage of the area, and it is not intended to repeat these here. This area has been particularly vulnerable to flooding in the past. Special provisions to address these issues are appropriate. While there are no special designations such as NHA's or cSAC's within the area, the protection of the natural heritage is nonetheless a goal of the LAP, and this is reflected in the policies adopted below.

6.2.1 Biodiversity & Flora and Fauna

Policies & objectives of Dunboyne, Clonee & Pace LAP

Natural heritage objectives and policies likely to affect biodiversity and flora and fauna include:

POL LAN 1: To protect existing ecological corridors including rivers, streams, hedgerows, trees, wooded areas, scrub and traditional stone walls. All proposals for development shall be required to identify all ecological corridors, assess the impact of the proposal on these and set out detailed mitigation measures to offset any negative impact.

POL LAN 2: Mature trees and hedgerows will be preserved and protected in recognition of the contribution mature trees make to the landscape and character of an area in addition to their value as wildlife corridors. Open space and walkways will incorporate, where possible and appropriate, existing mature trees and hedgerows and contain new planting to strengthen potential habitat links.

POL LAN 3: Native species (preferably of native genetic stock) will be used for preference in planting schemes in existing and new parks and in open space areas.

POL LAN 5: To preserve and protect mature trees in and around Dunboyne.

POL LAN 6: To develop the new primary pedestrian walkway connections as mapped in Dunboyne and Clonee as 'green corridors'. These pedestrian routes will not simply provide a footpath. Provision for connection through areas of hard standing, out to the Green Belt zone, will promote biodiversity, access and high visual amenity as green 'wedges' maintaining a strong visual and physical connection from the rural landscape into the town. The walkways network will create and strengthen habitat links throughout the town.

Likely Significant Effects

The proposed zoning map proposes that residential communities, open spaces and other commercial and industrial development be provided for in areas that have been identified as containing flora and fauna habitats of interest including wet grassland, treeline and hedgerow habitats.

Mitigation

Implementation of the LAP policies and objectives will ensure that there are no significant negative effects on biodiversity, flora and fauna.

6.2.2 Human Beings

The LAP provides for a population target of 15,000. In relation to employment, the LAP identifies that the current trend in Meath is similar to the national trend in that the rate of unemployment has increased significantly (by 96%) from December 2007 to December 2008.

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL REC 1: To implement the open space strategy in accordance with the highlighted maps in the LAP.

POL REC 2: To create a hierarchy of open space in order to achieve a choice of open space facilities, thus enabling greater accessibility to a variety of open space types. New parks will be developed comprehensively and may occupy slightly different boundaries than the zone but must; match the area zoned, include the required play provision, be designed to a high standard and connect as shown to the pedestrian and cycleway network.

POL REC 3: To ensure access to play areas and equipment is provided for every child in Dunboyne and Clonee within a walkable distance from home to promote physical wellbeing and social interaction for families in accordance with the Draft Meath Play Policy.

POL REC 4: To promote and facilitate the development of cycling and walking facilities in and around Dunboyne through implementation of the primary Pedestrian and Cycleway routes. This will occur through both new development and upgrades to existing road corridors.

POL REC 5: To provide a children's playground in Clonee.

POL REC 6: To review the provision of play equipment provided in Dunboyne Park during the lifetime of this plan, to ensure adequate provision for children of all ages, and to consider the possibility of providing a FitZone for adults in Dunboyne Park.

Likely Significant Effects

Implementation of the LAP will provide high quality residential, working, educational, community and recreational environments as well as sustainable travel patterns. Providing for social and affordable housing promotes social inclusion. The LAP places a significant emphasis on the provision of high quality open space and recreational areas with pedestrian and cyclist links between and to residential areas. Therefore, it is considered that implementation of the LAP will have positive effects on people's quality of life. In relation to employment, the zoning of land for commercial and industrial uses together with the provision of a sustainable transport network including rail link, M3 motorway and the proposed distributor link road will promote the area.

The consequences of a population increase may affect human health in relation to the capacity of the potable water supply, and the impact of increased traffic generated by the increased population on local air quality and noise and vibration levels. Protection of the quality of water supply is vital to ensuring the health of the population of the LAP area. The Eastern RBD Draft River Basin Management Plan (December 2008) has identified that the main pressures on the groundwater resource in the area are from agriculture and wastewater from unsewered properties and has recommended that measures be taken to reduce groundwater pollution from these

sources. The LAP policy of ensuring that new developments are drained satisfactorily will have a positive contribution to maintaining groundwater quality. The LAP should also include policies and objectives to ensure protection of the quantity of the groundwater resource.

Mitigation

In relation to the protection of human health, the LAP should include policies and objectives to ensure protection of the quantity and quality of the water resources that supplies the Water Supply Scheme.

6.2.2.1 Prevention of Major Accidents

Policies & objectives of Dunboyne, Clonee & Pace LAP

EMP POL 6: Reducing the Risk of Major Industrial Accidents to comply with the Seveso II Directive in reducing the risk and limiting the potential consequences of major industrial accidents.

EMP POL 7: Future Major Hazard Establishments to maintain appropriate distances between future major accident hazard establishments and residential areas, areas of substantial public use and areas of particular natural sensitivity or interest.

EMP POL 8: Proposals for New Seveso Sites to have regard to the advice of the Health and Safety Authority when proposals for new SEVESO sites are being considered

Likely Significant Effects

To prevent major accidents in the LAP area In this LAP, the focus is to ensure that proposal for new establishments at risk of causing major accidents; expansion of existing establishments and developments near existing establishments, are all taken into account the need to prevent major accidents involving hazardous substances and safeguard both the public and the environment.

Mitigation

In the assessment of planning applications for new development involving hazardous substances, the Council will have regard to:

- the SEVESO Directive and Major Accident Regulations;***
- HSA generic land-use planning advice;***
- potential adverse impacts on public health and safety, and***
- the need to maintain appropriate safe distance between residential areas, areas of public use and areas of particular natural sensitivity.***

6.2.3 Soils and Geology

Policies & objectives of Dunboyne, Clonee & Pace LAP

N/A

Likely Significant Effects

The removal of the soil layers and bedrock will occur during the construction of proposed developments, contaminated material could be present if located at a Brownfield site.

The significant effects in relation to soils and geology are that, should a Construction & Demolition Waste Management Plan not be implemented, this may lead to litter or pollution issues on the site or adjacent sites.

Mitigation

If Construction & Demolition Waste Management Plans are implemented, and a high level of due diligence is maintained, there will be no impact on the soils and geology at proposed developments.

6.2.4 Water

The LAP area falls within the catchment of the Tolka River, and is part of the Eastern River Basin District (ERBD). The ecological status of surface waters in the LAP area was found to be 'Moderate' or 'Bad', while groundwater in the LAP area was found to be of 'Good' status.

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL LAN 4: To conserve and protect the natural habitats and water quality in the River systems within the LAP area, in accordance with the tenets set out in the Eastern River Basin District Draft River Basin Management Plan of December 2008.

Likely Significant Effects

The residential, employment, public transport and roads objectives are likely to result in population growth and development of existing Greenfield sites that will place increased demands on water supply, generate increased amounts of wastewater and surface water runoff.

Mitigation

The LAP policy of ensuring that new developments are drained satisfactorily will have a positive contribution to maintaining water quality.

6.2.4.1 Flooding

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL FP 1: Require that new development should not itself be subject to an inappropriate risk of flooding nor should it cause or exacerbate such a risk at other locations.

POL FP 2: Control development in the natural flood plain of rivers and to take account of any guidelines regarding flooding issued by the DoEHLG or OPW in the assessment of planning applications.

POL FP 3: Require all significant developments impacting on flood risk areas to provide a Flood Impact Assessment, to identify potential loss of flood plain storage and how it would be offset in order to minimize impact on the river flood regime and

to show that the development would not give rise to flooding on the application site or any surrounding lands.

POL MOV 20: To ensure the maintenance of all overpasses and flood works arising from the River Tolka Flooding Study 2003.

Likely Significant Effects

The surface water management and flooding objectives in the LAP of providing all new developments with satisfactory drainage system, requiring all large scale developments to provide “Sustainable Urban Drainage Systems” (SuDS) as part of their development proposals and requiring Flood Impact Assessments to be carried out for significant developments in flood risk areas will have positive impacts in relation to ensuring the quantity and quality of surface water runoff and in turn the quality of receiving water bodies.

Mitigation

Development proposals are framed such as to address in an authoritative manner the following issues with regard to flood protection:

- To require all significant developments (i.e. development of areas exceeding 1 hectare) impacting on flood risk areas to provide a Flood Impact Assessment to accompany the planning application to identify potential loss of floodplain storage and proposals for the storage or attenuation of run/off discharges (including foul drains) to ensure the development does not increase the flood risk in the relevant catchment and how it would be offset in order to minimise the impact on the river flood regime.
- Where considered necessary, the Planning Authority will require a certificate from a suitably qualified competent person that the development will not contribute to flooding within the relevant catchment. A certificate must accompany applications for planning permission for development of areas of 1 Hectare or less.
- Appropriately designed development, which is not sensitive to the effects of flooding may be permissible in flood plains, provided it does not significantly reduce the flood plain area or otherwise restrict flow across floodplains. Examples of such developments would include park areas, sports pitches, certain types of industry, warehousing, etc. which are designed to be flood resistant and / or insensitive to flooding. Such developments should include adequate measures to cope with the ever existent flood risk, e.g. adequate drainage systems, safety measures, emergency response facilities and / or warning and response systems and where it is considered that flooding would not result in significant hardship / financial loss or cost.
 - All new developments must be designed and constructed to meet the following minimum flood design standards:
 - For urban areas or where development (existing, proposed or anticipated) are involved the 100 year flood;
 - For rural areas of where further development (existing, proposed or anticipated) are involved – the 25 year flood, and;
 - Along the coast and estuaries – the 200 year tide level.

Developments adjacent to water courses in the county will be required to ensure that there is adequate provision for access to allow maintenance and clearance, future improvement works or emergency works. A set back of 5 – 20 metres is required depending on the width of the watercourse.

Meath County Council is committed to avert insofar as possible, the threat of flooding in new developments, to minimise the impact of structures and earthworks on flood plains and river flow, and to reduce, insofar as possible, the rate and quantity of surface water run-off from all new developments. For those, contemplating developments within areas of the county that may be prone to flooding, the incorporation of measures to take flooding patterns into account is recommended.

Minimising Run-off

Development in floodplains, areas liable to flooding and areas where the conveyancing capacity of watercourses is marginal must so far as is reasonably practicable incorporate the maximum provision to reduce the rate and quantity of runoff. Such measures include:

- Hard surface areas (car parks, etc) should be constructed in permeable or semi-permeable materials;
- On site storm water ponds to store and / or attenuate additional runoff from the development should be provided, and;
- Soakways or French drains should be provided to increase infiltration and minimise additional runoff.

6.2.5 Air and Climate

Policies & objectives of Dunboyne, Clonee & Pace LAP

N/A

Likely Significant Effects

Air Quality

Road traffic is expected to be the dominant source of emissions (with the possible exception of PM10) in the region of and resulting from the development of the Dunboyne / Clonee / Pace LAP. The key road traffic derived pollutants that may affect local air quality are NO₂, benzene, PM10, PM2.5 and CO.

An environmental objective of the Dunboyne / Clonee / Pace LAP will be to limit adverse impacts on air quality. This can be achieved through promoting the use of public transport, provision of cycle routes and cycle parking and seeking to minimise private car dependency in the region.

The impact of the Dunboyne / Clonee / Pace LAP should not lead to exceedances of the limit values provided in the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002) and EU Directive 2008/50/EC.

Climate

Vehicle emissions associated with the development of the Dunboyne / Clonee / Pace LAP will give rise to CO₂ and N₂O emissions in the region. Furthermore, emissions from space heating in commercial and residential units will also contribute to national emissions of greenhouse gases.

An environmental objective of the Dunboyne / Clonee / Pace LAP will be to limit adverse impacts on climate. Measures outlined for air quality such as promoting the use of public transport, provision of cycle routes and cycle parking and seeking to minimise private car dependency in the region are also applicable for climate. In

addition, optimum building energy ratings should be achieved for residential and non-residential units, and the use of renewable energy resources should be promoted.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on air quality and climate.

6.2.6 Noise

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL MOV 13: To implement traffic management measures in all settlements within the Corridor to ameliorate congestion, traffic noise and emissions particularly in relation to HGV's on the R157.

Likely Significant Effects

The adverse effects of excessive noise on communities vary from direct effects such as noise-induced hearing loss, speech interference, sleep disturbance and annoyance, to indirect or secondary effects, such as long-term effects on physical and mental health as a result of long-term annoyance and prolonged disturbance to sleep. This has led to the European Parliament introducing the European Noise Directive 2002/49/EC relating to the assessment and mitigation of environmental noise.

Meath County Council is the statutory body designated with the production of the County Meath Noise Action Plan which encompasses Dunshaughlin. This document has been reviewed as part of SEA.

At this strategic planning level the principal protection against potential impacts is through appropriate choice of land use objectives and zoning. Careful consideration should therefore be given to potential noise impacts that could arise from the strategic planning process and the establishment of a defined LAP. Where it is not possible to reduce potential impacts through choice of land use objectives and zoning at the strategic planning level it is important to ensure that robust assessment methodologies are put in place at the planning consent level in order to ensure that noise impacts are fully adequately controlled to protect residential and occupational amenity.

Infrastructure Development

The new M3 is due for completion in early 2010 and will join up with the existing N3 to the east of Dunboyne at Clonee. This new road does not fall under the scope of the LAP; however it will have a discernable effect on the noise climate within the planning area, and in particular in the vicinity of the M3. As such it should be a material consideration in appropriate and considered land use zoning within the area.

The Clonsilla to Pace railway line, which will have stations at Dunboyne and Pace is currently being constructed and is due for completion in 2010. As with the M3 motorway this railway does not fall under the scope of the LAP however it will have a discernable effect on the noise climate on the lands in the vicinity of the line and should be taken into consideration within the planning consent process.

Land Use Zoning

When selecting land for residential zoning, for example land use objectives A1, A2, A3 and A4 within the Dunboyne/Clonee/Pace Local Area Plan, careful consideration

should be given to the proximity of the lands to potentially noisy areas such as major roads, railways, airports and heavy industrial zones. Residential communities and associated open areas and recreational/educational facilities are sensitive to noise and reasonable steps should be taken to isolate these areas from noisy developments at the strategic zoning stage.

By the same token, when land is being considered for industrial zoning (E1 and E2) then consideration should be given to the zoning of neighbouring areas. For example, areas zoned for industrial use, which have the potential for significant noise generating operations to apply for planning permission in the future, should generally not be situated in close proximity to areas zoned for residential or recreational use.

Due to their nature commercial zones are often located in close proximity to residential areas, and often form part of the same mixed use zoning (A4). Although they are not incompatible uses, commercial activities have potential to result in significant localised noise impacts, for example from air handling/chiller units or goods delivery. It is therefore important that potential noise impacts are robustly assessed prior to planning consent.

Mitigation

It is possible to plan the layout of land use zones in order to reduce potential conflicted co-location of uses, such as residential and recreational uses not being situated adjacent to industrial use or national roads. However it is not always possible to put in place these separating distances, and there will be a requirement to mitigate the noise impacts in a more development specific and targeted manner through the planning process.

The relationship between individual noise generating development and noise sensitive developments is generally unique and dependent on numerous localised factors. As such potential mitigation measures should be assessed and designed specifically for each individual situation as part of the planning process.

There is currently no national policy or guidance which addresses the issue of noise during planning, which tends to lead to inconsistencies between applications and how different Local Authorities address noise issues in the planning process. However outline below is some general guidance and methodologies for the assessment and mitigation of noise impacts.

Residential Development

When assessing residential planning applications the suitability of the land for residential development in terms of the prevailing noise environment should be established. For example, lands bounded by major motorways or factories would generally not be considered ideal for residential development if suitable alternative sites are available. In the absence of Irish planning guidance relating to noise the UK document Planning Policy Guidance 24 (PPG24) - Planning and Noise is often cited.

In the absence of suitable Irish standards the UK standard British Standard BS 8233: 1999: Sound Insulation and noise reduction for buildings – Code of Practice is commonly used as a basis for assessing the sound insulation requirements of new residential developments. This standard recommends internal (i.e. bedrooms and living rooms) and external (i.e. gardens and balconies) noise levels for dwellings from external noise sources such as road traffic noise and rail noise. The requirement for such an assessment to be undertaken can be controlled through an appropriately worded planning condition requiring a scheme of sound insulation measures to be submitted and approved prior to commencement of development. It should be noted

that the guidance contained in BS 8233 relates to 'anonymous' noise sources such as road and rail. For noise sources with distinct character, such as industrial or night-club noise, then a more detailed assessment and more stringent criteria may be required to fully protect amenity.

It should be noted that the NRA target figure of 60dB Lden is commonly attributed as a design target for new residential developments in the vicinity of existing roads. This is an incorrect interpretation of this design target and the BS 8233 guidance should be used.

Commercial/Industrial Development

When assessing planning applications for commercial/industrial developments in the vicinity of noise sensitive areas it is important that careful consideration is given to the potential for adverse noise impacts and of future noise complaints. If the development in question has the potential to generate excessive noise an assessment should be requested in order to predict the likely impacts prior to consent being granted.

Although only strictly applicable to IPPC licensed premises, guidance and criteria for assessing noise impacts from commercial/industrial activities is often taken from the Environmental Protection Agency document Guidance Note for Noise In Relation To Scheduled Activities, 2nd Edition. This document suggests noise limits of 55dBA LAeq,T for daytime and 45dBA LAeq,T for night-time at sensitive locations. In the absence of formal overarching planning guidance these limits commonly form the basis of planning conditions in a wide array of circumstances although they may not always be an appropriate gauge of or protection against potential noise impacts.

6.2.7 Material Assets

Essentially, all aspects of the LAP are likely to affect material assets. The policies and objectives in relation to residential development, employment, open space strategy, natural heritage, education, health, community, public transport, roads, water supply, wastewater, surface water management and flooding are described in the following sections.

The suitable provision of a full range of infrastructural services, including transport, water, waste water, telecommunications, waste disposal and energy is critical to support the continuing development of the LAP and to ensure its growth to a Moderate Growth Town happens in tandem with the required infrastructure and in accordance with principles of sustainable development and making it an attractive place in which to live, do business and recreate. The policies and objectives of the LAP are all based on the premise that development and infrastructure happen in parallel.

6.2.7.1 Surface Water Drainage

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL SWM 1: To ensure that all new developments have and are provided with satisfactory drainage systems in the interest of public health and to avoid the pollution of ground and surface waters.

POL SWM 2: To require all large scale developments to provide "Sustainable Urban Drainage Systems" (SuDS) as part of their development proposals.

Likely Significant Effects

Potential decrease in surface water discharge if development is more dispersed, however, discharge may affect surface water features of the wider area. Unsatisfactory surface water drainage and uncontrolled discharge into the surface water and ground water environment.

Mitigation

Implementation of the LAP policies and objectives, SUDS methods and SEA monitoring will ensure that there are no significant negative effects on surface water drainage.

6.2.7.2 Waste Water

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL WWT 1: To ensure that all new developments have and are provided with satisfactory drainage systems in the interest of public health and to avoid the pollution of ground and surface waters.

Likely Significant Effects

Unchecked demand for wastewater treatment with potential increase in costs of provision for a more dispersed settlement. Unsatisfactory waste water drainage systems and uncontrolled discharge into the surface water and ground water environment.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on waste water.

6.2.7.3 Water Supply

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL WAS 1: To promote public awareness and involvement in water conservation measures by households, businesses and industries.

POL WAS 2: To implement the Water Conservation Programme in order to conserve valuable resources by reducing wastage.

POL WAS 3: To utilise the water supply in an efficient manner in the best interests of proper planning and sustainable development.

POL WAS 4: To ensure that drinking water complies with the EU Drinking Water Directive 98/83/EC as given effect in Irish Law by the European Communities (Drinking Water) (No. 2) Regulations as may be amended.

Likely Significant Effects

The likely consequences of the LAP on water supply include an increased demand for potable water for residential and potential employment-based development within the lifetime of the LAP.

Mitigation

It appears therefore that capacity is not a constraint, however, because Meath County Councils water supply is not fully within the control of the Council, this situation will require monitoring and careful planning, particularly with a view to facilitating the development of the employment zoned lands with a view to creating a greater balance between residential and commercial uses within the settlement.

6.2.7.4 Transportation

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL MOV 1: To require construction and operational phase Mobility Management Plans when determined necessary by the Planning Authority for development proposals to encourage public transport usage

POL MOV 2: To facilitate the coordination of bus and rail services within the Corridor.

POL MOV 3: To facilitate the introduction of more appropriate bus stands throughout the Corridor in conjunction with Bus Eireann and Dublin Bus as required.

POL MOV 4: To facilitate and protect the operation and extension of the Clonsilla – Dunboyne – Pace – Navan railway line and maximize the integration of all transport modes with the rail service.

POL MOV 5: To protect the Park and Ride for non-local, interregional commuter traffic particularly in reference to the design of the Pace settlement.

POL MOV 6: To facilitate the development of a Park and Ride as set out in the Railway Order NA0001 at Dunboyne Station.

POL MOV 8: To protect the operation of the railway in conjunction with Iarnrod Eireann/CIE.

POL MOV 9: To facilitate the completion and operation of the M3 Motorway and Dunboyne Western Distributor Road.

POL MOV 10: To facilitate the development of the Dunboyne Eastern Distributor Road in conjunction with the development of the A4 lands to the east of the railway line in Dunboyne, to include arrangements for the delivery of a rail overpass at the south of the IAAP lands. This will include the requirement to provide a road linkage from the Dunshaughlin Road (R583) to the Dunboyne Western Distributor Road.

POL MOV 11: To upgrade the junction of the R149/Linnetsfield junction, R149/Stirling Road and Stirling Road/Roske Road junctions to roundabout junctions.

POL MOV 12: To upgrade the R156 between Dunboyne town and Clonee to include junction upgrade at the R156 / Navan Road and R156 N3 access to the north west of Clonee in conjunction with improvements as part of the development of the M3.

POL MOV 13: To implement traffic management measures in all settlements within the Corridor to ameliorate congestion, traffic noise and emissions particularly in relation to HGV's on the R157.

POL MOV 14: To assess the requirement for and provide as needed the upgrade and signalization of the junction of the R149 and R 156 at Clonee.

POL MOV 15: To provide for the improvement of the railway bridge on the R156, particularly in relation to pedestrian and vehicular safety.

POL MOV 16: To upgrade, improve, strengthen and re-align the R156-228 Sarney-Dunboyne and the R156-260 Boylans Bridge-Loughsallagh.

POL MOV 17: To prepare a safety audit of Rooske Road with particular emphasis on pedestrian and school safety and to implement the findings within the term of the LAP in conjunction with development proposed at the G1 lands at Rooske Road.

POL MOV 18: To prepare a road safety audit of R156 from the railway bridge to the Eurospar with particular emphasis on improving traffic management and school safety and to implement the findings within the term of the LAP in conjunction with development proposed at the G1 lands to the north of the R156.

POL MOV 19: To facilitate the development and maintenance of all overpasses, underpasses and routes associated with the construction of the railway line as set out in Railway Order NA0001 and Motorway Order ER2014.

POL MOV 21: To facilitate the provision of a pedestrian crossing alongside the railway bridge at the R156 to facilitate pedestrian access from the west of the railway line to Dunboyne Station.

POL MOV 22: To assess the requirement for and facilitate the development of footpaths along the R149 between Clonee and Ongar.

POL MOV 23: To assess the requirement for and provide as needed the upgrade and signalization of the junction of the R149 and R 156 at Clonee.

POL MOV 24: To facilitate improved pedestrian and cycle infrastructure along the R156 Loughsallagh Road in the context of Motorway Order ER2014 (Condition 4II(b)).

POL MOV 25: To facilitate improved pedestrian and cycle infrastructure between Pace Interchange/ Woodpark Road to Blackbull Roundabout in the context of Motorway Order ER2014 (Condition 4I(b)).

POL MOV 26: To explore the requirement for providing pedestrian and/or cycle access to the proposed station at Pace from the Bennetstown area. This policy will be pursued in the context of Condition 12 of the Rail Order NA0001.

POL MOV 27: To facilitate the development of a riverside walk / amenity area through coordination of individual development proposals in Clonee.

POL MOV 28: To continue footpath, pavement and cycle lane improvements in and about Dunboyne town and Clonee as required to aid both pedestrian and cyclist safety.

POL MOV 29: To provide for a riverside walk/cycling path from the Summerhill Road R156/Western Distributor Road roundabout to Newtown Bridge, north of Dunboyne House Demesne and along the northern edge of Woodview and Beechdale estates to the railway line to connect to same in the IAAP lands and to facilitate community and/or private sector involvement in these works.

POL MOV 30: To facilitate the provision of pedestrian/cycling routes linking the rear of the schools and community leisure centre with community open space at the rear of the main street (zoned Community facilities).

POL MOV 31: To widen and improve the bridge over the Tolka tributary at the R157 on the Maynooth Road near Dunboyne Castle and adjacent to the town park to enhance pedestrian safety.

POL MOV 32: To facilitate an extension to a public walkway and footpath on the western side of the Rooske Road between the existing footpath at the Gaelscoil and the Athletic Club/GAA lands in conjunction with development at the G1 lands to the west. The possibility of accommodating this objective as an amenity walk within the wooded area to the east of Rooske Road will be explored.

POL MOV 33: To introduce walkways and cycleways

POL MOV 33: To implement the transportation policies and objectives set out in the Integrated Action Area Plan for Lands East of the Railway Line Dunboyne as determined by the Local Authority in conjunction with development of these lands. The Pedestrian Connection shown between the lands east and west of the railway line at Cell 5 will be pursued in the context of Condition 13 of the Rail Order NA0001.

POL MOV 34: To review public and on–street parking in Dunboyne town and Clonee and to implement alterations to the parking strategy on foot of the findings.

POL MOV 35: To ensure the provision of adequate off street parking at the rear of the main street in line with the consideration of individual development proposals

POL MOV 36: To require bicycle parking to be provided in conjunction with development of bus stops, within the large-scale retail developments, and employment zones.

Likely Significant Effects

The strategy proposed in the LAP will hope to achieve the following:

Promote sustainable transport choice through an integrated approach to land use and transport development; Promote development within the corridor in a way which protects investment in strategic transport infrastructure; Utilise all existing and planned transport infrastructure (including road and rail) in a suitable and appropriate manner; Develop safe walking and cycling routes to key destinations (e.g. rail stations, town centre, schools etc.) within the study area; Manage HGV movements in the centre of Dunboyne; Facilitate the safe and efficient use of existing local, regional and national road infrastructure.

Establishing a robust strategy will help to improve the choices the population has in terms of mode of transport, and accessibility. It is informed by the short to medium term transportation strategy set out in the Draft IFPLUT.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on transportation.

6.2.7.5 Power

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL ENG 1: To promote energy efficient solutions in all new development proposals. In deciding applications of medium to large scale residential, commercial and industrial development the Councils will require that all benign energy technologies are explored so as to increase sustainable energy use.

POL ENG 2: To support and facilitate the development of enhanced electricity supplies and associated networks to serve the existing and projected residential, commercial, industrial and social needs for Dunboyne, Clonee and Pace.

POL ENG 3: To locate service cables, wires and piping, including electricity, telephone and television underground, where possible, and that existing overhead cables and associated equipment should be progressively be located underground with future capacity considered and appropriate ducting put in place.

Likely Significant Effects

The implementation of the energy objectives will have positive impacts on air quality and climatic factors.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on power (energy).

6.2.7.6 Waste Management

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL WCD 1: To promote education and awareness on all issues associated with waste management, both at industry and community level. This will include the promotion of waste reduction by encouraging the minimization, re-use, recycling and recovery of waste within the country.

POL WCD 2: To implement the policies and objectives of the Waste Management Plan for the North East Region.

POL WCD 3: To require the provision of bring banks, bottle banks or other appropriate recycling facilities as part of the overall development in the case of new and extended shopping centre developments and commercial neighbourhood centres, educational, sports, and recreational facilities. The sites shall be made available to the Local Authority at the developer's own expense and will be maintained by the local authority or its agents.

POL WCD 4: To promote and encourage the recycling of construction and demolition waste in accordance with approved construction and demolition waste management plan.

Likely Significant Effects

Should the policies of the LAP and Waste Management Plan for the North East not be implemented, the target recycling rates outlined in the Plan and the Government

policy document 'Changing Our Ways', 2001 will not be achieved. In addition, if waste is not managed and stored correctly on sites, this may lead to litter or pollution issues on adjacent sites.

Mitigation

The Waste Management Plan for the North East Region will be adhered to; this will ensure effective waste management achieve optimum levels of waste reduction, re-use and recycling.

6.2.7.7 Information and Communications Technology (ICT)

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL TEL1: To have regard to the following in considering proposals for the development of telecommunications masts, antennae and ancillary equipment:

- The visual impact of the proposed equipment on the natural, built and historic environment.
- The removal or modification of features of architectural/archaeological importance.
- The impact any such development may have on protected structures or their setting.
- The potential for co-location of equipment on existing masts.
- The Department of the Environment and Local Government "Telecommunications Antennae and Support Structures, Guidelines for Planning Authorities" (July 1996).

POL BB 1: To implement the broadband strategy for Meath County Council as it relates to Dunshaughlin by supporting the roll out of broadband infrastructure in Dunshaughlin to serve the needs of business and residents.

POL BB2: To require that all planning applications for significant new development provide for the delivery of broadband infrastructure in tandem with each phase of development.

Likely Significant Effects

Implementation of the public telecommunications and broadband objectives of the LAP will have positive long term effects on human beings

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on ICT.

6.2.8 Cultural Heritage

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL DES 4: To have due regard to the findings and recommendations of the Statement of Character of Dunboyne Architectural Conservation Area in the consideration of development proposals within the ACA, including, inter alia, the recommendations on the protection of the fabric of buildings, removal of excessive signage and overhead cables, protection of street furniture, and management of new developments.

POL DES 5: To enhance the character of the Main Street of Clonee by encouraging fenestration appropriate to each building, to the front elevations of buildings on Main Street.

POL DES 6: To enhance the character of the Main Street of Clonee by establishing a strong building line along the main street. Any proposed development fronting onto it should complement the existing character and contribute to Clonee's sense of place by its height, scale, and design. All proposed developments should be of architectural merit appropriate to the public face of Clonee.

POL DES 7: To facilitate and encourage infill development in Clonee in the interests of creating a compact sustainable settlement.

POL DES 8: Proposals for developments of a candid contemporary design, rather than pastiche designs, will be encouraged in Clonee.

Likely Significant Effects

Implementation of the aim and objectives of the LAP will have positive long term effects on human beings, biodiversity and flora and fauna.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on the cultural heritage.

6.2.9 Archaeological Heritage

Policies & objectives of Dunboyne, Clonee & Pace LAP

POL HER 1: To preserve and protect the area of archaeological interest within the LAP area and to refer all proposals involving subsurface excavation within the area to the Department of the Environment, Heritage and Local Government, whose observations will be taken into consideration in the determination of such proposals.

POL HER 2: To require that any new mixed use development conforms to the naming policy for residential developments set out in the County Development Plan.

POL HER 3: To ensure the continuing protection of the structures listed on the Record of Protected Structures, including their curtilages and boundary treatments. As the continued use of protected structures is one of the most efficient ways to safeguard their future, proposals for changes of use to protected structures will be considered on their merits.

POL HER 4: To have due regard to the visual amenity provided within and around the village of Dunboyne by the views and vistas detailed in the Statement of Character of Dunboyne Architectural Conservation Area, in the consideration of development proposals both within and outside the ACA.

Likely Significant Effects

Implementation of the aim and objectives of the LAP will have positive long term effects on human beings, biodiversity and flora and fauna.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on the archaeological heritage.

6.2.10 Landscape

Policies & objectives of Dunboyne, Clonee & Pace LAP

N/A

Likely Significant Effects

Potential encroachment of development into the surrounding rural landscape. Decreased protection of green belt areas surrounding Dunboyne, Clonee and Pace. No additional protection with regard to landscape character.

Mitigation

Implementation of the LAP policies and objectives and SEA monitoring will ensure that there are no significant negative effects on the landscape character

7.0 MONITORING

Monitoring of the LAP area is essential to ensure that the environment is not adversely affected through the implementation of the LAP. Under Article 10 of the SEA Directive monitoring must be carried out of the significant environmental effects directly related to the implementation of the Plan *“in order to, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”*

While environmental data is directly available to Meath County Council such as water quality, recycling rates etc, other sources of information will be accessed to provide a comprehensive view of the effect of the Plan. In this regard Meath County Council will work with other agencies to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of Meath County Council, it will continue to liaise and work with the EPA, The National Parks and Wildlife Service, The Eastern Regional Fisheries Board, as well as others.

The proposed monitoring programme allows for the collection of data relevant to the ongoing monitoring of the plan's implementation. It is proposed to investigate the feasibility of forming a monitoring review committee in order to collate and assessed data. The monitoring programme will therefore be expanded upon during the lifetime of the plan and will form the basis of the next baseline assessment for the SEA.

7.1 Biodiversity & Flora and Fauna

It is an aim of the LAP to conserve and protect the diversity of habitats both terrestrial and aquatic, and protected species within the Lap area. The feasibility of monitoring indicators in relation to biodiversity values during and after development of the LAP lands has been considered as required as part of the SEA process.

A monitoring programme will be established by Meath County Council within the lifetime of the LAP. Habitat loss, habitat deterioration, loss in biodiversity, protected species and protected areas will be monitored. This is necessary to record the sources and effects of such disturbance and to provide a baseline for future management decisions. This programme shall be undertaken in consultation with the Biodiversity Officer and Heritage Officer of Meath County Council and in conjunction with the National Parks and Wildlife Service, Eastern Regional Fisheries Board and Birdwatch Ireland.

7.2 Human Beings

The LAP will have an impact on the quality of life of existing and proposed residents with the increased population resulting in increased traffic levels, noise, air pollution, requirement for schools, local services, public open space and requirement for residential developments.

The LAP has taken into account and addressed issues relating to transportation, local service facilities, provision of pedestrian and cyclist facilities, provision of public open spaces and creation of high density well designed residential and urban quarters.

7.3 Soils and Geology

During the construction of proposed developments, it is recommended that a monitoring programme be put in place with regard to the potential for soil

contamination from construction materials. It will be important that the mitigation measures outlined in previous section are adhered to with respect to the soil resource.

7.4 Water

7.4.1 Water Quality

Monitoring of all water bodies in the LAP area will be undertaken by Meath County Council in conjunction with the EPA at regular intervals. Water quality monitoring is required to protect and enhance the status of aquatic ecosystems with regard to their water needs.

7.4.2 Groundwater

In terms of addressing the existing situation of localised pollution from wastewater, it is recommended that a groundwater monitoring programme be initiated in areas where groundwater vulnerability is high i.e. North and South of Dunboyne. This will be carried out by Meath County Council with the assistance of the Geological Survey of Ireland.

In addition, it will be extremely important that physico-chemical monitoring programme be implemented in full in order to ensure that the mitigation measures are proving effective.

7.4.3 Flooding

In order to avoid flooding of developed areas while maintaining natural flood plains and avoid unnatural alterations to drainage systems which affect river flows the potential flood risk of proposed development will be monitored. This will be carried out by Meath County Council in conjunction with the Office of Public Works. The consultation draft guidelines for Planning Authorities by the DoEHLG - The Planning System and Flood Risk Management, September 2008 will be referred to.

7.5 Air and Climate

Air quality monitoring programs have been undertaken throughout Ireland in recent years by the EPA and Local Authorities. The most recent EPA annual report on air quality monitoring undertaken throughout Ireland is entitled "Air Quality In Ireland 2007 - Key Indicators of Ambient Air Quality".

Continuous EPA monitoring is carried out at a range of Zone C towns and both urban and rural Zone D locations using continuous monitors in 2007. Although no EPA or Local Authority monitoring has been carried out within the region of the Dunboyne / Clonee / Pace LAP, data from the EAP Zone C and D locations can be used to provide an indication of the prevailing air quality conditions in the region.

7.6 Noise

Any noise complaints and/or noise nuisance issues will be dealt with by Meath County Council throughout the lifetime of the LAP.

7.7 Material Assets

7.7.1 Surface Water Drainage

It is recommended that the use and application of SUDS within the LAP area be carried out within the lifetime of the Plan. The area will benefit from linkage between SUDS and the recommended wastewater capacity, particularly as a high proportion of surface water is currently drained to the wastewater treatment plant at Ringsend. Meath County Council will monitor the use of SUDS on all proposed developments at a planning and design stage.

7.7.2 Water Supply

Meath County Council water supply is not fully within the control of the Council. It is therefore recommended that a study be carried out for during the lifetime of the LAP to assess the future water supply in the area. Potential water losses and water quality will need to be monitored. This will be carried out in conjunction with other relevant local authorities and the EPA.

7.7.3 Waste Water

In relation to waste water provision, a future capacity study should be undertaken with a view to determining the amount of potential capacity required to implement the Plan, particularly with a view to enabling the development of future employment uses on the appropriately zoned lands. Monitoring will be carried out by Meath County Council to ensure that all zoned lands are connected to public sewer network ensuring treatment of wastewater prior to discharge. This will improve treatment at wastewater treatment facilities and limit potential pollution sources in vulnerable areas.

7.8 Cultural Heritage

To promote the protection and conservation of the cultural heritage and maintain viable use of protected structures, as identified in the Meath County Heritage Plan, Meath County Council will monitor all recorded buildings, monuments and areas of importance. This will be carried out in conjunction with other relevant local authorities and the DoEHLG.

7.9 Archaeological Heritage

In monitoring the outcome of the Plan with regard to architectural heritage, the DoEHLG considered it likely that "qualitative indicators" rather than "quantitative indicators" are more appropriate in adjudging subsequent environmental impacts on the architectural heritage of the locality. To this end, it is recommended that a series of 'qualitative' indicators be drafted to monitor the effects of the Plan with regard to the architectural heritage.

7.10 Landscape

In order to conserve and enhance valued natural landscapes and the features within them and protect and enhance the sustainable amenity value of water bodies, rivers, and wetlands in the area, Meath County Council will monitor all planning applications to prevent unacceptable alterations to landscape character.