Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

ENVIRONMENTAL REPORT FOR THE ASHTOWN / PELLETSTOWN LOCAL AREA PLAN STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

Prepared by
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List of Abbreviations

AA	Appropriate Assessment
BAP	Biodiversity Action Plan
BOD	Biological Oxygen Demand
CFRAMS	Catchment Flood Risk Area Management Studies
CHP	Combined Heat and Power
COD	Chemical Oxygen Demand
CSO	Central Statistics Office
CSOs	Combined Sewer Overflows
DBTF	Dublin Bay Task Force
DCIHR	Dublin City Industrial Heritage Record
DDDA	Dublin Docklands Development Authority
DoEHLG	Department of Environment, Heritage and Local Government
DoECLG	Department of Environment, Community & Local Government
DTO	Dublin Transportation Organisation
CO_2	Carbon Dioxide
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPO	Environmental Protection Objective
ER	Environmental Report
ERBD	Eastern River Basin District.
ESB	Electricity Supply Board
EU	European Union
FSD	Framework for Sustainable Development
GDA	Greater Dublin Area
GDSDS	Greater Dublin Strategic Drainage Study
GHGs	Green House Gases
GIS	Geographical Information Systems
LCA	Landscape Conservation Area
NDP	National Development Plan
NHA	Natural Heritage Area

NIAH	National Inventory Architectural Heritage
NOx	Nitrogen Oxides
NPWS	National Parks and Wildlife Services
NSS	National Spatial Strategy
NTS	Non Technical Summary
OPW	Office of Public Works
pNHA	Proposed Natural Heritage Area
PM_{10}	Particulate Matter
POM	Programme of Measures
QBC	Quality Bus Corridor
RBMP	River Basin Management Plan
RPG	Regional Planning Guidelines
RPS	Record of Protected Structures
SAAO	Special Amenity Area Order
SAC	Special Area of Conservation
SAFER	Strategies and Actions for Flood Emergency Risk Management
SPA	Special Protection Area
SEA	Strategic Environmental Assessment
SuDS	Sustainable Urban Drainage Systems
WFD	Water Framework Directive
WSA	Water Services Supply Area
WSSP	Water Services Strategic Plan
WWTP	Waste Water Treatment Plant

Glossary of Terms and Phrases

Appropriate Assessment :An assessment based on best scientific knowledge, by a person with ecological expertise, of the potential impacts of the plan on the conservation objectives of any Natura 2000 sites (including Natura 2000 sites not situated in an area encompassed by the plan or scheme) and the development, where necessary of mitigation or avoidance measures to preclude negative effects.

Biodiversity: Describes the variability among living organisms on the earth, including the variability within and between species and also within and between ecosystems.

Brownfield Site: Land that is or was occupied by a permanent structure, which has become vacant, underused or derelict and has the potential for redevelopment.

Climate Change: Long Term variations in global temperature and weather patterns, which occur both naturally and as a result of human activity, primarily through greenhouse gas emissions.

Combined Heat and Power: is a system that involves the recovery of waste heat from power generation to form useful energy like useable steam. Combined heat and power is also the production of electricity and thermal energy in a single integrated structure.

Compact City: This term is used to explain a less wasteful pattern of development within the urban area. In spatial terms, all land areas would be used efficiently with effective integration f different uses, services and public transportation. The edges and boundaries of the urban area would be well defined. A city like Barcelona is a good case study.

Core Strategy: Means the strategy contained in a development plan in accordance with Section 5 of the Planning and Development Bill, 2009. The core strategy must show that development plan objectives are consistent with, as far as practicable with national and regional development objectives set out in the National Spatial Strategy and Regional Planning guidelines.

District Heating: District heating (less commonly known as teleheating) is a system for distributing heat generated in a centralised location for residential and commercial heating requirements such as space heating and water heating.

Easter River Basin District : incorporates all or part of twelve counties, Westmeath, Meath, Cavan, Kildare, Offaly, Fingal, South Dublin, Dunlaoghaire- Rathdown, Wicklow, a small portion of Wexford and Louth and Dublin City.

Environmental Protection Objectives: Measures used to show whether the objectives of a plan are beneficial to the environment, to compare the environmental effects or alternatives, or to suggest improvements, if complied with in full, the environmental objectives set should result in an environmentally neutral impact from implementation of the plan.

Environmental Report The part of the plan's documentation which contains the information required by Article 5 and Annex 1 of the SEA Directive.

Flood Risk Assessment: A study to assess the risk of flooding under both the present and future circumstances, such as changes in climate, land use, development or flood risk management.

Flood Risk Management: combines the function of mitigating and monitoring flood risks and may include pre-flood, flood event or post flood activities.

Framework for Sustainable Dublin: This is the term for an overarching structure to co-ordinate , inform and set in place effective guidance over other polices and decision to reach sustainable targets and a sustainable course for the city of Dublin.

Green Corridor: Linear green connection along road and rail routes, rivers and canals, and including cycling routes and rights of way. These interconnect larger open spaces, habitats and areas of natural landscape.

Green Infrastructure: This term is used in two ways. It can describe a network of connected, high quality, multifunctional open spaces, corridors, and the links in between that provide environmental services and multiple benefits for people and wildlife. It is also used to describe a broad range of design measures, techniques and materials that have a sustainable character and have a beneficial environmental impact such as solar panels, wind turbines etc.

Green Roof: A roof with living vegetation growing in a substrate or growing medium, also referred to as eco-roofs, vegetated roofs, or living roofs.

Habitat: A place in which a particular plant of animal lives. Often used in the wider sense referring to major assemblages of plants and animals found together.

Indicators: This word is used either singularly or in conjunction with another term (e.g Sustainable Indicators) and means a measurable and quantitative statistic which, when grouped over a time period, shows a trend.

Key Developing Areas: These are significant and strategic development zones within the city. Their co-ordinated development and inclusion of sustainable principles are an integral part of the core strategy for the city. Proper planning and sustainable development will be guided in these zones by documents such as local area plans and master plans. The main growth areas identified for development in the lifetime of the plan e.g. The North Fringe, Pelletstown, Park West, Cherry Orchard and the Docklands. They combine the main elements of the government's developing areas Initiative (for the co-ordinated delivery of social and physical infrastructure in such areas) with the 'Framework Development Areas' of the current development plan. The development of these areas will create

clusters of economic, commercial and residential neighbourhoods close to public transport corridors in accordance with the core strategy of the plan.

Key District Centres: Localised hubs of commercial, retail, employment and community facilities with a distinctive local identity – usually in the form of urban villages and generally delivered by the Z4 (Mixed Services) zoning. There are 9 KDCs, including 2 in the North Fringe key developing area, Finglas, Ballyfermot, Rathmines and Phibsborough Key district centre can lie with a Key Developing Area, as the anchor to the larger area e.g. Ballymun, North Fringe, Rathmines Village is an example of a KDC in its own right that does not lie within key developing area Pelletstown, in contrast, still has growth potential as a key developing area, and does not have a key district centre within it – but has 2 smaller neighbourhoods instead. Also describes distinctive locations in the inner and outer suburbs of the city that are important focal points for mixed services and facilities that service a distinct catchment area. They include historical town centres such as Rathmines and Phibsborough and the major service zones for new emerging areas such as the North Fringe and Ballymun. This term has replaced the designation of Prime Urban Centres (PUCs) under the 2005-2011 Dublin City Development Plan. Strategically radial routes and public transport routes accessing the city centre, their capacity for future development and their contribution to creating distinctive and special character areas throughout the city.

Kyoto Protocol: An international environmental treaty which legally binds countries that signed into the treaty to reduce their production of greenhouse gases by defined targets over a specified time period. The treaty was signed in 1997 in the city of Kyoto Japan and came into effect in 2005. Targets are set to achieve reductions in emissions by set percentages below 1990 levels.

Metropolitan Area: This is a term used in Regional Planning guidelines and is a reference to the existing built up area of Dublin and its immediate environs (which includes parts of each of the four Dublin local authorities). It is a distinct urbanised area.

Mitigation: The term is used to describe an action that helps to lessen the impacts of a process or development on the receiving environment. It is used most often in association with measures that would seek to reduce negative impacts of a process or development.

Modal shift: This is a term used to describe a situation where people change their travel behaviour (usually between home and work) from a particular type of transport (private car for example) to another more sustainable form of travel (public transport for example).

Over-arching sustainable framework: This is a reference for an overall, city wide guiding structure to co-ordinate and provide effective guidance across all policies and decisions in the achievement of a

sustainable city. The Framework for Sustainable Dublin (FSD) is a specific framework established to achieve this.

River Basin Management Plan: As required by the EU Water Framework Directive (2000/60/EC), these plans will establish a strategic plan for the long-term management of the River Basin district.

Scoping: Process to determining what issues are to be addressed and setting out a methodology in which to address them in a constructed manner appropriate to the plan or programme. Scoping is carried out in consultation with the appropriate bodies.

Strategic Environment Assessment: This is a statutory process of assessment to examine the likely significant environmental effects of a plan or programme, prior to their adoption. It identifies consequences of actions prior to implementation and requires appropriate mitigation measures to remove identified impacts as part of the plan or programme. The SEA process came into force in July 2001 from an EU Directive (EU Directive 2001/42/EC).

Sustainable Development: Sustainable development is a very important term in planning and development policies and is used to describe the character of development that minimises negative impacts on the environment and its natural resources. The definition of Sustainable Development comes from the Brundtland Commission (1983) which states it as development "that meets the needs of the present without compromising the ability of future generations to meet their own needs". The Brundtland Commission was convened as a world commission on the environment amid growing concern for the deterioration of the natural environment, the depletion of natural resources and consequences for social and economic development.

Sustainable Urban Drainage Systems: A form of drainage that aims to control runoff as close to its source as possible using a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than some conventional techniques.

Synergies: This term refers to strong connections between different locations, a complimentary character in terms of activities and types of uses and correspondingly strong interactions between the locations with frequent movement patterns between the locations.

Taking in Charge: This is a term to describe when a local authority takes over the running/ maintenance/ownership of lands that were developed privately but which have public access and a wider public benefit in their provision. The local authority thereafter looks after these areas for the public. Examples are residential estate roads and public parks.

Traffic/Transport Assessment: Also referred to as a Traffic Impact Assessment, this is a detailed assessment of the impacts of a proposed development on the transportation systems of the surrounding environment and is used to help inform decisions on design, access proposals, quantum of new car parking etc. It assesses the capacity of the existing street network to absorb additional quantities of trips and makes recommendations for traffic management, promotes integration with public transport etc.

Urban Form: This term is a collective reference for the various separate important elements that create an urban area. These elements include at a broad level the relationship between streets, blocks, individual buildings, open space etc. Understanding the urban form of a particular area can identify strengths and weaknesses of the existing area's character and can inform positive ideas for new proposals to respect or restore the urban form.

Urban Sprawl: A term used to describe uncoordinated or haphazard expansion of urban type development into undeveloped and rural areas that adjoin the boundary of a town or city. Urban sprawl can erode the lines of division between urban locations and the countryside.

Water Framework Directive: A European Community Directive (2000/60/EC) designed to integrate the way we manage water bodies across Europe. It requires all inland and coastal waters to reach "good status" or "good ecological potential" in the case of heavily modified water bodies by 2015

Non Technical Summary

1.0 Non Technical Summary

1.1 Introduction

This is the Non Technical Summary of the Environmental Report of the Ashtown-Pelletstown Local Area Plan.

The Strategic Environmental Assessment (SEA) was carried out to comply with the provisions of the SEA Directive (Directive 2001/42/EC) and those regulations transposing the Directive into Irish Law.

The Environmental Report is at the heart of the SEA process. It is a key mechanism in promoting sustainable development, in raising awareness of the significant environmental issues and in ensuring that such issues are properly addressed.

This Environmental Report is not the SEA, rather it documents the SEA process and is the key consultation document in the SEA process and facilitates interested parties to comment on the environmental issues associated with the LAP.

The SEA needs to be fully integrated with the various stages of the local area plan preparation process in order to ensure that the environmental implications do not impact negatively upon the environment as a result of changes to policy.

The Environmental Report which follows has guided the preparation of objectives, policies and development scenarios for the Local Area Plans with an ultimate goal of achieving sustainable development in the LAP area without causing adverse harm to the environment.

1.2 SEA Screening

The Planning Authority undertook a screening of the proposed LAP for the purposes of determining whether an SEA was required and documented this in a screening report. Owing to the population of the LAP area, it was determined that an SEA was required.

1.3 SEA Scoping

Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. A Scoping Issues Paper was prepared by the planning authority and initial consultation was carried out in January 2013.

1.4 Vision and Goals of the Ashtown-Pelletstown LAP

The LAP is being prepared to guide the completion of a new residential and mixed use urban neighbourhood at Ashtown-Pelletstown, located c4km north of the city centre at the boundary with Fingal County Council. The location is notable for its setting adjacent to the Royal Canal, adjacent to the main Dublin to Maynooth commuter rail line (with a rail station at Ashtown) and close proximity to the Phoenix Park.

The LAP covers c 42 ha of land zoned Z14 under the Dublin City Development Plan 2011-2017. The LAP boundary extends from Ashtown Road to the west to Ratoath Road to the east. The River Road forms the north boundary and the Royal Canal the south boundary.

The overall vision for the LAP is stated as:

'The creation of a sustainable living and working environment with a strong urban identity, anchored by mixed-use supporting hubs and benefitting from both good permeability and quality public transport options. The area shall be characterised by a vibrant social mix, reflected in a variety of housing options and community facilities/amenities, well integrated with the wider city via improved infrastructure and green infrastructure.'

The issues that policy and objectives will address include:

Land Use

- Seek the completion of development for predominantly residential and related uses.
- Connectivity between new residential areas in the LAP boundary and between the LAP area and wider residential neighbourhood.
- Develop community and educational uses.
- New community plaza adjoining the entrance to a new rail station at the east side of the LAP (Royal Canal Park end).

Economic Development and Employment

- Encourage employment in the mixed use east and west village centre nodes.
- Linkages to existing and emerging employment areas.
- Temporary and short term uses for employment in vacant units.

Movement and Access

- Complete a hierarchical road infrastructure network.
- Target 40% of residents to use public transport as the primary mode of travel and a further 10% to use soft modes such as walking and cycling.
- Advance an improvement scheme for River Road.
- Secure safe pedestrian and cyclist crossings to Tolka Valley Park.
- Facilitate a second train station close to Ratoath Road.
- Re-align Ratoath Road for a new bridge across the rail line and canal

Urban Form and Design

- Create an integrated, permeable and pleasant environment.
- Complete the crescent housing with an appropriate scale of buildings to successfully frame the crescent park.
- Complete a linear park along the Royal Canal Tow Path.
- Complete an attractive tree lined boulevard as the main road through the development.
- Create a gateway statement at the entrance to the area from Rathoath Road with some allowance for height and a requirement for a high quality architectural statement.
- Support a network of pedestrian and cycle routes that connect the Phoenix Park with Ashtown Station and Dunsink Observatory.
- Allow higher buildings at specific locations including the village node points at the east and west end (anchored by public transport rail stations), along the Canal linear park edge (for good surveillance of the route) and along the residential crescent framing the Crescent Park.

Housing

- Seek a balanced range of house types and encourage in particular larger family sized units.
- Require a minimum of 50% of all units in LAP area to be 3 bedroom plus sized units.
- Promote sustainable average net densities in the range of 54-74 units per ha.
- Promote the sustainable development of approximately 920-1270 residential units across the remaining LAP lands.

Cultural Heritage

- Protect and conserve the special character of all built heritage features in the LAP area.
- Enhance the character of the Royal Canal and Tolka Valley conservation areas.
- Protect buildings and features of industrial heritage unique to the Ashtown-Pelletstown area.

Infrastructure and Water Management

- Ensure that development is permitted in tandem with available water supply and waste water treatment capacity.
- Require the separation of foul and surface water effluent by implementation of a storm water management system.
- To achieve good status for the water quality of the River Tolka by 2027 in accordance with the Water Framework Directive.
- All developments carry out specific Flood Risk Assessments.
- All applications to submit surface water drainage plans following the principles of SuDS.

Green Infrastructure

- Encourage the development of green infrastructure and implement a GI strategy.
- Complete a series of green links connecting natural amenity areas (the Royal Canal and River Tolka) and design these links to encourage biodiversity value.
- To support short term options for the planting of undeveloped lands pending future development.
- Landscaped and amenity areas to address biodiversity and where possible aquatic features as part of SuDS proposals.
- Implement a green points system for the design of new developments.

Community Infrastructure

- Actively promote the development of a new permanent primary school site at a reserved location in the centre of the LAP area in partnership with the Department of Education and Skills.
- To provide active sports and play facilities within new locations of public open space.
- To promote the Royal Canal linear park and Tolka Valley Park as active community and recreational resources.

Environmental Sustainability and Sustainable Design.

- Promote sustainable and energy efficient designs and technologies in site layouts and building designs.
- Promote flexible designs for buildings that can internally adapt in size and tenure for long term use.
- Implement a green points system for all new developments to meet environmental objectives and ensure attractive and bio diverse living and working environment.
- Chapter 5 sets out the Phasing and Implementation Strategy

1.5 Relationship of the Plan with Other Relevant Plans and Programmes.

The) LAP and accompanying Environmental Report fit into a hierarchy of strategic legislation, plans and policy documents including national, regional and city planning policy. The LAP area is a key future growth zone in the settlement strategy for Dublin City Council to accommodate residential and mixed uses close to public transport infrastructure (identified in the Core Strategy for the city)

2.0 Summary of Baseline Environment/Existing Environmental Problems (Section 3 of the Environmental Report)

Population

The population of Ashtown A Electoral Division increased by 32.6% between 2006 and 2011. The population in 2011 was recorded as 10,227 persons. Key environmental issues for population include wastewater treatment capacity, quality housing, services and environment for the health and wellbeing of the population and adequate social and physical infrastructure.

Biodiversity

The LAP is an important location within the wider city's strategic green network, being close to the Tolka Valley and adjacent to the Royal Canal (p NHA). There are no Natura 2000 sites within the LAP boundary. Locations of high biodiversity value include the Tolka Valley and Tolka Valley Park and Royal Canal corridor. New Integrated Constructed Wetlands have been developed as part of the park to clean surface water run and improve the water quality status of the Tolka in line with ERBD targets. Tolka Valley Park is has rich flora and fauna. Fauna include bats, badger, fox, Irish hare, mink, otter, rabbit etc. The river is also stocked with Salmon and Trout. The Royal Canal corridor is recorded with several bird species.

Key environmental issues for Flora and Fauna will include pressures on biodiversity, controlling invasive plant species and protecting water quality.

Water

Water Quality

The Plan area is located within the Tolka Water Management Unit (WMU) in the Eastern River Basin District. A WMU is a geographic area primarily defined by similar hydrology and topography. The River status in the Tolka Lower when it enters Dublin City is classified as 'Poor'. The existing condition of our waters was determined by the Environmental Protection Agency (EPA) using hydrology, water quality, ecology and morphology monitoring data.

Under ERBD targets, a Programme of Measures are set for the river to:

- Prevent deterioration and maintain high or good status.

- Improve water to achieve good status.
- Reduce chemical pollution.
- Achieve protected area objectives.

The current status of the Tolka is poor entering the DCC area with high nutrient levels and low ecological rating. The river may not meet all its objectives by 2015 under the Water Framework Directive (WFD). The ERBD seeks good status at 100% achievement by 2027 with continued improvement in between.

In Jan 2013 water samples were taken from the river by the pollution control section of DCC. There are several sewer overflows upstream of the LAP area and three surface water discharges within the LAP area. The LAP area is serviced with a pumping station for the foul network with an overflow to the Tolka. Three monitoring points were samples. The results recorded that the river fails to meet WFD good status of ammonia, phosphorous and Biochemical Oxygen Demand (BOD) and fails to meet criteria for Total Coli and E Coli.

Water quality of the Royal Canal is recorded by the EPA as generally good quality with low levels of nutrients.

Wastewater Network

DCC continue to work on a programme of foul and surface water drainage infrastructure improvements including upgrading works to the Ringsend Sewage Treatment Plant.

Environmental Issues Relating to Water

- Maintain and improve water quality (including water bodies of the Tolka and Royal Canal).
- Availability of necessary water infrastructure including capacity, drainage and treatment.

Air and Noise Quality

Noise Quality

A main rail line passes through the LAP area. Irish Rail undertakes noise level monitoring to ensure there are no negative impacts for residential areas along rail lines. 2012 surveys show that 98% of the population are exposed to levels below the 55 dB desirable day time level and 100% below the night time desirable level of 50 Db.

2012 Noise Maps for Dublin City show that 34% of the population in the area are exposed to levels below the 55 dB day time and 64% below the 50 dB night time levels. Traffic noise source is the main contributor. None of the population is exposed to undesirable day time levels of 70 dB. However 20% are exposed to undesirable night time values greater than 55 dB.

Air Quality

DCC air quality monitoring records good air quality status for this area with traffic emissions the main source of concern for nitrogen dioxide levels. EPA Air Quality Standards measure atmospheric pollutants in different zones. Dublin conurbation is in Zone A and is recorded with good status.

Key environmental issues for Noise and Air include reducing noise levels and air pollutants from road traffic and lower levels of nitrogen oxide and particulate matter need to be achieved.

Climate Factors

Specific information on the LAP area for green house gas emissions is not available. However national trends recorded by the EPA show emissions increased by 6.7% between 2010-2011. Reductions were recorded in energy, residential, commercial and industry and transport sectors. Although the decline in the economy contributed to these trends, they are a positive step. DCC has a Sustainable Energy Action Plan with targets to reduce the city's carbon footprint by 20% by 2020 and to target improvements in renewable energy, residential and commercial energy efficient designs.

Key environmental issues include addressing the risk of increased flooding from changes in climate, reducing carbon emissions from traffic and reducing emissions from energy generation, particularly from residential, transport and commercial sectors.

Material Assets (Waste and Transport)

Waste

New drainage infrastructure has been provided throughout the LAP area to date with a new pumping station which pumps into the North Dublin Catchment at Ratoath Road. It flows to Sutton pumping station and is delivered to the Ringsend Treatment Plant.

The Dublin Waste Management Plan sets targets for waste reduction in the region. The Dublin Region is performing well with increased household recycling and reduced landfill. However domestic and commercial waste going to landfill is still at high levels. New treatment technologies for the long term management of residual waste and sustainable recovery are being developed such as the waste to energy facility with district heating opportunities.

Transport

The Dublin City Development Plan 2011-2017 in line with the National Transport Agency strategy promotes sustainable modes of travel. The original plan for this area was built upon principles of sustainable land use transport planning with two new rail stations and a bus route servicing the mixed use developments. A new rail station is still required at the east end of the LAP area and will include pedestrian and cycle links across the canal. The existing rail station at Ashtown and No 120 bus service is effective in improving public transport's contribution to modal share (40% public transport use from the 2011 census). The road network is incomplete but when complete, it will provide good permeability throughout the LAP area for movement. The enhancement of pedestrian and cyclist routes will continue to be progressed.

The key environmental issues for material assets include deficient capacity in waste water treatments, traffic congestion, reduce waste generation, improve sustainable travel patterns and recycling.

Cultural Heritage (Archaeology, Conservation Areas and Built Heritage)

Archaeology

The Record of Monuments and Places records three sites within the LAP area including an historic castle site, burial ground and bridge. Two of these sites are within parkland along the Tolka Valley.

Conservation Areas

Conservation status is set out in the City Development Plan for both built and natural features. A conservation zone is designated along the Tolka Valley extending to Pelletstown House and along the Royal Canal (p NHA)

Built Heritage

There are 19 features of industrial heritage identified within or close to the LAP area, mostly associated with historic rail features and canal heritage. There are three protected structures in the LAP area which are historic stone bridges.

The key environmental issues for cultural heritage will the preservation and enhancement of protected structures, heritage features and in situ preservation of archaeology.

Landscape –Soils

The conversion of Greenfield sites and sealing of soils can release CO2 into the atmosphere and further reduce carbon sinks.

The Geological Survey of Ireland and DCC have collaborated on the Dublin SURGE project which sets out a data base of urban soil geochemistry. There are two sample locations within and close to the LAP area. Key environmental issues will be to create areas of public open space to improve the landscape character and provide soils as carbon sinks and to integrate features of the natural landscape into the wider city strategic green network.

3.0 Environmental Protection Objectives (Section 4 of the Environmental Report)

SEA Environmental Protection Objectives (EPOs) are measures used to show whether the objectives of a local area plan are beneficial to the environment, to compare the environmental effects of alternatives, or to suggest improvements.

If complied with in full, the environmental objectives set should result in an environmentally neutral impact from implementation of the plan**.**

Objectives set have been adapted to the local circumstances and environmental issues of LAP area and in some cases Dublin city (more strategic issues). The environmental protection objectives set for the SEA have been derived from environmental protection objectives which have been established in law at international, European Union, national and local level and from a review of baseline information and the environmental problems identified by the SEA team.

Table 5 below details the Environmental Protection Objectives set for the protection of each of the environmental receptors. It should be noted that all environmental protection objectives set impact on population and human health.

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PHH** To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.
Biodiversity/Flora & Fauna	**BFF** To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors
Water	**W1** To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area **W2** To reduce and manage the risk of flooding **W3** To provide adequate wastewater treatment, water distribution networks and drainage networks
Air Quality & Noise	**AN 1** To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter) **AN2** To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area
Climatic Factors	**CF** To minimise emissions of greenhouse gases
Material Assets	**MA1** To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling **MA2** To reduce the generation of waste and adopt a sustainable approach to waste management
Landscape & Soils	**LS1** To conserve and enhance valued natural landscapes and features within them including those of geological value **LS2** To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites
Cultural Heritage	**CH** To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features

4.0 Identification of Alternatives (Section 5 and Section 6 of the Environmental Report)

It is standard practice when devising a plan that various ways of fulfilling its objectives are considered. Dublin City Council, as the plan-making authority, is obliged therefore to consider alternative ways of achieving the objectives of the local area plan.

A workshop was held with the SEA team and local area plan team to consider alternative ways of delivering on objectives of the local area plan.

For the purposes of the Local Area Plan, three possible realistic alternatives have been identified and described, reflecting the need to achieve the following objectives:

- To provide effective guidance for the completion of development in the local area.

- To assist the completion of important social, physical and green infrastructure to service existing and future communities

- To address the issues of vacancy and interim proposals on lands not likely to be completed with development in the medium to long term

- To co-ordinate with developers and state agencies in the delivery of physical and social infrastructure to service the growing population (new rail station at the east end and a new primary school campus in the centre of the LAP area in particular).

The alternatives were:

Alternative 1 – Reissue the Pelletstown Action Area Plan 2000

Alternative 2 – Don't prepare an LAP and allow the Z14 land use zoning objective principles for strategic development and regeneration areas as the mechanism for development of the area

Alternative 3 – Develop a framework for proper planning and sustainable development of the Ashtown-Pelletstown area (Preparation of an LAP)

The LAP (Alternative 3) would seek to guide the successful completion of the area in accordance with the principles of good planning and sustainable development. It would present a clear phasing strategy and provide updated policies and objectives to co-ordinate the delivery of open space, quality housing, schools, public transport and improvements in the condition of vacant sites in the interim period. The LAP would allow a co-ordinated approach between different developers to integrate new developments and from an environmental perspective, integrate positive sustainable designs within schemes. A SuDS strategy, connected walking and cycling routes, a GI strategy, integrated sequence of open space areas, optimising densities close to public transport etc can all be co-ordinated. Policies and objectives can require each application to deliver high performance criteria for sustainable design and layouts including green technology, SuDS, renewable energy etc. Compliance with such requirements, would provide effective mitigation against the impact of development, would not be as strong if no statutory LAP was in place.

Having selected this alternative, three possible options with an influence on land use and density of development within the LAP area were examined. These options were:

Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area.

Option 2: Within a new LAP framework, promote lower net residential densities across the entire LAP area.

Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing.

The three identified options were assessed against the Environmental Protection Option 3 was selected as the preferred approach. This option was been found to have the most positive impact on the environment. With Option 3 a balance is struck where the locations closest to public transport are maximised with high density to promote the use of public transport, increase the viability services and promote sustainable modes of travel. Lower density locations will encourage family orientated

housing areas but all locations are well integrated with public open space, walking and cycling routes. This provides opportunities for more green spaces and integration of strong GI principles for environmental protection.

5.0 Evaluation of the LAP (Section 7 of the Environmental Report)

The Environmental Report evaluates the policies and objectives of the local area plan and assessed each policy and objective against the Environmental Protection Objectives (an Evaluation Matrix is set out in Appendix A.

Population and Human Health

The policies of the plan have been found to have overall significant beneficial and long term impacts on population and human health. The plan focuses in particular on mechanisms that deliver the necessary physical, social and environmental infrastructure for the local area. The plan supports residential development by seeking to deliver community, educational and mixed retail services. It seeks the continued development and strengthening of two mixed use village nodes at the west (Ashtown Station) and the east (Ratoath road gateway) end of the plan area. Both locations will be serviced by quality public transport (a new rail station and public square is proposed for the east node). Employment generating uses are encouraged in the mixed use centres benefitting from completed road infrastructure, public transport and a high quality public realm. The plan supports the protection and creation of new amenity areas including children's play areas, allotments and enhancement of bio diversity. It supports the development of green linkages (walking and cycling) between open space within the LAP area and amenities in the wider area including the Phoenix Park and Tolka Valley Park. It supports the development of recreational amenities along the Royal Canal.

Housing policy and objectives seek the development of a range of unit types with particular emphasis on quality family orientated housing.

Biodiversity, Flora and Fauna

The plan was found largely to have potential for significant beneficial and long term impacts on the biodiversity, flora and fauna of the area. The plan includes a specific chapter for green infrastructure which seeks the development of open space amenity, tree planting, attenuation lakes and ecological corridors. Policies and objectives that promote sustainable modes of transport and sustainable building design will help to reduce carbon emissions and promote a cleaner environment.

An interim land use strategy for vacant sites is required so that the lands can be visually improved and used for landscaping, recreation or community uses (such as allotments) in the temporary period before full development is completed.

The protection of water and improvement of water quality status in rivers is promoted in the LAP.

Water

The plan places emphasis on high quality and sustainable densities to consolidate the area and achieve population and economic growth. A potentially significant adverse impact of the plan on water is the potential deterioration of water bodies. Dublin Region's wastewater treatment plant at Ringsend is currently operating at capacity. Without the provision of upgraded and new wastewater infrastructure, the city's ability to absorb additional population, economic growth and development is seriously restricted. This impact is indirect and cumulative. The infrastructure improvements required are at a city level. The impact is in the short to medium term as infrastructure improvements will

facilitate growth and protect water. Mitigation is required to ensure that the infrastructure is adequate to accommodate phased development in the short to medium term pending upgrades to facilitate long term growth. The LAP sets out a robust phasing strategy under Chapter 5 which indicates the location for next phase development, land use and quantum of development and require infrastructure. Policies further affirm that water supply, waste water treatment and network capacity need to be improved in tandem with phasing.

Other policies and objectives have been found to have likely significant beneficial impacts on water in the area where they seek improvements in water quality, compliance with measures and targets set out by the Water Framework Directive and Eastern River Basin Management (for the River Tolka) and the preparation of surface water drainage plans that employ SuDS measures.

Air Quality & Noise

Overall the local area plan will have significant beneficial and long term impacts on air and noise. Emissions from the transport sector are the main threat to air quality. The emphasis throughout the plan is on reducing the need to travel by private car whilst encouraging and facilitating modal change to more sustainable forms of transport e.g. travel by foot, bicycle and public transport.

Policies and objectives of the LAP seek to improve access to public transport and enhance walking and cycling through the LAP area to locations, in particular recreation locations, in the wider locality.

Reducing the need to travel by private car will serve to have significant beneficial long term impacts on the air quality of the area. In particular the objective that 40% of all journeys are to be made by public transport and a further 10% by soft modes will have a positive impact.

Policies and objectives also seek good quality sustainable design which will promote energy efficient buildings, reduce energy consumption and improve air quality.

Policies and objectives seeking enhance greenery, provision of open space and tree planting will promote good air quality.

In relation to noise, again transport is the main issue. Traffic noise is the dominant noise source in the area. The emphasis throughout the plan is on reducing the need to travel by private car whilst encouraging and facilitating modal change to more sustainable forms of transport e.g. travel by foot, bicycle and public transport. The policies and objectives promoting this modal change will have significant beneficial and long term impacts in terms of noise in the area.

Implementing the local area plan will result in high levels of construction activity and associated site traffic movements with potential for negative impacts on the environment in terms of vibration, noise, dust, exhaust emissions etc. However these impacts are not considered to be of a strategic nature, will be temporary in their impact and overall are more appropriately dealt with at project level. Some development proposals may also be accompanied by an Environmental Impact Statement (EIS) which will provide for mitigation of negative impacts.

High density development, particularly within the village nodes, is based on sustainable principles to concentrate a larger population and mixed services accessible to public transport. A concentration of mixed activities could lead to long term adverse impacts on the population and disturb biodiversity unless mitigation is used in building quality (noise insulation and compatible uses) and set backs from amenity corridors.

Climatic Factors

The LAP will promote the completion of development in the LAP area including the consolidation of residential development, mixed services and transportation networks. Housing objective HO1 encourages the sustainable development of approximately 940-1300 residential units on remaining development lands in the LAP area.

Increased urban development will have demand on energy use with potential for significant long term adverse impacts on climate. However, there are fundamental sustainable development principles incorporated into the LAP strategy including the utilisation of the land resource efficiently so that a high population is achieved on lands serviced and zoned and accessible to public transport and services. This will help to reduce demand for housing land on Greenfield sites elsewhere.

Policies and objectives that promote sustainable land use patterns will promote more energy efficient formats of development, in particular walkable neighbourhoods.

Policies and objectives that promote sustainable modes of travel, in particular use of public transport, walking and cycling, will reduce private car demand and help reduce CO2 emissions to improve air quality.

Policies and objectives that promote high quality sustainable design, energy efficiency and recycling will reduce the impact of development on using the earth's resources and energy consumption.

Policies and objectives that promote a high quality green environment, tree planting and open space provision will improve air quality.

Material Assets

Overall the plan will have significant beneficial impacts on transport in the area. The need for a greater modal shift from private car to more sustainable forms of transport is strongly emphasised. Walking and cycling is encouraged by creating quality routes through the LAP area and connecting to the wider locality, in particular south across the canal and to the Phoenix Park. The completion of the internal street network is promoted through the phasing strategy. Movement on the wider local road network will be improved by proposals for a part one way system on River Road, support for a realignment of a section of Ratoath Road to by-pass O'Reilly's Bridge and the rail line level crossing and proposals for an improved rail level crossing at Ashtown Station. The provision of a new rail station at the east end of the LAP area will service residential and mixed use services with public transport and increase accessibility for a larger extent of the population to public transport.

The plan will also serve to have significant beneficial impacts on waste management as the policies and objectives of the plan are focused on delivering sustainable infrastructure, including for waste management, as well supporting the principles of good waste management, to prevent and minimise waste, to develop biological treatment, encourage and support material sorting and recycling and support the provision of waste to energy.

Landscape

The plan will serve to have potential significant beneficial impacts overall on landscape and soils of the area. The context of this LAP is that the area is in a state of transition with developments previously permitted and commenced. The LAP promotes a completion of development and an

updated strategy to ensure that this completion is now phased and accompanied by proposals for temporary site treatment.

The policies and objectives of the plan encourage initiatives on vacant sites as interim proposals for the physical, visual and environmental improvement of vacant land banks. These are temporary and positive impacts. High quality urban development accompanied with landscaping schemes and the delivery of public open space and amenity areas will improve the long term physical and visual impact of the landscape.

Cultural Heritage

The LAP promotes protection and enhanced awareness of the key features of cultural and historic identity which are in the local area. The plan seeks to preserve the character and historic fabric of the Royal Canal and Tolka Valley conservation areas, features of industrial heritage and in-situ archaeological heritage, all of which will be a long term benefit.

6.0 Mitigation (Section 8 of the Environmental Report).

Potential significant adverse impacts of implementing the LAP arise as a result of policies and objectives to facilitate an increased population by achieving high densities, economic growth, improvements in infrastructure, increased access to recreational areas and improving new patterns of pedestrian and cycle movements. While these policies and objectives are fully in line with city, regional and national policy to consolidate and ensure a more compact city with greater intensity of uses and to ensure that the city's role as the economic engine of the state is strengthened there is potential for significant adverse impacts on the receiving environment unless mitigated against. Mitigation measures are the measures to prevent, reduce and as fully as possible offset any significant adverse environmental effects as a result of implementing the plan.

Policies and objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the local plan. Mitigation in the form of policies and objectives serve to formalise the mitigation measures and fully integrates them into the local area plan process.

Water – Mitigation Policy and Objectives

IW1: To actively seek the funding and delivery of key infrastructure including water supply and waste water for the Dublin Region to enable development in the Ashtown – Pelletstown area.

IW2: To ensure that development is permitted in tandem with available water supply, waste water treatment and network capacity. To manage and phase development so that new schemes are permitted only where adequate capacity or resources exist or will become available within the life of a planning permission.

IW3: To require that all large development proposals include water conservation and demand management measures.

IW5: To seek to improve water quality and meet the objectives of the Eastern River Basin District Management Plan by ensuring the separation of foul and surface water effluent through the provision of separate sewage networks in any new permission, and by ensuring the implementation of a

stormwater management system in the detailed design of the plan lands, following the principles of Sustainable Urban Drainage Systems (SuDS).

IWO1: To promote the achievement of good ecological status, good ecological potential and good chemical status for the River Tolka by 2027, in accordance with the Water Framework Directive.

IWO2: To implement the programme of measures (POM) for the River Tolka set out in the Eastern River Basin Management Plan 2009 – 2015.

IWO8 -To ensure the protection of surface and ground water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and the protection of protected habitats and species including designated national and international conservation sites in implementing the plan.

IWO9 -The recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area , upon its adoption.

Biodiversity – Mitigation Policy and Objectives

GI 4: Any plan or project with the potential to give rise to significant direct, indirect or secondary impacts on a Natura 2000 site(s) shall be subject to an appropriate assessment in accordance with Article (3) of the Habitats Directive.

GI 5: To enhance the bio diversity value of the local area by protecting habitats, in particular along water bodies, and creating opportunities for new habitats through appropriate native species landscaping schemes to integrate the natural environment with high quality urban development and to control / remove invasive species.

GIO1: To complete the linear park along the Royal Canal in tandem with new development, enhancing biodiversity and ecological value, and improving amenity value for those using the towpath.

GIO2: In association with objective UD06 to provide/complete the following south-north green links from the Royal Canal to entrances to Tolka Valley park. Design and planting of these links should encourage biodiversity through careful selection of tree species and under storey planting.

GIO4: To implement a Green Points System as set out in section 4.11, as a flexible means to achieve improved green infrastructure for new developments, and incorporating a high level of biodiversity. (see also objective ES01 in chapter 4.11)

GIO5: Landscaped and amenity areas to address biodiversity and where possible provide aquatic features as part of SuDS proposals. Native species should be included as part of a 3 –layer structure to include canopy, shrub and ground layers.

GIO6: Amenity and/or security lighting shall be designed to minimise negative impacts on protected species such as bats. Such designs may include directional/cowled lighting or be based on the advice of an ecologist. Particular attention shall be paid to areas close to water bodies.

GIO7: To retain and enhance, where feasible, remnants of existing hedgerows and tree lines.

IWO7: Any works for infrastructure development adjacent to the Royal Canal pNHA, in particular works in pursuit of the delivery of Objectives MAO3, MAO6 and LUS02, shall require effective mitigation measures, agreed with Waterways Ireland and agreed with the planning authority through

the appropriate planning and environmental assessment process for each project, to minimise the potential for significant adverse short term and long term impacts on the canal, its water, habitats and amenity value.

Air and Noise– Mitigation Policy and Objectives

UDO10: To minimise the adverse impacts of noise and promote good health and a good quality of life through effective management of noise within the Ashtown-Pelletsown Local Area Plan.

7.0 Monitoring (Section 9 of Environmental Report)

For the purposes of the Strategic Environmental Assessment (SEA) of the local area plan, the SEA in-house team developed environmental protection objectives, targets and indicators early on in the SEA process. These are set out in Section 4 of this report. Monitoring of the indicators is essential in order to track the impacts of the development plan on the environment.

8.0 The SEA Statement

When the LAP is adopted, the final stage of the SEA process is undertaken i.e the SEA Statement.

This document is published and sent to the Environmental Authorities. It is required to include information on:

- How environmental considerations have been integrated into the LAP, highlighting the main changes to the plan which resulted from the SEA process.

- How the Environmental Report and consultations have been taken into account summarising the key issues raised in consultations.

In the Environmental Report, indicate what actions, if any, were undertaken in response, and the reasons for choosing the plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the plan was selected.

The SEA statement must include information on how environmental considerations have been integrated throughout the process. It must also describe how the preferred alternative was chosen to introduce accountability, credibility and transparency into the strategic decision making process.

9.0 Legislative Conformance

This report complies with the provisions of the SEA Regulations and is written in accordance with Schedule 2B of the Planning and Development (SEA) Regulations 2004-2011.

Section 1

1.0 Introduction

This is the Environmental Report (ER) prepared as part of the Strategic Environmental Assessment (SEA) of the Ashtown-Pelletstown Local Area Plan 2013-2019.

The Environmental Report is the part of the plan's documentation which contains the information required by Article 5 and Annex I of the SEA Directive and Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (as amended). The Appropriate Assessment, also prepared in parallel with the local area plan, was prepared and is available as a separate document. Both environmental assessments have been integrated into the statutory time-tables for the preparation of the local area plan.

1.1 Background

Strategic Environmental Assessment is the "*formal, systematic assessment of the likely effects on implementing a plan or programme before a decision is made to adopt the plan or programme."* SEA affords a high level of protection of the environment and contributes to the integration of environmental considerations at an early stage in the preparation of a plan with a view to promoting sustainable development. The SEA informed the plan of any significant environmental impacts.

This Environmental Report is not the SEA, rather it documents the SEA process and is the key consultation document in the SEA process and facilitates interested parties to comment on the environmental issues associated with the LAP.

1.1.1 Legislative Context of SEA and Purpose of the Environmental Report

The SEA was carried out to comply with the provisions of the SEA Directive (Directive 2001/42/EC) and those regulations transposing the Directive into Irish Law i.e. European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004) and Planning and Development Regulations 2004 (S.I. No. 436 of 2004) (as amended). Under the Directive 2001/42/EC and S.I. 436 of 2004 – Planning and Development (Strategic Environmental Assessment) Regulations 2004 Dublin City Council was required to carry out a Strategic Environmental Assessment of the Ashtown-Pelletstown Local Area Plan 2013-2019.

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

The Environmental Report is at the heart of the SEA process. It is a key mechanism in promoting sustainable development, in raising awareness of the significant environmental issues and in ensuring that such issues are properly addressed within the capacity of the planning system to do so.

There has been complete integration between the preparation of this Environmental Report and of the local area plan allowing for the local area plan to be informed by environmental considerations from the outset. The Environmental Report has guided the preparation of objectives, policies, and local area plan alternatives for the plan. The Environmental Report forms part of the local area plan documentation.

The likely significant effects on the environment of implementing the local area plan, and reasonable alternatives, are described and evaluated in this report. In accordance with Directive 2001/42/EC, this report includes information that may be reasonably required taking into account:

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

1.2 Strategic Environmental Assessment

1.2.1 Description of the Ashtown-Pelletstown Local Area Plan 2013-2019

The LAP is being prepared to guide the completion of a new residential and mixed use urban neighbourhood at Ashtown-Pelletstown, located c 4km north of the city centre at the boundary with Fingal County Council. The location is notable for its setting adjacent to the Royal Canal, adjacent to the main Dublin to Maynooth commuter rail line (with a rail station at Ashtown) and close proximity to the Phoenix Park.

The LAP covers c 42 ha of land zoned Z14 under the Dublin City Development Plan 2011-2017. The LAP boundary extends from Ashtown Road to the west to Ratoath Road to the east. The River Road forms the north boundary and the Royal Canal the south boundary.

The area is designated as one of the nine Key Development Areas of the city within the Core Strategy of the Dublin City Development Plan. It is an important location for facilitating future housing provision for the growing population of the city and to integrate residential development with high quality public transport, mixed use services for the community and high quality amenities.

The area was designated for development in 2000 with a non statutory plan titled the “Pelletstown Action Area Plan” produced to guide development under an over arching urban design framework. This plan provided guidance for the key spatial elements required within new developments to create a new neighbourhood with a high quality and distinct identity.

The plan promoted the integration of developments across different land ownerships, co-ordination of infrastructure provision, co-ordinating a clear hierarchy of connected streets, co-ordinating improved public transport facilities, providing an integrated amenities and public open space strategy and designated the node locations adjacent to public transport for mixed use services (village and town centre character functions) and higher density residential development.

To date, approximately 2121 residential units have been built with a population of over 3,700 people within the LAP area, 68% of which are in the 25-44 year age category. Of the residential units built to date, circa 80% are apartment types. The street infrastructure completed includes a main road (Royal Canal Avenue) connecting Ashtown Road to Rathoath Road through the LAP lands accommodating a regular Dublin Bus service (No 120) connecting Ashtown Rail Station to the city centre.

The village centre at Rathbourne has been developed including a new local supermarket (Superquinn), local cafes, restaurants and other services within a high quality public realm setting adjacent to Ashtown Rail Station. Local services have also been integrated with housing development including the River Centre (local shops, crèche and community facilities) and Royal Canal Park (local shop and crèche). Public open space amenity has been developed including the Crescent Park in the centre of the area and Royal Canal tow path providing a high quality linear park for walking, cycling and nature integrating both ends of the developing area and connecting the location the green networks of the wider city and region.

A new public park along the river Tolka Valley and River Road is at an advanced stage of construction and is due to open in 2013, providing a significant recreational resource for the community.

Despite this progress, the decline in the national economy and collapse in the property market in particular has slowed the pace of development with planning permissions either not commenced or incomplete. Large sites in prominent locations still remain vacant and where development has been completed, vacancy occurs, in particular commercial vacancy. Restrictions on public finance have also slowed progress in establishing a new primary school campus within the LAP lands and building a second rail station at the east end of the LAP area.

Through the Local Area Plan consultation process (Issues Paper consultation stage), the following key issues summarise the main concerns for this area which an LAP can help to address:

Transportation

- Taking in charge of streets.
- Enhanced pedestrian crossings.
- Improved access to Ashtown Station.
- Vehicular crossing of rail line at Ratoath Road
- Time delays for traffic at rail level crossings.
- Greater connections across the canal
- Car parking arrangements
- Progress with new rail station at east end of developing area.

Housing Character and Density

- Encourage a greater mix of house types to include houses in addition to apartments.
- Encourage larger house types (3 and four bedroom) and houses with garden spaces,
- Caution the construction of taller apartment buildings.

Amenities

- Enhance the potential of the Royal Canal as an amenity corridor.
- Develop a community focal point (fit for purpose centre)
- Deliver the primary school campus to encourage family living.
- Connect the amenities within and close to the LAP with Dunsink Observatory.
- Provide good access from the residential areas to the new Tolka Valley Park.

Development Sites

- Phase next on site developments to help supervision of walking routes such as the Canal route.
- Achieve better conditions for vacant sites including better boundary treatments and physical site conditions.
- Explore potential for temporary uses that involve the community such as allotments.
- Strengthen the sense of integration and cohesiveness between the east (Royal Canal Park) and west (Rathbourne) ends of the developing area.

The LAP is an opportunity to address the issues raised by the community and to co-ordinate with the key stakeholders and state bodies to progress the completion of physical and social infrastructure in

this area, build upon the success of progress achieved to date and improve the quality of the environment and quality of life for residents. The identification of this area for a specific plan reflects the need to ensure that future development is completed in an integrated and sequential manner.

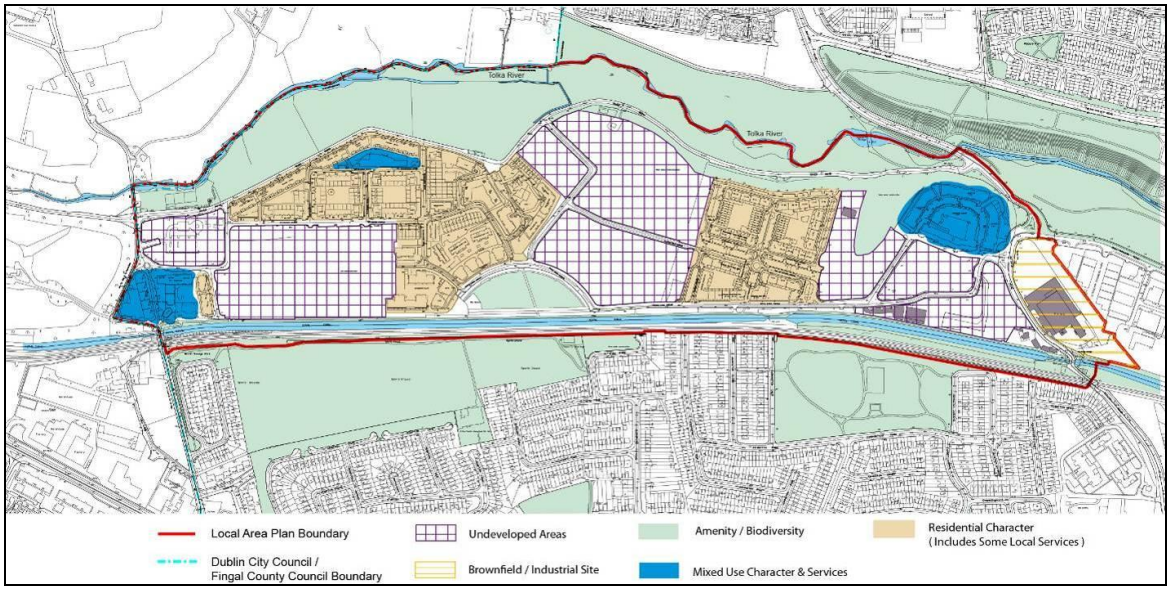
A non implementation of the plan would pro-long the extent of time that sites remain vacant and devoid of planned development works and landscaping. It would pro-long the duration of a poor visual and physical environment in the LAP area and would leave matters of concern for the local community and stakeholders unresolved.

A non implementation of the plan would also remove the opportunity to co-ordinate various stakeholders, remove the impetus to encourage progress and remove the opportunity to reassess the strategy for the completion of the area informed by new policies and objectives of the Dublin City Development Plan 2011-2017, adopted since the original plan was prepared in 2000 and since the larger original applications were permitted for development.

Collection of images of existing character in the Ashtown –Pelletstown LAP area.

Aerial Photograph showing the boundary of the Ashtown-Pelletstown LAP Area

Diagram from the Ashtown-Pelletstown LAP showing character areas including completed and undeveloped areas.



The Local Area Plan will be prepared with three distinct sections.

Section A will set out the survey, analysis and vision for the LAP. This section includes an overview of National, Regional and city planning policies which have to be considered in the preparation of the plan, an overview of the previous Pelletstown Action Area Plan (2000), survey of progress and character of development to date, demographic analysis and a community facilities audit.

The overall vision for the LAP is stated as:

'The creation of a sustainable living and working environment with a strong urban identity, anchored by mixed-use supporting hubs and benefitting from both good permeability and quality public transport options. The area shall be characterised by a vibrant social mix, reflected in a variety of housing options and community facilities/amenities, well integrated with the wider city via improved infrastructure and green infrastructure.'

Section B will set out the LAP Development Strategy under the headings of:

- Land Use
- Economic Development and Employment
- Movement and Access
- Urban Form and Design
- Housing
- Cultural Heritage
- Infrastructure and Water Management
- Green Infrastructure
- Community Infrastructure
- Environmental Sustainability and Sustainable Design.

Each chapter under Section B will include a number of specific policies and objectives which are to be achieved and adhered to over the timeframe of the LAP. The issues that policy and objectives will address include:

Land Use

- Seek the completion of development for predominantly residential and related uses.
- Connectivity between new residential areas in the LAP boundary and between the LAP area and wider residential neighbourhood.
- Develop community and educational uses.
- New community plaza adjoining the entrance to a new rail station at the east side of the LAP (Royal Canal Park end).

Economic Development and Employment

- Encourage employment in the mixed use east and west village centre nodes.
- Linkages to existing and emerging employment areas.
- Temporary and short term uses for employment in vacant units.

Movement and Access

- Complete a hierarchical road infrastructure network.
- Target 40% of residents to use public transport as the primary mode of travel and a further 10% to use soft modes such as walking and cycling.
- Advance an improvement scheme for River Road.

- Secure safe pedestrian and cyclist crossings to Tolka Valley Park.
- Facilitate a second train station close to Ratoath Road.
- Re-align Ratoath Road for a new bridge across the rail line and canal

Urban Form and Design

- Create an integrated, permeable and pleasant environment.
- Complete the crescent housing with an appropriate scale of buildings to successfully frame the crescent park.
- Complete a linear park along the Royal Canal Tow Path.
- Complete an attractive tree lined boulevard as the main road through the development.
- Create a gateway statement at the entrance to the area from Rathoath Road with some allowance for height and a requirement for a high quality architectural statement.
- Support a network of pedestrian and cycle routes that connect the Phoenix Park with Ashtown Station and Dunsink Observatory.
- Allow higher buildings at specific locations including the village node points at the east and west end (anchored by public transport rail stations), along the Canal linear park edge (for good surveillance of the route) and along the residential Crescent framing the Crescent Park.

Housing

- Seek a balanced range of house types and encourage in particular larger family sized units.
- Require a minimum of 50% of all units in LAP area to be 3 bedroom plus sized units.
- Promote sustainable average net densities in the range of 54-74 units per ha.
- Promote the sustainable development of approximately 920-1270 residential units across the remaining LAP lands.

Cultural Heritage

- Protect and conserve the special character of all built heritage features in the LAP area.
- Enhance the character of the Royal Canal and Tolka Valley conservation areas.
- Protect buildings and features of industrial heritage unique to the Ashtown-Pelletstown area.

Infrastructure and Water Management

- Ensure that development us permitted in tandem with available water supply and waste water treatment capacity.
- Require the separation of foul and surface water effluent by implementation of a storm water management system.
- To achieve good status for the water quality of the River Tolka by 2027 in accordance with the Water Framework Directive.
- All developments carry out specific Flood Risk Assessments.
- All applications to submit surface water drainage plans following the principles of SuDS.

Green Infrastructure

- Encourage the development of green infrastructure and implement a GI strategy.
- Complete a series of green links connecting natural amenity areas (the Royal Canal and River Tolka) and design these links to encourage biodiversity value.

- To support short term options for the planting of undeveloped lands pending future development.
- Landscaped and amenity areas to address biodiversity and where possible aquatic features as part of SuDS proposals.
- Implement a green points system for the design of new developments.

Community Infrastructure

- Actively promote the development of a new permanent primary school site at a reserved location in the centre of the LAP area in partnership with the Department of Education and Skills.
- To provide active sports and play facilities within new locations of public open space.
- To promote the Royal Canal linear park and Tolka Valley Park as active community and recreational resources.

Environmental Sustainability and Sustainable Design.

- Promote sustainable and energy efficient designs and technologies in site layouts and building designs.
- Promote flexible designs for buildings that can internally adapt in size and tenure for long term use.
- Implement a green points system for all new developments to meet environmental objectives and ensure attractive and bio diverse living and working environment.
- Section C will set out the Phasing and Implementation Strategy

Section C of the LAP sets out the Phasing and Implementation.

The priorities for the phasing are to deal with severance and promote the integration of existing communities. Facilities and connections must be progressed within each phase.

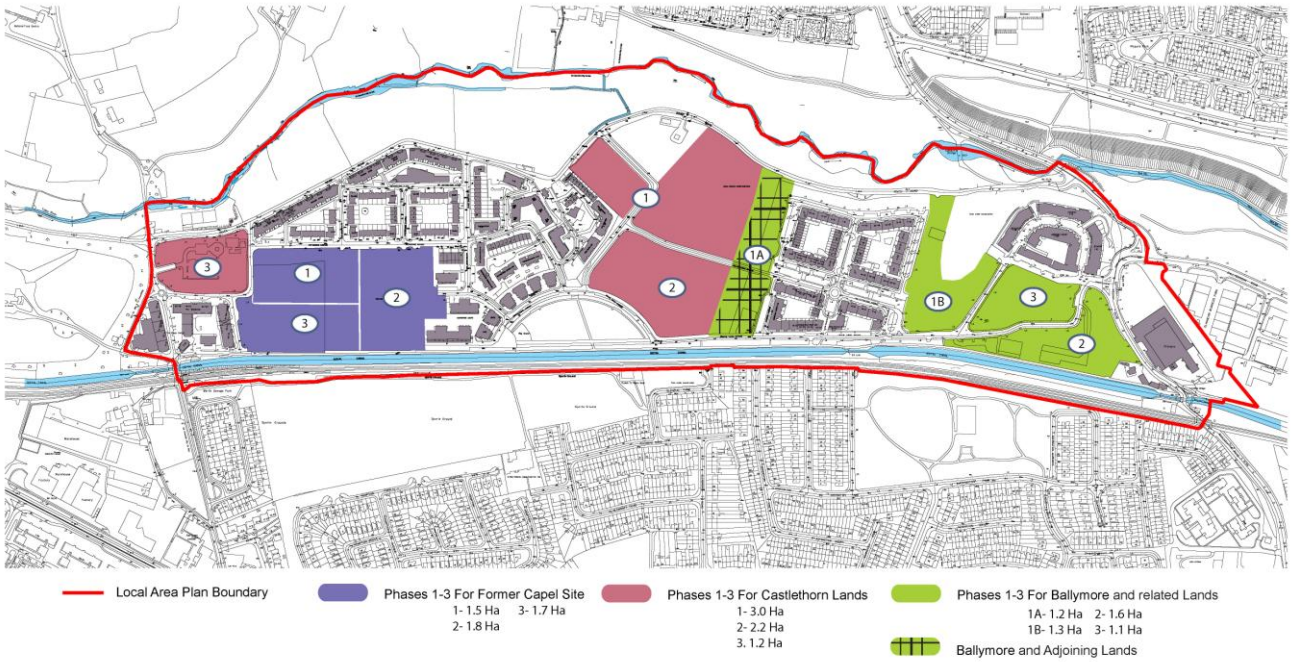
There are three phases identified for each of the three main landholdings (Castlethorn, Ballymore and Capel lands). Each phase may require a number of separate applications to complete it. A later identified phase may proceed only where there are clear benefits to delivering social and physical infrastructure, completing connections and addressing the problems set out in the LAP. However no subsequent phase of development can proceed unless all the elements of the previous phase, including infrastructure, are completed. Early phase development must also include measures which will be undertaken in improving the condition of vacant sites not likely to be completed for development over the short-medium time scale.

Land Holding	**General Phase 1 Character**	**General Phase 2 Character**	**General Phase 3 Character**
Castlethorn Holding involves 2 parcels of land. One centrally located, approximately 6 ha and the 2nd is located on north west corner of LAP approximately 1.2 ha.	In centre of LAP area. The phase requires family housing, will provide for new connections to integrate this phase with existing housing, and the second E-W route will eventually connecting to Phelan Avenue. Net residential density	Mix of house typologies including family units within a higher density format. Completion of the residential crescent framing Crescent Park**. Min of 4 storeys in height.** Net residential density targets 50-**70** units pha.	Site adjacent to existing village centre at Rathbourne. Suitable for higher density residential and mixed uses including community, commercial and retail. Opportunity for surveillance from new residential over Tolka Valley Park.

	targets 40-60 units pha.		**Building height needs to be in keeping with the established heights to the south and to the east, with a graded height profile to allow for optimum integration .** **Public Bus Service – developer to liaise with Dublin Bus with regard to providing a bus stop/terminus**. Net residential density targets 80 + units pha.
Land Holding	**General Phase 1 Character**	**General Phase 2 Character**	**General Phase 3 Character**
Capel (4ha) **Rectangular site located on the western part of the LAP , extending for approximately 4 hectares bounded to south by the canal towpath, and by development undertaken b Castlethorn Developments to the east and north, now Rathbourne Village and Rathbourne Avenue.**	Family housing location and opportunity for road frontage and surveillance of key routes. Integrate village centre with established housing areas in Rathbourne. Net residential density targets 40-50 units pha.	Mixed residential types with predominantly family housing. New residential development to provide supervision along canal. Complete the main boulevard and canal side open space. **Required for this phases will be completion of towpath and associated linear park of the southern side of the Phase 2 site.** Net residential density targets **50- 70 units pha**.	Mixed typology of housing in higher densities. **Phase will complete the pocket park and green routes running north south through the site.** Net residential density targets **70** + units pha.
Ballymore & Adjoining lands This holding involves 4 parcels of land interspersed by completed developments built by Ballymore. One site is centrally located within the LAP area,(c.2 ha) with the 2nd and 3rd sties adjoining each other located on the western side of the LAP of 5.2 ha, an. Some sites are currently hoarded. One site contains a large water retention feature.	Phase 1 (A) a 2ha rectangular ploy located between 1 & 2 of Castlethorn and the existing Royal Canal Park integrate existing residential areas through new development, complete key internal connecting routes and develop family housing . Densities in range of 40-60 for phase 1a. Building heights in the range of 2-4 storeys. Corner buildings can be up to 6 storeys. Will deliver a key internal connecting road linking Phelan Avenue through towards Pelletstown House. Phase 1 (B) residential location with water attenuation feature an opportunity to create a bio diversity park. Net residential density targets **50-70** units pha. This phase will deliver	Is the reverse L shaped site of approx, 1.6 ha and transverse by a watermain. Site bounded by Rathoath road to east, the canal to south, and by a curving internal road, already complete to the north and west. Important development area with frontages to canal and Ratoath Road. Opportunities for gateway character development. Mix of housing types, with a strong visual presence using height and design addressing the towpath and associated linear park (3-4 storeys). At western end of site a new public space to frame the access routes to the new train station Higher density residential and mixed uses.	Higher density housing. Best suited for residential housing . Green links to canal and bio diversity park. Net residential density targets 60+ units pha..

	the new park. For this holding phases 2 and 3 can be interchanged, or sections of each completed in tandem, reflecting the mix of units and uses sought and the angular nature of the sites in question.	Net residential density targets 60 units + pha..	

Diagram for the Ashtown-Pelletstown LAP showing phasing locations.



1.2.2 Integrating SEA into the Plan-Making Process

As with the Appropriate Assessment (AA), the SEA needs to be fully integrated with the various stages of the local area plan preparation process in order to ensure that the environmental implications do not impact negatively upon the environment as a result of changes to policy. Accordingly, Dublin City Council will adopt a precautionary and comprehensive approach, undertaking an environmental assessment at all stages of the plan making process.

1.3 Relationship of the Local Area Plan with other plans and programmes

The local area plan sits within a hierarchy of European, national, regional and local planning policies. A number of plans, policies, programmes and directives at European, national, regional and local level have been identified and taken on board in the preparation of the plan. **Table 1** below sets out the main plans, policies, programmes and directives identified and gives a brief summary of their main objectives.

Table 1 Relationship of the Local Area Plan with other Plans and Programmes

Plan / Programme	Summary of Key Objectives
EU Level	
SEA Directive (2001/42/EC)	Under the SEA Directive the plan requires an SEA. The plan must take into account protection of the environment and the integration of the plan into the sustainable planning of the country as a whole
Kyoto Protocol	Objectives seek to alleviate the impacts of climate change and reduce global emissions of Green House Gases (GHGs). The development plan has regard to the objectives and targets of Kyoto and aim to reduce GHG emissions from the management of residential and commercial development. Harnessing energy from natural resources could be considered to reduce overall GHG emissions
Energy End-Use Efficiency and Energy Services Directive (2006/32/EC)	
The European Landscape Convention (Florence 2000)	Aims to promote landscape protection, management and planning and to organise European co-operation on landscape issues
EU Directive 96/62/EC (Air Quality Directive)	Objective to improve air quality by controlling the level of certain pollutants and monitoring their concentrations
EU Water Framework Directive (2000/60/EC)	Aimed at improving the water environment, requiring member governments to take a holistic approach to managing their waters. Member

Plan / Programme	Summary of Key Objectives
	states must aim to achieve good status in all waters by 2015 and must ensure that status does not deteriorate in any waters
European Environment and Health Action Plan 2004 – 2010	Designed to give the EU the scientifically grounded information needed to help member states reduce the adverse health impacts of certain environmental factors and to endorse better cooperation between actors in the environment, health and research fields
EU Groundwater Directive 2006/118/EC	Developed in response to Article 17 of the Water Framework Directive
EU Floods Directive 2007/60/EC	Aim is to reduce and manage the risk that floods pose to human health, the environment, cultural heritage and economic activity
EU Directive 2002/49/EC	To define a common approach intended to avoid, prevent or reduce, on a prioritised basis, the harmful effects, including annoyance, due to exposure to environmental noise.
EU Habitats Directive 92/43/EEC	Protects over 1000 animals and plant species and over 200 'habitat types' which are of European importance
EU Birds Directive 79/409/EEC	Long term protection and conservation of all bird species living in the wild within the European territory of the member states
EU Drinking Water Directive 98/83/EC	Objective to protect the health of consumers in the EU and to make sure the water is wholesome and clean
EU Bathing Water Directive 76/160 EEC	To ensure good bathing water quality
EU Urban Waste Water Treatment Directive (91/271/EEC)	Aimed at protecting the environment from the adverse effects of urban wastewater discharges and discharges from certain industrial sectors
Soil Framework Directive (proposed)	Member states to adopt a systematic approach to identifying and combating soil degradation
EU Drinking Water Directive 98/83/EC	To protect the health of the consumers in the European Union and to make sure the water is wholesome and clean
Bathing Water Directive 2006/7/EC	Repeals Bathing Water Directive 76/160/EEC on 31st December 2014
91/271/EEC as amended by Directive 98/15/EEC Urban Wastewater Treatment	To protect the environment from the adverse effects of discharges of urban wastewater by the provision of wastewater collecting systems and treatment plants for urban centres
European Commission White Paper on	Sets out a framework to reduce the EU's

Plan / Programme	Summary of Key Objectives
Adapting to climate change: Towards a European Framework for Action (COM (2009) 147)	vulnerability to the impact of climate change
EU Shellfish Waters Directive 2006/113/EC	Concerns the quality of shellfish waters and applies to those waters designated as needing protection or improvement in order to support shellfish life and growth
EU Air Quality Directive 2008	Sets binding standards for Air Particles
Directive on Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC	Provides standards for fine particle PM2.5 pollution in the European Union
Pesticides Framework Directive (proposed)	To control the storage, use and disposal of pesticides to minimise risk to health and environment from their usage and to include measures which relate to soil management strategies in land use planning
Birds and Natural Habitats Regulations (S.I No 477 of 2011)	Provides anew for the implementation in Ireland of Council Directive 92/43/EEC on habitats and protection of wild flora and fauna and on the protection of wild birds. Provide for identification, classification and other procedures relative to the designation of sites, conservation objectives, measures, appropriate assessment and Natura Impact Statement and protection of wild flora and fauna.
National Level	
Water Services Act 2007 (As amended)	Focuses on management of water 'in the pipe' as opposed to river water quality etc
National Climate Change Strategy 2007 – 2012	Sets out measures for Ireland's reduction in emissions
National Development Plan 2007 – 2013	€184 mil infrastructural investment plan to build a prosperous country for Ireland's population
National Spatial Strategy 2002 - 2020	20-year national planning framework to achieve more balanced social, economic and physical development across Ireland based on Gateways and Hubs
Transport 21 (2006 – 2015)	€34 billion transport capital investment framework under the NDP to address past investment backlogs and continuing growth in transport demand
Actions for Biodiversity 2011-2016 – Ireland's National Biodiversity Plan	Objective to promote the conservation and sustainable use of biodiversity
National Energy Efficiency Action Plan 2009 - 2020	Sets out the government's actions to achieve 20% energy efficiency saving

Plan / Programme	Summary of Key Objectives
Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities 2009	Objective to produce high quality sustainable development which includes the integration of schools, community facilities, employment, transport and amenities in a timely and cost-effective manner
Urban Design Manual – A Best Practice Approach	Companion document on best practice implementation of 'Sustainable Residential Development in Urban Areas'
The Planning System and Flood Risk Management – Guidelines for Planning Authorities 2009	Aims to integrate flood risk management into the planning process
Preventing and Recycling Waste: Delivering Change (2002)	Aims to achieve an integrated approach to waste management based on the internationally accepted hierarchy of options with waste prevention favoured
Framework and Principles for the Protection of the Archaeological Heritage (1999)	Outlines the State's general principles in relation to the management and protection of archaeological heritage
European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 S.I. 435 of 2004 and **Planning and Development (Strategic Environmental Assessment) Regulations 2004 S.I. 436 of 2004**	Transposes EU Directive 2001/42/EC into Irish Law
Architectural Heritage Protection Guidelines for Planning Authorities (2004)	Practical Guide for planning authorities to deal with the provisions of Part IV of the Planning and Development Act
Wildlife Act 1976 **and** **Wildlife (Amendment) Act 2000** **European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997) and amendments S.I. No. 233 of 1998 and S.I. 378 of 2005**	Main Objectives of 1976 Act: To provide for the protection of flora and fauna, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims Main Objective of the 2000 (Amendment) Act: To give statutory protection to NHAs, geological and geomorphological sites, enhance the conservation of species and habitats, enhance hunting controls, inclusion of most species for protection, regulation of commercial shoot operators, ensure compliance with international agreements, increase fine levels for contravention of Wildlife Acts, strengthen the provisions relating to the cutting of hedgerows, strengthen the protective regime for SACs and to give statutory recognition to the Minister's responsibilities in regard to promoting the

Plan / Programme	Summary of Key Objectives
	conservation of biological diversity Transposes EU Habitats Directive 92/43/EEC into Irish law
European Communities (Drinking Water) (No.2) Regulations 2007 S.I. 278 of 2007	Transposes EU Water Framework Directive (2000/60/EC) and EU Drinking Water Directive 98/83/EC into Irish Law
European Communities (Water Policy) Regulations 2009 S.I. 272 of 2009	Gives effect to the measures needed to achieve the environmental objectives established for the bodies of surface water by Directive 2006/60/EC
Quality of Bathing Water Regulations, 1992 S.I. 155 of 1992	Transposes EU Bathing Water Directive 76/160/EEC into Irish Law
Urban Wastewater Treatment (Amendment) Regulations 2010 S.I. 48 of 2010	Gives effect to Directive 2000/60/EC and to Directive 91/271/EEC
European Communities (Water Policy) Regulations 2003 S.I. 722 of 2003	Transposes the Water Framework Directive into Irish Law
European Communities Quality of Shellfish Waters (Amendment) Regulation 2009 S.I. 55 of 2009 & Malahide Shellfish Waters Pollution Reduction Programme for Programmes as per SI No. 268 of 2006	To give effect to in the State to Directive 79/923/EEC of 30th October 1979 on the quality required of shellfish waters
European Communities (Assessment and Management of Flood Risk) Regulations 2010 S.I. 122 of 2010	Transposes EU Floods Directive 2007/60/EC into Irish Law
Environmental Noise Regulations 2006 S.I. 140 of 2006	Transposes EU Directive 2002/49/EC into Irish Law
Ambient Air Quality and Assessment and Management Regulations, 1999 S.I. 33 of 1999	Transposes EU Directive 96/62/EC (Air Quality Directive) into Irish Law
National Renewable Energy Action Plan (NREAP)	The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC
S.I. 436 of 2004 Planning and Development (Strategic Environmental Assessment) Regulations 2004	
Regional Level	
Retail Strategy for the Greater Dublin Area (GDA) 008 - 2016	Aims to set out a co-ordinated, sustainable approach to the assessment and provision of retail within the Greater Dublin Area
Greater Dublin Strategic Drainage Study	Identifies the policies, strategies and projects for developing a sustainable drainage system for the

Plan / Programme	Summary of Key Objectives
	Greater Dublin Region; Identifies the need for the North Dublin Wastewater Treatment Plan and the Orbital Sewer, improvements in the drainage capacity and the need to upgrade existing treatment plants to their ultimate capacity
Dublin Coastal Flooding Protection Project	Aims to address and assess the risk from tidal flooding around the coastline
Regional Planning Guidelines for the Greater Dublin Area 2010 - 2022	Aims to direct the future growth of the Greater Dublin Area over the medium to long term involving sustainable planning and through the protection of environmentally sensitive or important locations
Waste Management Plan for the Dublin Region 2005 – 2010	Provides a framework for minimising waste, encouraging recycling and ensuring the avoidance of environmental pollution. Policy also includes diversion from landfill in accordance with targets set out in the European Union Landfill Directive
DTO Strategy 2000 – 2016 **A Platform for Change**	Integrated, multi-modal transportation strategy for the Greater Dublin Area
2030 Vision for Greater Dublin Transport	To identify areas of accessibility within the Dublin Region and the most appropriate locations for intensification
Dublin Agglomeration Noise Action Plan relating to the Assessment and Management of Environmental Noise 2008 - 2013	To identify the scale of the noise problem in the Dublin Region and set realistic targets for noise reduction if so required
Eastern River Basin District - River Basin Management Plan 2008 and Associated Programme of Measures (POM)	Describes the actions that are proposed to ensure the necessary protection of waters in the Eastern River Basin District
Greater Dublin Strategic Drainage Study (GDSDS) 2005	Objective to identify the policies, strategies and projects for developing a sustainable drainage system for the Greater Dublin Area
Water Supply Project Dublin Region	Study determining a new major water source to meet projected demand in the long term
Eastern River Basin District Management Plan 2009 – 2015 and Associated Programmes of Measures	Describes the actions that are proposed to ensure the necessary protection of waters in the Eastern River Basin District
Catchment-Wide Flood Risk Assessments	Requirement of the EU Floods Directive
2030 Vision, DTO ()	To identify areas of accessibility within the Dublin Region and the most appropriate locations for intensification
Dublin City Level	
Dublin City Development Plan 2011-2017	The development plan sets out the spatial framework for the city within the context of

Plan / Programme	Summary of Key Objectives
	National and regional plans.
Dublin Docklands Master Plan 2008	Key objective to secure the sustainable social and economic regeneration of the area, with improvements to the physical environmental being a vital ingredient
Dublin City Council Biodiversity Action Plan 2008	Aims to achieve the objectives of the Dublin City Development Plan relating to quality of life, green spaces, amenity provision, planning development and protection of the natural heritage in the city as well as working towards the world target the "achievement by 2010 of a significant reduction in the current loss of biological biodiversity"
Dublin Agglomeration Noise Action Plan relating to the Assessment and Management of Environmental Noise 2008 – 2013	For the Dublin Agglomeration distinct noise maps have been produced for all roads, and all railway lines including the Luas (light rail) for all four local authorities in the Agglomeration. These maps cover the long term average periods for night time (Lnight) and 24 hours (Lden).
Green City Guidelines – Advice for the Protection and Enhancement of Biodiversity in Medium to High-Density Urban Developments 2008	Provides practical guidance to planners and developers on how to integrate biodiversity into new developments, specifically medium to high density housing developments in urban areas
Climate Change Strategy for Dublin City 2008 - 2012	Focuses on the continuation of the implementation of a range of measures across key areas involving a cross-cutting approach and includes targets in energy, planning, transport, waste management
Dublin City Sustainable Energy Action Plan 2010-2020	This long-term vision shows how, the introduction of carbon neutral and low-energy buildings, improvements in information technology and the development of a low-carbon transport system will help Dublin to reduce its carbon emissions by 50 per cent.
Cultural Strategy for Dublin City 2009	Aims to fulfil the vision "Culture is integral to Dublin city's identity and quality of life"
Dublin City Heritage Plan	Sets out priorities to identify, protect, preserve, enhance and increase awareness of Dublin's heritage in the area of the historic built environment, the natural environment and the social and cultural history of the city
Dublin City Council's Guidelines for Open Space and Development Taking in Charge (2009)	Guidelines issued by Dublin City Council which include required measures
Habitat Management Plans	Management Plans produced for five parks – Springdale Park, St. Kevin's Park, St. Anne's Park, Le Fanu Park and Bushy Park - and being implemented by Dublin City Council Parks and Landscape Services

Section 2

2.0 Strategic Environmental Assessment Methodology

The SEA was carried out in accordance with the requirements of the 2004 SEA Directive and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (as amended). The SEA Guidelines for Planning Authorities, published by the Department of Environment, Heritage and Local Government (DoEHLG) in 2004, were utilised for guidance purposes.

In line with best practice recommended in the SEA Guidelines, the SEA was carried out by an inter-departmental, multi-disciplinary team. The inter-departmental team was made up of experts in all of the environmental receptor areas to be addressed. A series of meetings were also held. The meetings were attended by the SEA team and the local area plan team. All stages of the SEA were led and coordinated by the Planning and Economic Development Department.

A series of steps were taken during the assessment process which are summarised below in **Sections 2.1** to **2.7** below.

2.1 Screening

SEA is mandatory for local area plans where the population is 5,000 persons or more, or where the area covered by the local area plan is greater than 50 square kilometres as directed under the 'Planning and Development (Strategic Environmental Assessment) Regulations 2004 and as amended by Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. 201 of 2011).

2.2 Scoping

Having established that SEA is mandatory for local areas plans, the next step was scoping the contents of the Environmental Report (ER). Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. Scoping is undertaken early in the process to ensure that all relevant issues are identified and dealt with.

Under Article 6 of the SEA Directive, the competent authority, in this case Dublin City Council, preparing the plan is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to the included in the Environmental Report. Under S.I. 436 of 2004 and as set out in the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and S.I. 201 of 2011 amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004 the statutory consultees have been established as being:

- Environmental Protection Agency (EPA)
- Department of the Environment, Community and Local Government
- Department of Agriculture, Fisheries and Food
- Department of Communications, Energy and Natural Resources
- Department of Arts, Heritage and the Gaeltacht
- Fingal County Council (as this LAP adjoins the boundary with Fingal County Council).

2.2.1 Scoping and consultation with the environmental authorities and adjoining local authorities

In line with best practice, a Scoping Issues Paper was prepared by the planning authority to facilitate the consultation process. Initial consultation was carried out in January 2013 with the issuing of the Scoping Issues Paper to the above-mentioned statutory environmental authorities and the adjoining local authority. Written feedback was received from the environmental authorities and was taken on board.

2.2.2 Summary of Feedback from the Environmental Authorities

An SEA pack complied by the EPA is submitted to Dublin City Council in the preparation of SEA. Recommendations from EPA state that the local area plans should:

- Incorporate specific relevant objectives and measures for individual water bodies set out in the Eastern River Basin Management Plan and associated Programme of Measures (POM). The Plan should not hinder, and where possible promote the achievement of these specific objectives at water body level. In addition the plan should outline the current water quality status and the status to be achieved by 2015 in any receiving waters covered by the Plan.

- The SEA and Plan making processes should address drinking water supply capacity, leakage and quality in the Plan area.

- The Plan should implement the European Communities (Drinking Water)(No.2) Regulations 2007.

- The Plan should seek to implement best practise in the provision of appropriate drinking water to service the Plan area.

- The Plan should include, where applicable, specific objectives for the improvement of any water supplies in the Plan area.

- The Plan should refer to the EPA guidance handbook on the Implementation of the Regulations for Water Services Authorities for Public Water Supplies which has been prepared under the European Communities (Drinking Water) (No.2) Regulations 2007.

- The Plan should highlight the requirement under The Waste Water Discharge (Authorisation) Regulations for all wastewater discharges, including storm water discharges which come within the scope of these Regulations to be licensed.

- The Plan should include as appropriate measures to improve water quality impacted by waste water discharges.

- The Plan should implement the Urban Waste Water Treatment Regulations 2001 and 2004.

- The Plan should, where possible and appropriate, include/ and /or promote the inclusion of specific Policies and Objectives regarding the provision and maintenance of adequate and appropriate wastewater treatment infrastructure to service zoned lands and developments within the Plan area.

- The Plan should include as appropriate measures to ensure that trade effluent in the area covered by the Plan is managed properly and discharged to sewer in accordance with relevant discharge licences where appropriate.

- The Plan should include clear Policy and Objective for the protection of groundwater resources.

- The Plan should include measures to promote conservation of water.

- The Plan should include provisions to promote the preparation and implementation of Water Services Plans.

- The Plan should make reference to the E.U Directive (2007/60/EC) on the assessment and management of flood risks entered into force on 12 December 2007.

- The Plan should provide for protection, management, and as appropriate, enhancement of existing wetland habitats where flood protection/management measures are necessary.

- Consideration should be given to incorporating hydrometric information.

- The Plan should include, where relevant, a specific commitment to deliver the requirement of the Habitats Directive.

- The plan should incorporate, as relevant, the objectives of the Water Framework Directive River Basin Management Plans.

- The Plan should promote the protection of salmonid waters, designated fisheries and shellfisheries where relevant and appropriate within each Plan area and adjoining LA areas.

- The Plan should include policies/objectives for the protection of NHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries, Refuges for Fauna or Flora and sites proposed for designation.

- The Plan should promote the provision/application of appropriate buffer zones between designated ecological sites and areas zoned for development.

- Consideration should be given to including policies/objectives in the Plan for the development of green infrastructure within the Plan area.

- The Plan should promote specific Policies/Objectives and associated provisions for the development and promotion of appropriate climate change adaptation and mitigation measures.

- Consideration should be given to promoting specific Policies / Objectives in the Plan for the protection and improvement, as appropriate, of air quality within the Plan area.

- The Plan should promote, where appropriate, the use of renewable energy systems.

- The Plan should ensure provision of adequate and appropriate infrastructure and to serve both the existing community and likely future predicted increases in population within the Plan area.

- The Plan should promote and, as appropriate provide for, the provision of sustainable modes of transport.

- The Plan should promote where relevant and appropriate long term, sustainable planning for tourism within the Plan area.

- The Plan should promote the integrated planning for adequate and appropriate infrastructure to service any development proposed and authorised during the lifetime of the Plan.

- The Plan should promote the integration of land use zoning and development to existing and planned availability of waste infrastructure and capacity.

2.3 Preparation of Scoping Report

Following feedback from the environmental authorities on the Scoping Issues Paper, a Scoping Report was prepared taking into account the recommendations and advice received from the environmental authorities and also those issues raised in the baseline studies carried out by the SEA team.

Devising the Scoping Report is considered good practice, although not statutorily required. The report presented the current understanding of the main key environmental issues and could also be used as a tool to generate further comment from stakeholders on the scope and approach of the SEA.

2.4 Environmental Baseline Data

The main purpose of describing the existing environment is to identify the current state of the environment, against which the likely effects of implementing the local area plan can be assessed. The baseline in this instance refers to the existing state of the environment in the Ashtown-Pelletstown area.

The impacts of the local area plan can be estimated as the difference in environmental conditions with or without implementation of the plan. The existing environment of Ashtown-Pelletstown is characterised by way of a description of the environmental receptors as set out in SEA Directive i.e.

- Population
- Biodiversity, flora and fauna
- Air
- Climatic Factors
- Water
- Material Assets (transport and waste management)
- Cultural Heritage (including architectural and archaeological heritage)
- Soil and Landscape

The baseline data gathered by the SEA team was readily available, relevant data. Particular reference was given to those aspects of the environment which are experiencing particular plan-related problems.

The full baseline data is presented in **Section 3** – **Characteristics of the Existing Environment in Ashtown – Pelletstown** of this report.

2.5 Environmental Protection Objectives, Targets and Indicators

SEA objectives, referred to as Environmental Protection Objectives, are a recognised way of testing the environmental effects of the local area plan. They serve a different purpose from the objectives of the local area plan, though in some cases they may overlap. The environmental protection objectives

are used to demonstrate whether the local area plan will have a negative, positive or no impact on the environment, to compare the environmental effects of alternative plan scenarios and to suggest improvements if necessary.

For the purposes of the environmental assessment of the local area plan, relevant environmental protection objectives were set by the SEA team having regard to environmental protection objectives established in law, policy, other plans or programmes and from an in-depth knowledge of existing environmental issues to be addressed. Each environmental receptor had between one and four associated environmental protection objectives. For each objective a target was assigned along with measurable indicators which allows for monitoring.

Section 4 of this report sets out the Environmental Protection Objectives, Targets and Indicators set by the SEA team.

2.6 Identification, Description and Consideration of Alternatives

Article 5 of the SEA Directive requires the plan-making authority to identify, describe and evaluate alternative ways of realising the objectives of the plan. As stated in the Directive "*an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated*." Article 13E of the SEA Regulations 2004 require the identification, description and evaluation of the significant effects on the implementing the plan, and reasonable alternatives and, in accordance with Schedule 2B an outline of the reasons for selecting the alternatives.

Dublin City Council, as the plan-making authority, was obliged therefore to consider alternative ways of achieving the objectives of the local area plan for Pelletstown- Ashtown. SEA involves a systematic and explicit appraisal of alternatives.

For the purposes of the preparation of the local area plan, three possible realistic alternatives were identified, described and tested against the environmental protection objectives. These three alternatives are as follows:

- Reissue the Pelletstown Action Area Plan 2000
- Don't prepare an LAP and allow the Z14 land use zoning objective as the mechanism for development of the area
- Develop a framework for proper planning and sustainable development of Ashtown-Pelletstown.

From the option chosen, three alternatives for the residential component of the land use proposals were then tested against the environmental protection objectives which included:

- A high net residential density model
- A low net residential model
- A range of densities.

The alternatives were considered reasonable, realistic, capable of implementation and set at the appropriate level at which the local area plan will be implemented operating within the planning hierarchy i.e. the higher the level of the plan the more strategic the options which are available.
Section 5 of this report sets out the details of the Alternatives identified,

Section 6 details the evaluations of the identified local area plan alternatives

2.7 Assessment of the Impact of the Local Area Plan on the environment

In accordance with the SEA Directive, the likely significant effects on the environment of implementing the local area plan must be assessed. In line with best practice, as set out in the SEA guidelines, the local area plan team as a whole carried out the assessment of the likely significant effects of the plan by testing policies and, as a precautionary measure, objectives contained within the local area plan against the environmental protection objectives devised by the SEA team. Policies and objectives were determined to have 'A Significant Beneficial Impact', 'A Significant Adverse Impact', 'An Insignificant Impact / or No Relationship with' or an 'Uncertain Impact' on the environmental receptors. The evaluation of the policies is set out in

Section 7 of this report contains the findings of the detailed evaluation of the preferred alternative against the Environmental Protection Objectives.

2.8 Mitigation

Annex I of the SEA Directive requires the Environmental Report to include measures envisaged to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the plan. These measures are referred to as 'mitigation' measures. These mitigation measures include proactive avoidance of adverse effects on the environment as well as actions taken after any negative effects are noticed.

Section 8 of this report describes the measures devised to mitigate against any potential significant impacts of implementing the Ashtown-Pelletstown LAP 2013-2019.

2.9 Monitoring

The significant environmental effects of the implementation of the local area plan must be monitored in order to identify at an early stage unforeseen adverse effects and to allow for appropriate remedial action to be undertaken. A monitoring programme has been devised having regard to the existing monitoring mechanisms currently in place in Dublin City Council.

Section 9 of this report sets out the Monitoring Programme.

Section 3

3. 0 Environmental Baseline Data and Environmental Issues

3.1 Introduction

The main purpose of describing the existing baseline environment of the LAP area is to provide an understanding of the main environmental issues being experienced in the area and to provide the basis for predicting and monitoring issues, and for setting environmental protection objectives.

In accordance with implementation of SEA Directive (2001/42/EC) 'Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities', an Environmental Assessment of a Land Use Plans must examine the significant effects of the proposed plan on the environment including short, medium and long term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects on issues including:

1. Population (including Human Health)
2. Biodiversity, Flora and Fauna
3. Air Quality & Noise
4. Climatic Factors
5. Water (Including Flooding)
6. Material Assets (transport and waste management)
7. Cultural Heritage (including architectural and archaeological heritage)
8. Landscape (including soil)

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

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

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

What this means in practice is, inter alia, with regard to Local Area Plans, that SEA involves collating currently available, relevant environmental data; it does not require major new research. Where data deficiencies or gaps exist, this should be acknowledged in the report. The baseline data established the current existing state of the environment and is the basis to assess and predict potential impacts. The headings uses in the following sections correlate with the environmental objectives set out in this environmental report.

3.2 Population (including Human Health)

3.2.1 Introduction

This section of the Strategic Environmental Assessment (SEA) provides an assessment of the potential population and human health impacts associated with the development of the lands in the Ashtown- Pelletstown LAP.

3.2.2 Population and Demographic Profile

The National Census was conducted in 2011, correlating information on population, household formation, and employment. Information is gathered for every Electoral Division (ED). The LAP area is located within the northern section of Ashtown A Electoral Division, an area which includes large areas of older housing stock in Ashtown. The ED figures therefore reflect the characteristics of both the new housing stock and the established areas. Ashtown A showed an increase of 32.6% population from 2006 to 2011. The ED population rose from 6,817 in 2002 to 7,715 in 2006 and then to 10,227 in 2011, an increase of over 50% in 9 years. The age profile in the area showed a relatively high proportion in the 25-44 age bracket, when compared to the city as a whole, and a low proportion in the 65+ bracket**.**

3.2.3 Housing Profile

The average number of persons per household in Ashtown/ Pelletstown in 2011 was approximately 1.86 (based on total census population divided by number of dwellings). This may be compared with a figure of 2.73 for the Ashtown A DED or 2.4 for Dublin.

In terms of accommodation the 2011 census figures showed that 19% of households in the plan area live in duplexes/houses while 81% live in Flats/apartments.

Table 3.1 gives a breakdown of units built to date in the LAP area as of 2012. It is evident from the above figures that standard housing s very limited in both numbers and location.

Unit Type	Number Built	% of Total
Apartments	1725	81
Duplexes	239	12
Houses	157	7
Total	2121	100

In terms of the existing building heights in the area, the area contains a variety of heights and designs, reflecting the aims of the Action Area Plan (2000). The majority of the existing buildings are three and four storey high, with buildings higher than this generally positioned around the eastern and western mixed-use nodes where heights extend to 8 storeys, and fronting onto the Canal (6 storeys generally).

3.2.4 Human Health

In addition to the impacts of the development on educational, health, and other facilities on the subject lands, it is also important to highlight the potential impacts of such development on existing and

potential residents and users. The nature of these impacts is interlinked with the baseline socio economic profile outlined above.

Human health has the potential to be impacted on by other environmental factors such as air, water, or soil through which contaminants or pollutants, which would have the potential to cause harm, can be transported and come into contact with human beings. Hazards and or nuisances to human health can also occur as a result of these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of:

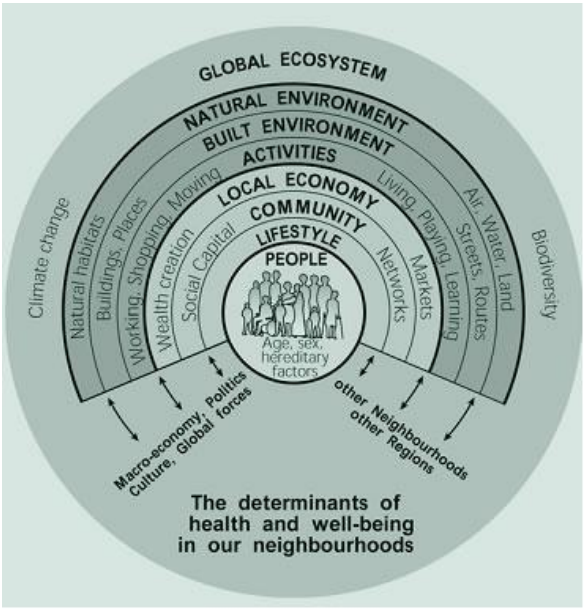
a) the baseline of each environmental component, and

b) the likely identification and evaluation of the likely significant environmental effects of implementing the planning scheme.

Based on current data sources, it is not possible to construct a Human Health Baseline for the area. This is due to the fact that there is currently no system for monitoring key health variables in Ireland.

In 1999, the World Health Organisation (WHO) described environmental health as comprising "those aspects of human health, including quality of life, that are determined by chemical, physical, biological, social and psycho-social factors in the environment. It also refers to the theory and practice of assessing, correcting and preventing those factors in the environment that can potentially affect adversely the health of present and future generations".

The influence of environmental factors on human health is well established and can be easily demonstrated in the following diagram. Figure 3 Determinants of Human Health (Whitehead and Dahlgren, G, 1991).



The European Environment and Health Action Plan 2004 – 2010 highlights the major role of health in long-term economic growth and sustainable development and the fact that citizens are concerned about the potential impact of the environment on their health and expect policy makers to act. This includes the maintenance of air quality at a good standard, the provision of good quality drinking water, the protection of biodiversity and natural heritage etc.

The human health impacts of relevance to SEA are those which arise as a result of interaction with other environmental receptors e.g. an over-concentration of pollutants in the air can have severe

impacts on human health, excessive noise levels can seriously impact upon quality of life, a safe and constant supply of good quality drinking water is a basic component of a liveable area, the conservation of biodiversity is intrinsic to well-being, food production etc.

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

It should be noted that given the significant interrelationships between population & human health and all other environmental receptors, population & human health are explored in greater detail under all the other the environmental receptors including air (air quality and noise), water (quality and supply) etc.

3.2.5. Evolution of Population and Human Health in the absence of the LAP

An important aspect of the Local Area Plan is its hierarchy of plans and policies – ranging from the National Spatial Strategy, Regional Planning Guidelines, city and county development plans and local area plans. The core strategy of the Dublin City Development Plan 2011 - 2017 i.e. to create a compact, green, smart, well connected city, creating real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms. The LAP includes new quality of life initiatives such as the strategic green network and the compact sustainable neighbourhood and places a strong emphasis on quality of life aspects such as neighbourhoods that support thriving communities, recreational spaces, new linkages and biodiversity The plan also includes objectives for the development of quality commercial, retail and residential schemes, improvement of water quality, enhancement of biodiversity, public realm improvements etc.

Without the LAP, the core strategy of the Dublin City Development Plan would be less likely to be successfully implemented. Future development, in this area would be less targeted, uncoordinated, developed on a piecemeal basis and with overall less public participation in the future redevelopment of the area with resulting potential significant adverse impacts on population and human health.

3.2.6 Key Environmental Issues – Population and Human Health

- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the LAP. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks.
- The need to nurture a mixed-use neighbourhood at sustainable densities that encourages the efficient use of urban lands.
- The quality of housing, density and location are major factors to be considered in the redevelopment of this plan area given the impact of same on the health of a population
- Issues regarding the availability of adequate infrastructure e.g. transport, drainage, water wastewater infrastructure and capacity of the existing electricity network to serve the proposed increase in population
- Possible transboundary impacts with future development in other local authority areas, specifically Fingal County Council (cumulative impacts)

3.3 Biodiversity, Flora and Fauna

3.3.1 Introduction

This section accesses the impacts of the development on the flora and fauna in the area.

Biodiversity is the degree of variation of life forms within a given species, ecosystem, biome, or an entire planet. For the purpose of this SEA, biodiversity is assessed in terms of the species of flora and fauna and habitats of the LAP area and the environs and their associated habitats, and refers to both semi-natural habitats and habitats created or extensively modified by human influence, as well as the plant and animal species that can be found here.

The Pelletstown Area is positioned on the Dublin Strategic Green Network, having immediate links to the Tolka Valley and Royal Canal. The LAP will facilitate the long term enhancement of amenities and bio-diversity as set out in Section 5.14 of the Dublin City Development Plan 2011.

In terms of public open space in the Plan area, a number of areas of public open space have been delivered to date within the boundary of the site.

(1) a semi-circular crescent park containing a playground bounded by the Royal Canal to the south and a crescent of apartment blocks to the north-west;
(2) A linear amenity area along the northern bank of the Royal Canal. The linear park along the canal also accommodates a purpose-built cycle track running alongside the canal for a short distance, and
3) The Tolka River Valley Park is part of the Strategic Green Network of Dublin City. The parkland is multi-functional and accommodates playing pitches, pitch and putt, cycling, access for angling and riverside walks, which will now be extended by 2.4km. Parks and Landscape Services Department are currently developing the Tolka Valley as a public park with associated walkways, lighting cycle tracks, and new public access gates. This is part of a wider project for the 50 hectare regional park, and work is ongoing within the plan area. A new cycle way will connect to a wider liner route along the river and there will be a series of walkways with access from a number of points along River Road. The park is also significant for conservation purposes, accommodating wetlands and ponds for wildlife.

Tolka Valley Park is rich in plant and animal life, a haven for biodiversity within the city, and local history. Dublin City Council with financial support from the National Transport Authority (NTA) has been constructing since 2011 a new regional cycling route along the River Tolka. The route will link Ashtown, Finglas and Glasnevin and is completely off road. The first phase from Glasnevin to Finglas is completed and phase 2 is currently under construction with completion in 2013. This will include a new foot bridge over the River Tolka, a major park extension, and new areas for angling.

As part of the LAP process Dublin City Council commissioned Scott Cawley, Bernard Seymour (Landscape Architect) and ERA Maptec to carry out a habitat mapping for Pelletstown and also a Green Infrastructure Strategy. [1]

[1] Green Infrastructure Strategies/Habitat Mapping for Pelletstown LAP, Prepared by Bernard Seymour Landscape Architects in collaboration with Scott Cawley Environmental Consultants and ERA Maptec Ltd.

3.3.2 Zone of Influence

The Zone of Influence (ZOI) is the 'effect area' over which changes could give rise to potentially significant impacts. The ZOI over which significant impacts may occur will differ for sensitive ecological receptors depending on the pathway for any potential impacts, as well as the specific nature of different habitats/species (*e.g.* ability to move/disperse or absorb impacts).

In accordance with guidance from the Department of Environment, Heritage and Local Government (2010) a distance of 15km was used as a starting point for identifying potential impacts. It was found that this 15km distance was more than adequate for capturing all potentially significant impacts within the ZOI of the Plan Area.

3.3.3 Designated Areas for Nature Conservation

One designated areas for nature conservation is located within the LAP area; the Royal Canal. Under the Wildlife Amendment Act, 2000 the entire Royal Canal is designated a proposed Natural Heritage Area (pNHA) under site code 002103. The Royal Canal is defined by the National Parks and Wildlife Service (NPWS) to include the central channel and adjoining banks, hedgerows, tow path, grassland, open water, related scrub and woodland features. The Royal Canal is a closed water system deriving its water supply from Lough Owel, Mullingar, County Westmeath.

The LAP area does not include any Natura 2000 sites within its defined boundary. A number of designated Natura 2000 sites are located in the wider vicinity of the LAP area and within the 15 km boundary.

Map 3.2 – Natura 2000 Sites Within 15km of Ashtown/Pelletstown

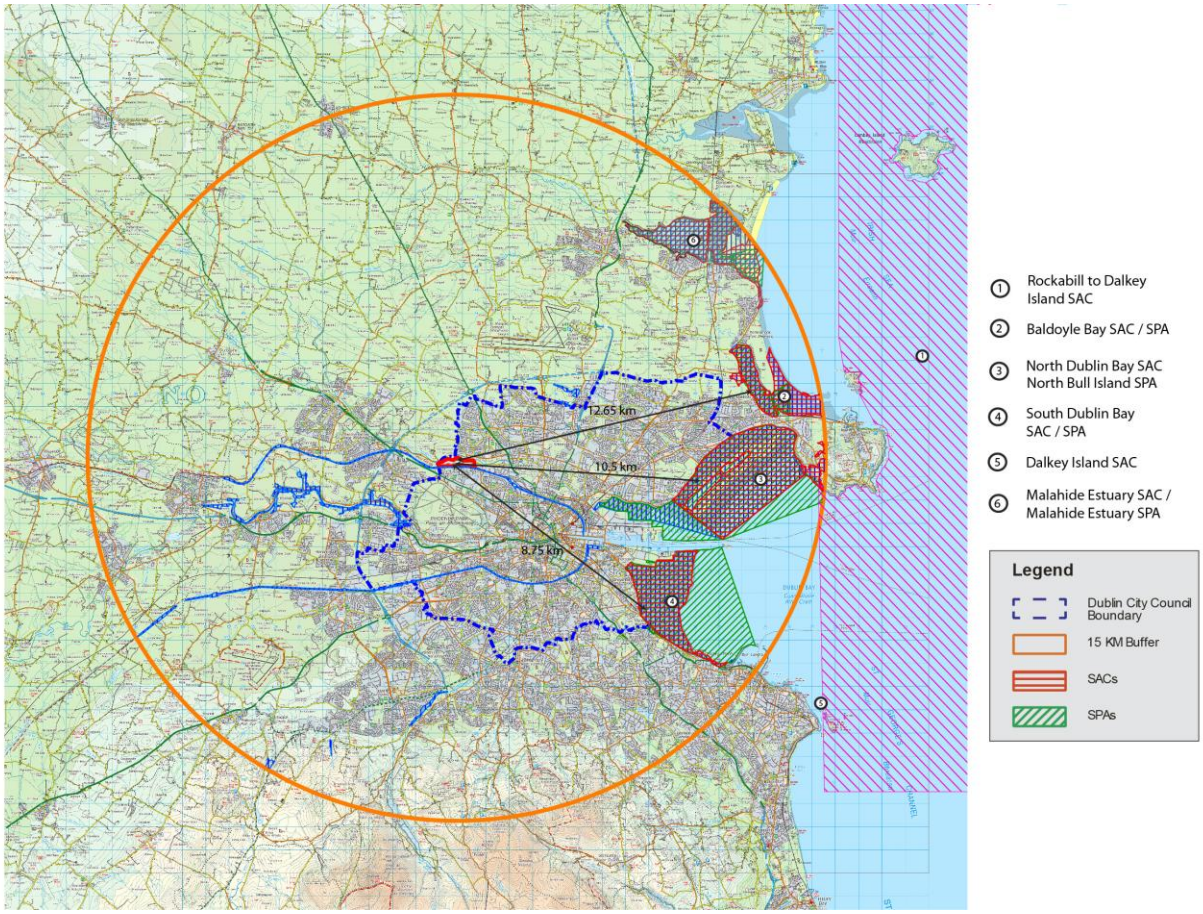


Table 3.1 below lists both national and internationally designated sites within a 15km of the LAP boundary

Nature Reserves and Wildfowl Sanctuaries[2]	Special Protection Areas (SPA) [3]	Candidate Special Areas of Conservation (cSAC) [4]	Ramsar Sites[5]	Shellfish Areas[6]	Proposed Natural Heritage Areas[7]
Baldoyle	North Bull Island	North Dublin	Baldoyle Bay	Malahide	Royal

[2] Sourced: http://www.npws.ie/protectedsites/ (January 2013)
[3] Sourced: www.npws.ie
[4] Sourced: www.npws.ie
[5] Sourced: http://www.ramsar.org/cda/en/ramsar-pubs-notes-anno-ireland/main/ramsarr/1-30-168%5E16569_4000_0_
[6] Sourced:http://www.environ.ie/en/Environment/Water/WaterQuality/ShellfishWaterDirective/StatutoryInstruments
[7] Sourced: http://www.npws.ie/protectedsites/ (January 2013)

Estuary Nature Reserves and Wildfowl sanctuary	(IE00406)	Bay (IE000206)			Canal (2103)
North Bull Island Nature Reserves	South Dublin Bay & River Tolka Estuary(IE004024)	South Dublin Bay (IE000210)	Fitzsimons Wood		Grand Canal (2104)
	Baldoyle Bay (IE004116)	Baldoyle Bay (IE000199)	Broadmeadow Estuary		Liffey Valley
	Malahide Estuary (IE004025)	Malahide Estuary (IE000205)	North Bull Island		
			Sandymount Strand/River Tolka Estuary		Feltrim Hill
			Ireland's Eye		Santry Demesne
			North Dublin Bay		
			Dolphins, Dublin Docks		
			South Dublin Bay		
			Booterstown Marsh		
			Howth Head		
			Sluice River Marsh		
			Malahide Estuary		
			Baldoyle Bay		
			Portraine Shore		
			Dalkey Coastal Zone and Killiney Hill		
			Dodder Valley		
			Lugmore Glen		
			Glenasmole Valley		
			Ballybetagh Bog		
			Dingle Glen		
			Loughlinstown Woods		

Note: Further background information on pNHAs, cSACs and SPAs, including site synopses for designation(known as Qualifying interests for SACs and SPA's) and detailed conservation targets (if available) can be found on the NPWS website (www.npws.ie) using the site code under protected sites.

3.3.4 Rare and Protected Flora and Fauna

A number of protected species have been recorded in the River Valley which is rich in natural heritage and a haven for biodiversity, the new wetland ponds will be planted with aquatic and marginal vegetation, new hedgerows, thousands of trees and seven hectares of wildflower meadows will be established. Invasive species such as Giant Hogweed and Himalayan Balsam will also be controlled as part of on-going management policy.

The first integrated constructed wetland in the valley was created in 1999 to ameliorate a local stream which was polluted by misconnected domestic drains. The new wetlands will take the surface water from roads, trap pollutants and treat it before it enters the river. All wetlands will be monitored on an ongoing basis to ensure that their ecological status will improve and that water quality is protected under the Eastern River Basin District Plan.

As part of the study carried out by Bernard Seymour and Scott Cawley, a desktop study was carried out to collect available information on the ecology of the area. Consultation was also carried out with the following bodies:

- National Parks and Wildlife Service(NPWS)
- Bat Conservation Ireland
- National Biodiversity Data Centre
- Bird watch Ireland – Head Office and Tolka Branch
- Inland Fisheries Ireland (IFI)
- Waterways Ireland

Also as part of the study field surveys were carried out in September and October 2012. As part of this survey work a list of species sourced from the NPWS website identified within the study area and surrounding 1km area (www.npws.ie). The list includes a range of flora and fauna while also identifying invasive and protected species.

See Table 3.3

SPECIES GROUP	SCIENTIFIC NAME	COMMON NAME	DATE OF RECORD	DESIGNATION
Amphibian	*Rana temporaria*	Common Frog	24/04/1997	Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts
Bird	*Aegithalos caudatus*	Long-tailed Tit	05/06/2012	
Bird	*Carduelis carduelis*	European Goldfinch	05/06/2012	
Bird	*Carduelis chloris*	European Greenfinch	05/06/2012	
Bird	*Cyanistes caeruleus*	Blue Tit	05/06/2012	
Bird	*Fringilla coelebs*	Chaffinch	05/06/2012	
Bird	*Parus major*	Great Tit	05/06/2012	
Bird	*Periparus ater*	Coal Tit	05/06/2012	
Bird	*Pyrrhula pyrrhula*	Common Bullfinch	05/06/2012	
Flowering plant	*Fallopia japonica*	Japanese Knotweed	31/07/2009	Invasive Species
Flowering plant	*Heracleum mantegazzianum*	Giant Hogweed	31/07/2009	Invasive Species
Flowering plant	*Impatiens glandulifera*	Indian Balsam	31/07/2009	Invasive Species
Insect - butterfly	*Polyommatus icarus*	Common Blue	24/08/2011	
Insect - mayfly (Ephemeroptera)	*Alainites muticus*		31/12/1975	
Insect - mayfly (Ephemeroptera)	*Baetis rhodani*		31/12/1975	
Mollusc	*Bathyomphalus contortus*	Twisted Ramshorn	05/10/2003	
Mollusc	*Bithynia (Bithynia) tentaculata*	Common Bithynia	05/10/2003	
Mollusc	*Bithynia (Codiella) leachii*	Leach's Bithynia	05/10/2003	
Mollusc	*Lymnaea (Lymnaea) stagnalis*	Great Pond Snail	05/10/2003	
Mollusc	*Lymnaea (Stagnicola)*		05/10/2003	
Mollusc	*Physa fontinalis*	Common Bladder Snail	05/10/2003	
Mollusc	*Pisidium milium*	Rosy Pea Shell	05/10/2003	
Mollusc	*Pisidium nitidum*	Shining Pea Mussel	05/10/2003	
Mollusc	*Pisidium obtusale*	Porous Pea Mussel	05/10/2003	
Mollusc	*Pisidium subtruncatum*	Short-ended Pea Mussel	05/10/2003	
Mollusc	*Planorbis carinatus*	Keeled Ramshorn	05/10/2003	
Mollusc	*Sphaerium corneum*	Horny Orb Mussel	05/10/2003	
Reptile	*Trachemys*		04/08/2011	
Reptile	*Trachemys scripta scripta*	Yellow-bellied Slider	13/09/2011	Invasive Species
Terrestrial mammal	*Erinaceus europaeus*	West European Hedgehog	05/07/2012	Protected Species:
Wildlife Acts				
Terrestrial mammal	*Myotis daubentonii*	Daubenton's Bat	24/08/2009	Protected Species:
EU Habitats DirectiveAnnex IV & Wildlife Acts				
Terrestrial mammal	*Nyctalus leisleri*	Lesser Noctule	06/06/2006	Protected Species:
EU Habitats DirectiveAnnex IV & Wildlife Acts				
Terrestrial mammal	*Pipistrellus pipistrellus*	Pipistrelle	06/06/2006	Protected Species:
EU Habitats DirectiveAnnex IV & Wildlife Acts				
Terrestrial mammal	*Pipistrellus pygmaeus*	Soprano Pipistrelle	06/06/2006	Protected Species:
EU Habitats DirectiveAnnex IV & Wildlife Acts				
Terrestrial mammal	*Sciurus vulgaris*	Eurasian Red Squirrel	17/04/2007	Protected Species: Wildlife Acts

Table 1: Species Recorded within the Study Area and Surrounding Lands

3.3.5 Aquatic Habitats

An artificial attenuation area divided by three separated concrete walls simulating a pond habitat is located in the eastern portion of the study area. This is part of a Sustainable Urban Drainage System for the existing development. This area was not fully mapped as it was hoarded off. The area has been planted with a mix of immature trees species, rank grassland and contains aquatic plant species including pond weed (Pottmogeton spp). Duckweed (Lemna spp), and algae.

3.3.6 Flora

Invasive Species

No invasive species such as Japanese Knotweed (Fallopia Japonica) or Himalayan Balsam Impatiens Gladulifera have been noted within the surveyed lands within the study area, south of River Road. However in the Tolka Valley Regional Park Management Plan it is noted that Japanese Knotweed

and Giant Hogweed (*Heracleum mantegazzianum)* are present along the Tolka River and in areas of disturbed ground (DCC, 2010).

Invasive species of plants should be controlled as recommended in the Management Guidelines Irish National Biodiversity Plan 2012 included in the LAP and supplemented with education programmes for the community. Exceptions may be made for certain non-native (but not invasive) species specifically known to be beneficial for wildlife such as high nectar plants and which are not listed on the Third Schedule of the Birds and Habitats Regulations 2011.

3.3.7 Royal Canal

The Royal Canal is a Proposed Natural Heritage Area (pNHA) under the 1976 Wildlife Act and is one of the principal watercourses within the LAP boundary. Water quality is not affected by the current development due to the implementation of the range of SuDS initiatives that have been implemented as part of recent development. This situation should be maintained and enriched in any future development proposals. Recent planning applications have resulted in the development of a small docking area at the western end of Pelletstown. This positive intervention has added to the amenity value of the area and increased the potential visitor use of the facilities within the LAP area.

3.3.8 The River Tolka and Integrated Constructed Wetlands

The Tolka River historically has been the primary influence in shaping the landform and settlement pattern of the surrounding areas. Recent flooding events have emphasised the importance of recognising flood patterns and the impact on of these events on the local community. Future development in the LAP area should be dependent on historic flood events and design consideration should respond effectively to these challenges as well as introducing new opportunities to the area. The Integrated Constructed Wetland (ICW) at Tolka Valley Park in Finglas, Dublin, was created in 1999 to address the treatment of domestic wastewater and hard surface run off which was having a large impact on pollution of the Finglaswood Stream which then fed into the River Tolka.

Extensive works have been carried out by the Parks and Landscape Services Department of DCC in proposals which seek to conserve and reinstate the Tolka River. The Integrated Constructed Wetlands mitigate flooding and support wildlife in the Tolka River Park adjacent to Pelletstown. The river has been stocked with salmon and trout which support the angling tradition in the area. The Parks and Landscape Department suggested there may be water runoff with pollutants from River Road into the Tolka River which needs to be managed separately from the river. It was suggested by the department that the realignment works to River Road may be an opportunity to integrate SuDS to attenuate the pollutant runoff from River Road avoiding direct runoff into the Tolka River.

3.3.9 Attenuation Ponds and Swales

There is an existing attenuation area to the west of the Royal Canal Development as well as existing swales which are part of the Royal Canal development. This presents opportunities to link, retain and enhance existing elements for incorporation into proposed green networks and spaces for habitat and species movement as well as providing additional recreation resources. This is further also emphasised in the Comhar Paper (2009).

3.3.10 Fauna

Birds

During field survey work, evidence of fauna across the site was low only a few bird species observed to the east of the site with Woodpigeon (*Columba palumbus)*, Blackbird (*Turdus merula)*, Mistle Thrush (*Turdus viscivorus)* and Magpie (*Pica pica)* were also observed. Mallard (*Anas platyrhyncho)* and Mute Swan (*Cygnus olor)* were observed on the canal and it is likely that a range of other waterfowl also use the canal intermittently. The following species are also known to occur along the canal:

Dipper *Cinclus*
*Kingfisher *Alcedo atthis* (European protected species)
* Little egret *Egretta garzetta*
Grey wagtail *Motacilla alba*
Grey heron *Ardea cinerea*
Sparrowhawk *Accipiter nisus*
Reed bunting *Emberiza schoeniclus*
Blue tit *Cyanistes caeruleus*
Great tit Parus major
Coal tit *Periparus ater*
Long tailed tit *Aegithalos caudatus*
Rook *Carvus frugilegus*
Jackdaw *Carvus monedula*
Hooded crow *Carvus carnix*
Robin *Erithacus rubecula*
Wren *Troglodytes troglodytes*
Dunnock *Prunella modularis*
Starling *Sturnus vulgaris*
Moorhen *Gallinula chloropus.*
*indicates a European protected species.

Invertebrates

A species of dragonfly, Small Tortoiseshell butterfly (*Aglais urticae)* and Orange-tip butterfly (A*nthocharis cardamines)* were also noted within the undeveloped sites that had been reseeded containing two remnant tree lines.

Mammals

All bat species are protected under the EU Habitats Directive and the Irish Wildlife Acts. Bat species recorded within the Tolka Park vicinity include Soprano (Pipistrelle *Pipistrellus pygmaeus),* Common Pipistrelle P, (pipistrellus) and Daubenton's bat (Myotis daubentonii) (DCC, 2010), with previous records including Leisler's Bat (Nyctalus leisleri), and Brown Long-eared Bat (*Piecotus auritus)* (B Keely 2010). Other bat species recorded within a 5km of the study area include Whiskered Bat (Myotis mystacinus), Natterer's Bat (Myotis nattereri), and Nathusius's pipistrelle P.nathusii.

Other Mammals in Tolka Valley Park

The Tolka Valley supports a range of species including Rabbit (*Oryctolagus cuniculus)*, Fox (*Vulpes vulpes)*, American Mink (*Mustela vision)*, Brown Rat (*Rattus norvegicus)*, Otter (*Lutra lutra)*, Wood Mouse (*Apodemus sylvaticus)*, House Mouse (*Mus musculus)*, Badger (*Meles meles)*, Irish Hare

(*Lepus timidus hibernicus)* and Grey Squirrel (*Sciurus carolinensis)* (B Keeley 2010) Otter spraints were noted in 2003 (B.Keeley) on the canal at Ashtown Bridge and at numerous other canal bridges as far as Clonee with recent sightings by the general public in 2011.

3.3.11 National Biodiversity Plan 2011 – 2016

In 1996 Ireland signed up to the Convention on Biological Diversity and EU heads of state have agreed to halt the loss of biodiversity by 2010. The National Biodiversity Plan 2011 -2016 outlines actions to help reach this target, The Dublin City Biodiversity Action Plan (BAP) identifies a number of priority species and habitats to be protected in the city such as red squirrel, otter, bats, salmonids, various insects, birds, wetlands, and semi-natural grasslands. Some of these are already protected by legislation but for those that are not, they will be given conservation priority within DCC and projects. In the BAP the major threats to global biodiversity were identified as being;

- Loss of extent – removing an area of habitat, i.e rainforest, garden or park, results in a direct loss. Buildings and bridges provide habitats for bats in particular, and their removal or replacement can also have direct impacts on the city's bats biodiversity
- Habitat Fragmentation – Breaking up of large areas into isolated smaller parts reduces the ability of animals to move from a threat and reduces food and cover for example
- Invasive species – plants and animals that arrive from elsewhere and quickly take over spaces that are usually occupied by native species poses a huge threat.

3.3.12 Dublin City Biodiversity Action Plan 2008 -2012

The Dublin City Biodiversity Action Plan is intended to be a working document. It includes a summary of the range of priority habitats and species of international, national and local importance in the city. The main content of the plan is a program of actions recommended to protect and enhance the city's natural heritage. The plan has selected a number of habitats and species of priority conservation importance for Dublin city (DCC,2011).

3.3.13 Evolution of Biodiversity in the Absence of the LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, is to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms. A priority of the development plan's core strategy is the introduction of a strategy for green infrastructure in order to improve biodiversity and access connections with the strategic green network. The strategy is being delivered through the development management process and the LAP process.

It is at the level of the LAP that aspirations are given real meaning. The LAP sets out more detailed objectives for the protection and enhancement of biodiversity. Along with the policies and objectives of the city development plan the LAP will continue to strengthen the recognition of green corridors as per the Habitats Directive. The LAP reinforces and implements green infrastructure at the local level with obvious benefits for biodiversity, containing policies for the protection and enhancement of biodiversity features within the plan area and environs.

Furthermore, the LAP is subjected to an SEA & AA, providing for a greater focus on the protection of valuable biodiversity in the area. An SEA leads to more sustainable development through the systematic appraisal of policy options.

3.3.14 Key Environmental Issues

- Pressures on biodiversity potentially arise as a result of increased commercial, residential & recreational use
- Potential risk to protected species from contaminated water.
- The city's regional wastewater treatment plant at Ringsend is operating over its design capacity and does not currently have the capacity to accommodate the increase in population proposed under the planning scheme. This could potentially lead to deterioration in surface water quality, which would have adverse impacts in water based habitats, species and ecological networks.
- Control of invasive flora species.

3.4 Water (including flooding)

3.4.1 Introduction

The issues of water quality and water services (including supply, drainage and flooding) will be dealt with under the environmental receptor topic, 'water'.

3.4.2 Water Framework Directive

Since 2000 water management in the EU has been directed by the Water Framework Directive (WFD) 2000/06/EC, which establishes a framework for the protection of all waters (inland surface waters, transitional and coastal waters and groundwater's) throughout Europe. The directive's aim is to prevent deterioration and achieve at least good status in rivers, lakes, estuaries, coastal and groundwater by 2015. The directive promotes river basin management as the most efficient way to achieve its aims. In order to achieve good status under the Water Framework Directive, the limits set out in the European Communities Environmental Objectives (Surface Water) Regulations, 2009 must be complied with.

3.4.3 River Basin Districts and River Basin Management Plans.

Ireland has been divided into eight river basin districts and a River Basin Management Plan has been developed for each one. The Tolka River is within the Eastern River Basin District (ERBD). The River Basin Management Plan 2009 – 2015 (RBMP) has been developed setting out the objectives of improving and protecting water quality and ecology in the waters of each river basin district are be achieved, by way of a Programme of Measures (POM). The four core objectives set out are:

(i) Prevent deterioration and in particular maintain 'High' or 'Good' status
(ii) Improve waters to achieve 'Good' status where appropriate
(iii) Progressively reduce chemical pollution
(iv) Achieve protected area objectives

3.4.4 Surface Water

The Plan area is located within the Tolka Water Management Unit (WMU) in the Eastern River Basin District. The River Basin Management Plan can be downloaded from the website www.erdb.ie. A WMU is a geographic area primarily defined by similar hydrology and topography. These groups of river and non-reportable lakes had been created so that multiple river segments or water bodies can be treated as one management unit. For coastal, transitional, groundwater and reportable lakes, a WMU represents a single water body.

The River Status in the Tolka Lower when it enters Dublin City is classified as 'Poor'. The existing condition of our waters was determined by the Environmental Protection Agency (EPA) using hydrology, water quality, ecology and morphology monitoring data.

The main problems identified in this WMU are high nutrients (phosphorous and ammonia) oxygen demand, low ecological rating, and a heavily modified channel. In the Tolka catchment the principle pressures in the upper catchments are from agriculture and wastewater and industrial discharge. In the lower catchment, ie when it enters Dublin City Council and Fingal, the principle pressures are combined sewer overflows (wastewater discharge) and foul sewers from houses and business misconnected to rivers. In the programme of measures, it states that we must aim to achieve full implementation of the Programme of Measures (POM) before 2015. The WFD recognises that it may not be possible to achieve all core objectives by 2015, and in this water management unit, the main pressures preventing achievement of 'Good Status' by 2015 is diffuse agricultural and urban diffuse pollution. For the Tolka catchment, the target is to achieve 12% by 2009 and 100% by 2027.

3.4.5 River Tolka – Water Quality and Flooding Issues

As part of the base line data for water quality in the River Tolka, Water Pollution Control Section carried out sampling on the water quality in the River in January 2013. [8]

The River Tolka rises in County Meath, flows through Blanchardstown in Fingal and passes to the north of Pelletstown, through Tolka Valley Park, eventually discharging into to Dublin Bay at the East Link Business Park. The river has a history of flooding, with the most recent event being the major rainfall event of October 2011. During this event, the new park at Cardiffsbridge was completely inundated by flood waters .

There are a number of sewer overflows upstream of Pelletstown (one in Abbotstown and 3 near Mill Road, Blanchardstown) Their frequency is not known but it can be assumed that they activate a number of times each year during periods of heavy rainfall. Their activation would have a temporary negative impact on water quality in the River. There are three surface water discharges from the Pelletstwon development. The first is located a short distance downstream of Ashtown Bridge. The second is located midway along the development, discharging from the development via two sewers under River Road into an open channel in the new Cardiffsbridge Park. The third discharges near Rathoath Road. There is a pumping station on the foul network in the site of the development that has an overflow to the River Tolka. Floodwaters from the Royal Canal are intended to be intercepted by the surface water drainage network within the development with a direct discharge to the open channel in Cardiffsbridge Park (ie. Bypassing the attenuation tanks)

3.4.5.1 Monitoring Results

Dublin City Council has three monitoring points within close proximity of the Pelletstown development. Two of these points monitor water quality in the river channel – Ashtown Bridge and Cardiffsbridge while the third monitors water quality in the Scribblestown Stream.

The European Communities Environmental Objectives (surface waters) Regulations 2009, provide limits for a number of the parameters, namely temperature, Biochemical Oxygen Demand (BOD) Dissolved Oxygen (DO) pH Total Ammonia(NH3) and Molybdate Reactive Phosphorus (MRP). Additionally the Quality of Bathing Waters Regulations 1992 provide limits for total Coli form (TC) and

[8] Baseline Water Quality Data, River Tolka at Pelletstown. Report dated 7th March 2013, Water Pollution Control Section

E Coli (while the river is not designated as a bathing water, these standards do represent water of an acceptable quality) The results of the water sampling show that the river fails to meet the Water Framework Directive criteria for good status for Ammonia and Phosphorus and potentially BOD. Under the Quality of Bathing Waters Regulations, 1992, the River fails to meet the criteria for Total Coli form and E coil. For all three sites, both the Tolka River and Scribblestowen Stream fail to meet both the 80% (percentile) and 95% (percentile) criteria for Total Coli form and the 95% (percentile) for E coli.

Figure 3. Flooding at Cardiffsbridge Park , 24th October 2011

3.4.6 WFD Surface Water Status

The WFD defines surface water status as the general expression of the status of a body of surface water in terms of its ecological and chemical status. To achieve 'Good Surface Water Status 'both the ecological status and the chemical status of a surface water body must be at least good.

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

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

Ground Water

Groundwater is an important natural resource both in terms of water supply and as a contributor to surface water receptors. To ensure that long-term sustainable groundwater resources are achieved , groundwater resource management is required . There is a continued need for improved protection of groundwater, especially in the context of achieving the WFD objectives of good status for all waters by 2015.[9]

3.4.7 Canal Water Quality

The Royal Canal runs to the south of the LAP area**.** The results from the EPA 1998-2000 surveys showed that the water quality in both canals was good with low levels of conductivity and nutrients. Water quality in the Royal Canal was generally good during 2009. In the stretch between Lough Owel and Dublin both TP and MRP threshold limits were breached in November 2009. November 2009 was notable for high rainfall and consequent severe flooding (Walsh 2010) which accounts, through run off for the higher than normal values recorded.

3.4.8 Foul and Surface Water Drainage

In dealing with the foul and surface water drainage in the Ashtown/Pelletstown LAP, cognisance should be given to the statutory background, i.e. the Wastewater Discharge Regulations, SI No. 684 of 2007 and the Water Framework Directive. The EPA granted the Greater Dublin Area Agglomeration Waste Water Discharge Licence D0034-01 in July 2010 which conditions the Local Authorities to address spills to the rivers and the sea. The Eastern River Basin District (ERBD) programme of measures will also influence development. Dublin City Council is currently advancing contracts to comply with the current legislation which include the upgrade of the Ringsend Sewerage Treatment Plant and the Preliminary Design stage of the City Centre Sewerage Scheme.

3.4.9 Flood Risk

Dublin City Council has worked closely with the Office of Public Works (the lead agency for flood risk management in Ireland) in developing solutions to minimise the risk of flooding in the city,

Solutions are multi-layered and range from the strategic level, such as the Triton early warning system which detects tidal surges out in Dublin bay and sends alarms to the relevant personnel, right through to the construction of sea wall defences such as the Dodder flood walls.

Planning policies also play a major part in minimising flood risk, Dublin City Council were the first Irish local authority to require storm water management from developers in 1998 and then subsequently implemented a Sustainable Drainage Systems (Suds) Policy in 2005. In essence these planning policies require developers to reduce the stormwater run-off from newly paved areas to what it was before the development took place. This will ensure that development can take place in a sustainable manner without increasing the risk of flooding.

The methodology for managing flood risk is set out in the OPW document “The Planning Risk and Flood Risk Management, Guidelines for Planning Authorities” dated November 2009. This document identifies the main types of flooding, viz, Coastal, Pluvial, Fluvial, Groundwater and Infrastructure Failure and sets out a sequential approach to minimising flood risk while also recognising explicitly …“that many of the areas where people live and work are already subject to flood risk and that the

[9] EPA Water Quality In Ireland 2007 -2009

needs for regeneration and growth can be reconciled, while taking due account of the need to minimise and mitigate such risks."

3.4.10 Evolution of Water in the Absence of LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms, including local area plans & SDZ where appropriate (Grangegorman and Docklands).

It is at the level of a LAP that aspirations are given real meaning through more detailed objectives for specific local areas. The LAP provides for the opportunity for investment in services and infrastructure in the area and actively seeks funding and delivery of key infrastructure.

The LAP will also assist in the overall implementation of the Eastern River Basin Management Plan and associated 'Programme of Measures'. While the River Basin Management Plans, and the Dublin City Development Plan 2011-2017 will provide for significant protection and enhancement of water quality, the LAP sets out specific policies and objectives in relation to the enhancement and protection of the water bodies.

Furthermore, the LAP sets out specific policies and objectives for a number of key sites and a phasing and implementation of the LAP. The redevelopment of the area provides an opportunity to improve water quality alongside continuing control measures such as trade effluent discharge licences which require discharges to surface water to not compromise water quality. The LAP will also promote the protection of surface water and ground water resources and their associated habitats and species. This approach ensures that wastewater and water supply infrastructure is available to accommodate the existing and future quantum of development envisaged for the area.

In terms of flood risk management a leading policy for reducing flood risk in the area will be the use of Sustainable Urban Drainage Systems (SUDS). These have been mandatory in DCC since 2005, and will reduce run-off rates from newly paved area and hence reduce flood risk resulting from these new paved areas. The policy encourages the use of green roofs, rainwater recycling, soak ways/infiltration devices and other methodologies that reduce peak storm water run-off. Site specific flood risk assessments for individual development could result in a higher figure being used.

In the absence of a LAP for the Ashtown/Pelletstown area it is less likely that the remaining undeveloped sites will be developed and therefore less likely that investment would be made in necessary infrastructure. Improvements in water quality may not be achieved in the shorter term, should the area be left undeveloped or developed in a piecemeal manner and less focused manner.

3.4.11 Key Environmental Issues – Water

They include localised as well as more strategic issues:

- Maintaining and/or improving the water quality of waterbodies in/traversing the plan area line with the adopted Programme of Measures in the Eastern River Basin Management Plan (ERBMP)
- Ensuring the availability of the necessary water infrastructure to ensure adequate capacity, drainage and treatment to accommodate the existing and future quantum of development and economic growth envisaged by this LAP

- Exploiting opportunities to improve on water quality discharged by the implentation of SUDS
- The need to conserve water
- Water quality in the area is a result of complex interactions at both the local and regional levels. The upstream catchments of the River Tolka contribute to the pollution load recorded in the water quality in the areas. In addition, natural vulnerability of the groundwater to contamination should be borne in mind.

3.5 Noise & Air Quality

3.5.1 Noise

Dublin City Council as part of the requirements of the EU Directive on the Management of Environmental Noise and under the Environmental Noise Regulations S.I. No. 140 of 2006, has revised and upgraded their traffic source 'Noise Maps' for the 2012 base year. These maps are to be used to assess the number of people annoyed and sleep-disturbed respectively throughout Dublin. The maps are Strategic Noise Maps, and should be used for strategic, high level planning and not for the assessment of local noise nuisances.

The 'Noise Maps' show colour coded areas in Dublin based on noise levels, in 5 bands. These bands increment in 5 decibels. The Night time band starts at 50 decibels and the 24 Hour band starts at 55 decibels. The EU Directive does not give an indication as to what level of noise is acceptable. This is left to each member state. At this point in time, Ireland does not have any statutory limit values, as is the case for air pollution. However, it is indicated in the current Noise Action Plan for the Agglomeration of Dublin, which is to be revised in 2013, that it is undesirable to have areas with a night time level greater than 55 decibels and a daytime level greater than 70 decibels. It identifies areas with desirable low sound levels as those area with a night time level less than 50 decibels and a daytime level less than 55 decibels.

Irish Rails' Maynooth line runs to the very south of this Pelletstown/Ashtown area. Irish Rail has recently updated their noise maps for 2012. An assessment of the population exposed to this sound source shows that 98% of the population in the area are being exposed to sound levels below the 55dB desirable day time level and 100% below the night time desirable level of 50 decibels. It is calculated that none of the population in the area are being exposed to undesirable sound levels from this source, either during the day or night time periods.

Map 1.(Night time levels) and Map 2.(24Hr values) show the different colour coded noise bands within the Pelletstown\Ashtown Area (bounded with green outline), from traffic sources. Undesirable daytime sound levels are to be found along some roads within the area. Most of the properties along these roads are multi-residential properties. From Table 1 it can be seen that for the Pelletstown Area it is estimated that 34% of the population are exposed to sound levels below the 55dB desirable daytime values and 64% below the 50dB desirable night time levels. It is estimated that none of the population in this area is exposed to the undesirable daytime value of 70dB. However 20% of the population in the area are being exposed to undesirable night time values greater than 55 decibels.

Comparisons between the Irish Rail sources and Road sources indicate that sound from road traffic sources are the dominant sound within this area.

Figure 3.2 Night Time Sound Levels from Traffic

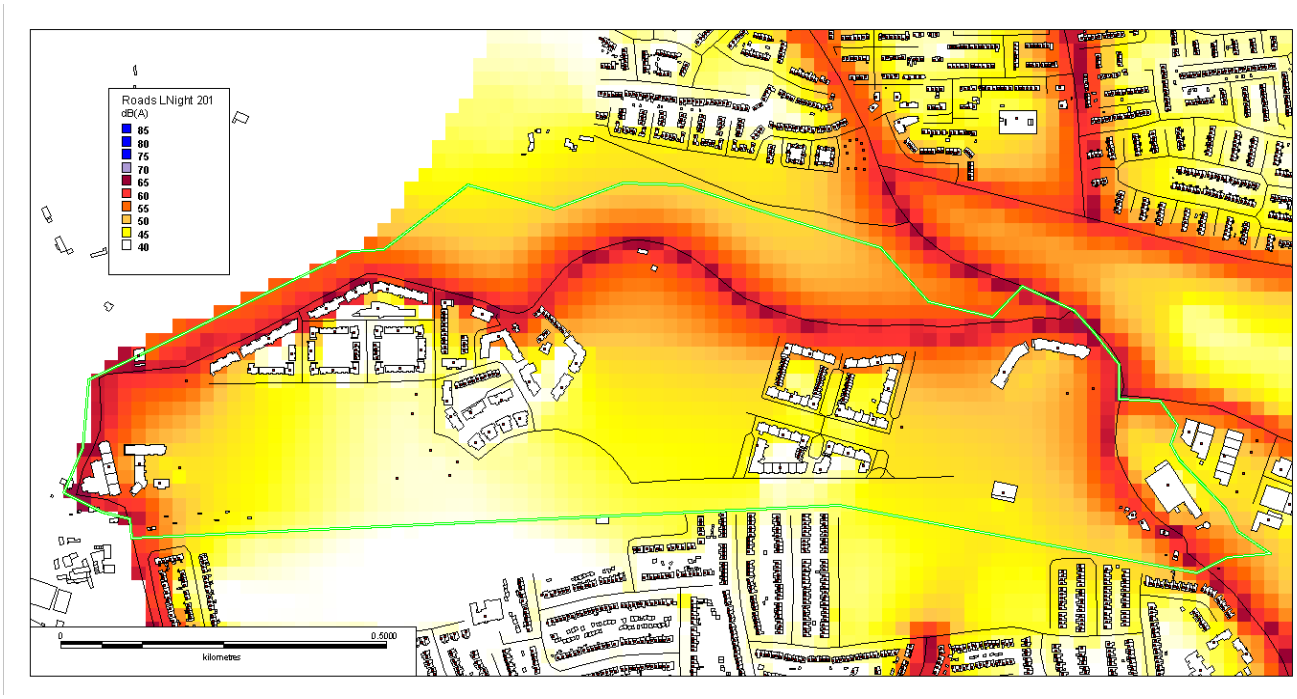


Figure 3.3 Day Time Sound Levels from Traffic

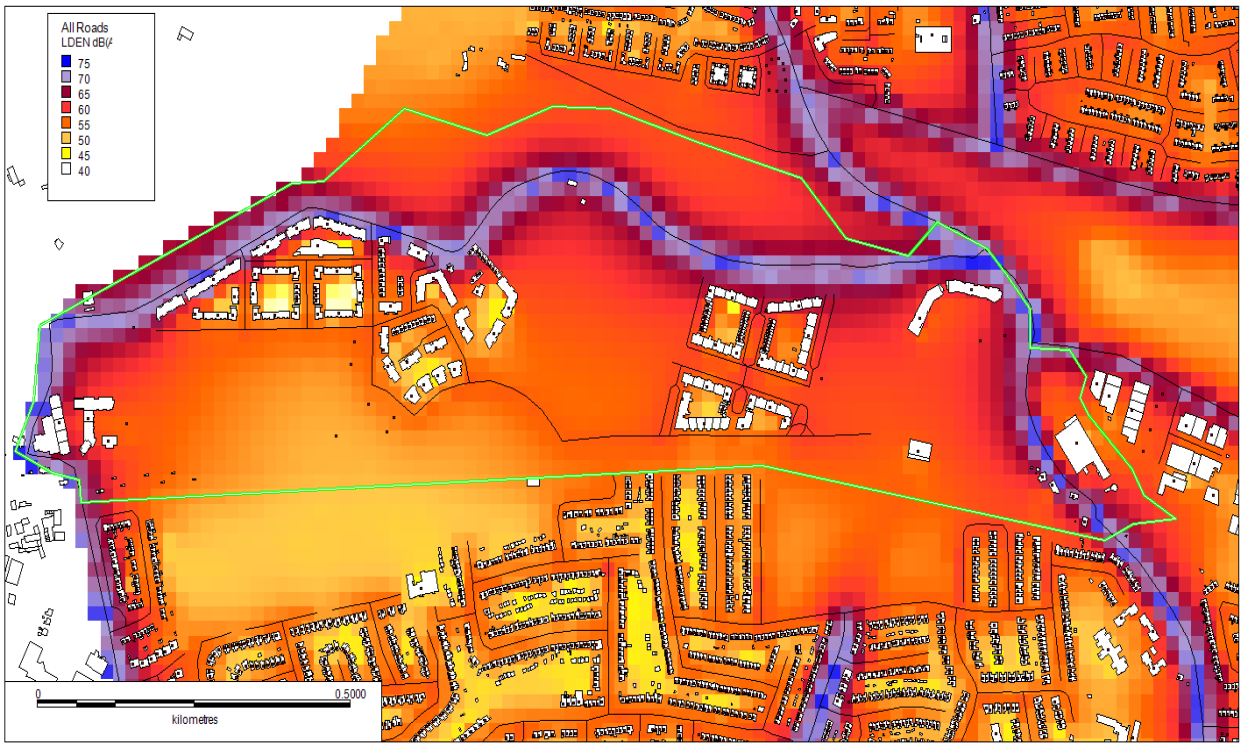


Table 3.2 - **Percentage Population Exposure (2012) to Sound Levels from Traffic**

Percentage Population Exposure (2012) to Sound Levels from Traffic				
Decibel Band	Day	Evening	Night	24 Hours
0-44	0	0	38	0
45-49	4	4		0
50-54	31	46		24
55-59	42	32		41
60-64	14	10	10	23
65-69	10	9	26	12
70-74	0	0	15	0
>55	66	50	11	76
>65	10	9	0	12
>=70	0	0	0	0
>=75	0	0	0	0

As a consequence, it is recommended that any developments within or close to this area should not have a deleterious impact on the current acceptable acoustical quality for the current and future residents (100% day; 80% night) in the area. Actions such as those outlined in the Dublin Noise Action Plan should be considered in order to preserve the good acoustical soundscape in this area and to reduce or provide mitigation for the number of people (20%) who are being exposed to undesirable night time levels. As this area is predominantly comprised of multi occupancy residential premises, consideration should be given to minimising through traffic in this area. It is also further recommended that due cognisance should be taking of the Noise Action Plan for the Agglomeration of Dublin for any development taking place within this area and not just where sound levels are undesirable.

3.5.2 Air Quality

3.5.2.1 Main Pollutants Affecting Dublin's Air Quality in Dublin

In order to protect human health, vegetation and ecosystems, the EU Directives set down air quality standards in Ireland and other member states for a wide variety of pollutants. These pollutants are generated through a number of sources including fuel combustion, in space heating, traffic, electricity generation, and industry etc. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles of this European approach are set out under the Air Quality Framework Directive 96/62/EC which was transposed into Irish law by the Air Quality Standards Regulations 2002 and the Ozone Regulations 2004. The Air Quality Standards Regulations have recently been replaced by the Clean Air for Europe (CAFÉ) Directive 2008 (2008/50/EC) which sets out the requirements for monitoring pollutants and the target values for each pollutant.

The Dublin Regional Air Quality Management Plan 2009-2012, is a plan under the Air Pollution Act 1987 where the Local Authority makes a plan for the preservation or the improvement of air quality in their functional area. In the past 20 years Dublin's air quality has shown significant improvement in the levels of black smoke, lead, sulphur dioxide (SO2) benzene and carbon monoxide (CO) This is due largely to the success of the regulatory ban on the sale of bituminous coal in the Dublin Region and the elimination/reduction of other substances in vehicle fuels.

The main sources of pollution that Dublin faces are:

- Road vehicle emission to ambient air,- emission from motor vehicle exhaust fumes are universally recognises as being damaging to human health, and can cause early deaths amongst people who are most at risk, especially those who already have heart or respiratory problems.
- Inside the Motor Vehicle – levels of nitrogen dioxide can be up to ten times higher than ambient levels on the street outside.
- Other sources include other energy sources, construction activities, and uncontrolled burning.

Results from the EPA report on Air Quality in Ireland 2011, provides an overview of air quality in Ireland for 2011 and is based on date obtained from 29 monitoring stations that form the national ambient air quality network. This includes the following pollutants, nitrogen oxides, sulphur dioxide, carbon monoxide, ozone, particulate matter (PM10, PM25, and black smoke) benzene and volatile organic compounds heavy metals and polycyclic aromatic hydrocarbons. The report noted that overall air quality in Ireland continues to be good and is among the best in Europe, due largely to the prevailing clean westerly air flow from the Atlantic and to the relative absence of large cities and heavy industry. However for the main cities levels of NOx in traffic impacted city centre areas will continue to be a problem due to the difficulty in achieving large scale reduction in road traffic numbers Emissions from residential solid fuels use contribute to high levels of particulate matter and polycyclic aromatic hydrocarbons in villages, towns and cities.

For Dublin City , Dublin City Council Air Quality Monitoring and Noise Control Unit for 2010 , generally puts Dublin's air quality at good with Levels of sulphur dioxide (SO2) black smoke and carbon monoxide (CO) have been satisfactory while levels of nitrogen dioxide (No2) improved during 2010 compared with 2009. Black smoke monitoring is now carried out as a form of background monitoring (since the significant improvement in air quality with the introduction of the coal ban) using the benchmark of the EU Directive 80/779/EEC as a guide. The results for 2010 indicate that the sites all comply with EU limit values. However the levels of NO2 remain a concern and will require particular attention in the coming years, this is primarily associated with traffic emissions. With regard to particulate matter (PM23 and PM10) there were marginal increases in 2010 for PM 10 although no exceedence were noted. For PM22 limit values were exceeded on a number of occasions.

The table below sets out the sources and associated effects of pollutants for the results from 2002 – 2010

Table 3.3 Main Pollutants affecting Dublin's Air Quality

Pollutant	Main Sources in Dublin	Effects
Sulphur Dioxide (SO2)	Space heating from residential and industrial premises	Precursor of acid rain. Health impacts - breathing problems, worsening of respiratory and cardiovascular disease
Nitrogen Dioxide (NO2)	Burning of fossil fuels in vehicles, industrial plant, power plants and other commercial and residential sources that burn fuel	Health impacts - irritates the lungs, lowers resistance to respiratory infection; precursor of acid rain, formation of ground level ozone and in the formation of photochemical 'smog'
Carbon Monoxide (CO)	Vehicular traffic	Health impacts – interferes with the distribution of oxygen in the blood
Particulate Matter (PM2.5 and PM10)	Vehicular traffic, dust from construction sites, construction equipment, crushing /grinding operations, tobacco smoke, wood burning stoves, and other home heating sources	Health impacts – particles invade the body's natural defence system

3.5.2.2 EPA Air Quality Zones

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

- Zone A : Dublin Conurbation
- Zone B - Cork Conurbation
- Zone C – Other cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee, Dundalk, Navan, Letterkenny, Celbridge, Newbridge, Mullingar, Balbriggan, Greystones, Leixlip and Portlaoise..
- Zone D – Rural Ireland ie. The remainder of the Stats, small towns and rural areas of the country – excluding Zones A, B and C.

The LAP area falls within Zone A: Air Quality in Zone A is currently good.

The above index is calculated based on the latest available measurement of ozone, nitrogen dioxide, PM10 and sulphur dioxide in Zone A.

Nearest Monitoring Station would be in Phoenix Park where the current air quality is Good.

3.5.2.3 Evolution of Air & Noise in the absence of the LAP.

The core strategy of the Dublin City Development Plan 2011 – 2017 , to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanism.

In the absence of the LAP for this area, noise levels and air pollutants would be likely to remain at current levels, or even increase as population trends continue to increase in the areas. The large sites undeveloped would remain impermeable with physical barriers to movement. The elements of the green infrastructure at this local level would be less likely to be implemented with negative consequences for noise and air quality.

3.5.2.4 Key Environmental Issues – Air & Noise

- Emission of air pollutants from road traffic remain the main threat to air quality, a modal shift from the private car to high quality public transport is required.
- The levels of Nitrogen Oxide (NO2) and Particulate Matter (PM2.5 and PL10) remains a particular concern and required special attention in the coming years

3.6 Climatic Factors

3.6.1 Introduction

There is currently no data available at a local level for greenhouse gas emissions for the LAP area. However a number of strategies and initiatives have been developed as part of the National Climate Change Strategy 2007 -2012.

The National Climate Change Strategy Ireland 2007-2012 sets out a range or measures building on those already in place under the first National Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides for action to reduce Ireland's greenhouse gas emissions. The Kyoto Protocol was agreed in 1997 and commits industrialised or developed countries to reduce their combined emissions of the basket of six greenhouse gases by at least 5% compared to below 1990 levels by the first commitment period 2008 -2012.

One such initiative is the Climate Change Strategy for Dublin City 2008 -2012**.** CO2 is the greenhouse gas that has the strongest effect on climate change. CO2 emissions in the City can be divided between four major sectors, residential (32%) services (23%) manufacturing (20%) and transport (25%) . In 2006 Dublin City which has 12% of the Irish population released approximately 5 million tonnes of CO2 which was approximately 10.5% of the total Irish emissions.

Ireland's air quality remains generally good. The 'smog' problem which existed in the 1980s /early 1990s has now been eliminated due to the ban on the marketing sale and distribution of bituminous coal in certain urban areas. However, due to the significant increase of vehicles on our roads, emissions from the transport sector represents the greatest threat to our air quality. Measures which help reduce congestion, promote fuel efficiency and the ongoing investment in public transport are of major assistance in addressing any potential threat to our air quality.

Measures introduced and proposed in the areas of:

- vehicle standards
- fuel efficiency in vehicles

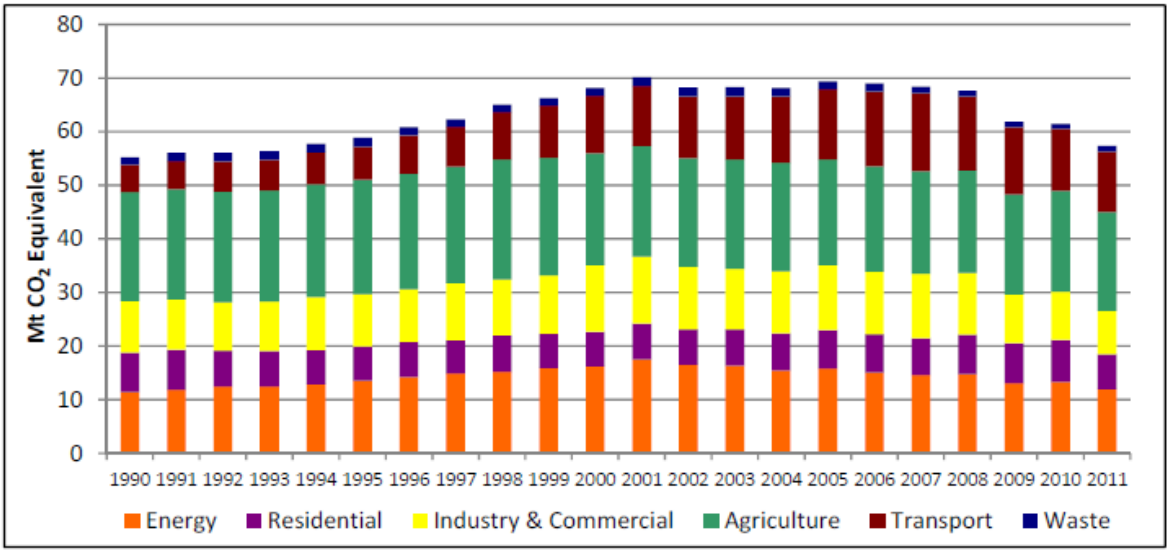
- modal shift (LUAS, DART, QBCs, cycle lanes etc)
- Demand Management (large infrastructural projects such as Dublin Port Tunnel, M50 upgrade, and general other measures to help congestion)
- Restructuring of vehicles registration tax (VRT) and motor tax in favour of more fuel efficient cars
- Excise relief on bio fuels.
-

All the above measure helps to maintain our high standards of air quality

3.6.2 Environmental Protection Agency

The EPA compiles Ireland's national greenhouse gas emission inventory on an annual basis. This inventory is submitted to the European Commission and UNFCCC each year. Emission data for the following gases is reported on an annual basis, Carbon Dioxide CO2, Methane CH4, Nitrous Oxide N2O, Sulphur Hexafluoride (SF6) Perflurocarbons (PFCs) and Hydroflurocarbons (HFCs). Emissions are classified into the six following Intergovernmental Panel on Climate Change (IPCC) sectors: Energy, Industrial Processes, Solvent and Other Product Use, Agriculture, Land-Use Land Change and Forestry and Waste;

Figure 3.4 – Trends in Greenhouse Gas Emission 1990 - 2011[10]



Specific Information on Ashtown/Pelletstown is not available; the information from the EPA covers all of Ireland. A report from the EPA on the 12th October 2012, made a number of points in relation to Greenhouse Gas emission in 2011.

Some of the key points:

- For 2011 GHG emission are estimated to be 57.34 million tonnes, which is 6.7% lower than emission in 2010
- Emissions from energy decreased by 10.5% in 2011., reflecting an increase in share of renewable in gross electricity consumption . Wind resources were significantly higher in 2011 than in 2010.

[10] EPA Irelands Greenhouse Gas Emissions in 2011

- Greenhouse gas emission from the residential sector are 15.6% lower compared to 2010 levels, reflecting milder winters in 2011
- Industry and Commercial emissions decreased by 10.7% in 2011 primarily due to a reduction of Fuel Oil and to continued decrease in CO2 emission from cement production
- Agriculture emission are 1.9% lower in 2011 compared to 2010 due to decrease in fertilise use.
- Transport Section is 2.7% lower primarily reflect the continued economic downturn in 2011, as well as the impact of policies and measures such as linking VRT and motor tax to CO2 emissions.
- Transport and Agriculture account for almost 50% of total emissions in 2011 or 71% of non EU ETS emissions
- Based on the First four years of the Kyoto Period (i.e 2008 to 2011) Ireland is on track to meet Kyoto obligations when the impact of EU Emissions Trading Scheme and approved Forest Sinks are taken into account. Compliance under the Kyoto Protocol will be assessed when greenhouse gas emissions for the full period (2008 -2012) are available.

3.6.3 Dublin City Sustainable Energy Action Plan 2010- 2020

This action plan was proposed by Codema in association with a Dublin City Council Steering Committee. Dublin City Council took the initiative to reduce Dublin's carbon footprint by 20% by 2020 and to become an energy smart and efficient city. The plan analyses the City's current energy and carbon dioxide emissions and Codema calculates that Dublin City is currently emits 5 million tonnes of CO2 each year. The action plan set out and evaluates how we can reduce energy consumption in areas such as planning, transport, residential, and commercial buildings while incorporating the use of renewable energy. A huge opportunity lies in residential and commercial buildings which currently account for 55% of the city's total greenhouse gas emissions and represents the biggest possible opportunity for CO2 abatement.

3.6.4 Flooding

Climate change brings with it the challenge of flood management due to extremes in weather and increased flood risk, and the challenge of supplying drinking water particularly during periods of drought.

Flooding is also covered under the Environmental Indicator Water.

3.6.5 Evolution of Climatic Factors in the Plan Area in the absence of the LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms, including local area plans and SDZs where appropriate (Grangegorman and Docklands)

A priority of the development plan's core strategy is the achievement of a clean, healthy city with the use of renewable energy sources, green technologies, sustainable building designs, and SuDS as integral part of the city's infrastructure. While the issue of climate change is a trans-boundary issue and largely outside the control of any one functional area or local authority, these positive policies and objectives of the city development plan core strategy assists in having an overall beneficial impact on

climate change. This emphasis in the development plan on sustainable infrastructure will help to mitigate climate change. The LAP provides a framework for the integrated delivery of sustainable infrastructure accompanied by a clear programme of implementation. It includes objectives which support a sustainable land use and transportation strategy, energy efficient building design, and sustainable drainage systems at the local level. Such a focused approach contributes to the reduction in greenhouse gases, assists in meeting the national climate change target as set out in the National Climate Change Strategy 2007 – 2012 and reduces the risk of flooding. In the absence of the LAP CO2 emissions would be likely to increase; flood risk assessment measures would be less likely to be undertaken with many negative climatic impacts as a consequence.

3.6.6 Key Environmental Issues - Climatic Factors.

They include localised as well as more strategic issues:

- Potential increased flood risk from changed land use patterns and climate change
- Vehicle emissions associated with the proposed LAP will give rise to CO2 and N2O emissions in the region.
- Emissions from energy generation and space heating in commercial and residential units, will also contribute to national emissions of greenhouse gases

3.7 Material Assets (transport and waste management)

The issues of waste water, transport infrastructure and waste management will be dealt with under the environmental receptor topic, 'material assets'.

3.7.1 Waste Water/ Storm water

Drainage Infrastructure in the Ashtown/Pelletstown area is relatively new, having being designed and constructed as one overall master plan serving the new residential developments in the area. There are both foul and surface water pipelines servicing most of the area. The main trunk water and drainage services have been completed and taken in charge which means that new developments in the area can be serviced by water and drainage. The foul system drains to a newly constructed pumping station from where it is pumped into the North Dublin Catchment at Rathoath Road. From here it flows to Sutton Pumping Station and is ultimately delivered to Ringsend Treatment Works for treatment.

In 2010, the Environmental Protection Agency granted a Discharge Licence to Dublin City Council under the Waste Water Discharge (Authorisation) Regulations (2007). Dublin City Council must comply with the conditions of this discharge licence. The ultimate objective of this licence is to restrict discharges from the wastewater network into rivers and waters. Also under the River Basement Management Plan approved by Dublin City Council in 2010, all waters are to achieve "good" status , by 2015/2027. This places statutory requirements on Dublin City Council to improve the status of the rivers within the city. The 2007 Regulations also require that the Water Service Authority satisfies itself that there is drainage capacity available in the network prior to granting a planning permission for any development. This requirement will apply to all developments within the LAP area.

3.7.2 Drinking Water

The Dublin City Council Water Services Strategic Plan 2009 sets out the vision for water supply services in the Dublin Region. Supply and demand for high quality drinking water is finely balanced and this will remain the case in the short to medium term pending increased production, storage and delivery capacity.

Meeting the projected long terms water supply need of the Greater Dublin Area up to 2050 and beyond, is the main purpose of the Water Supply Project – Dublin Region (WSP-DR). This project is on the current Department of Environment Community and Local Government (DECLG) Water Services Investment Programme with Dublin City Council as Lead Authority. The Greater Dublin Areas includes the administrative areas of Dublin City, Dun Laoghaire-Rathdown, Fingal and South Dublin Counties, including counties Wicklow, Meath, and Kildare involving a current population of approximately 1.5 million. Following tendering/procurement/ appointment process, the new Consultants will advise Dublin City Council on the detailed programme for undertaking the Environmental Impact Assessment(EIA) and the preparation of an Environmental Impact Statement (EIS), Appropriate Assessment and Planning Application.

At a local level water supply to the Ashtown/Pelletstown lands is supplied from the public waterman at Deanstown Avenue approximately 1000 m north of the development lands. The connection to this watermain involved the construction of a new 300mm diameter water main from Deanstown Avenue along Rathoath Road junction crossing the River Tolka at Cardiff's Bridge and entering the subject lands at the new Rathoath Road junction. The water supply network also includes a 300mm diameter sine through the site to Ashtown Road with the potential for linking the existing mains to the west if required. A network of 100mm, 150mm and 200mm diameter pipes are fed from the 300mm diameter main.

3.7.3 Waste

Waste Management is concerned with the generation, collection and disposal of waste. The Waste Management Act 1996 defines waste as 'Any substance or object which the holder discards or intends or is required to discard.' Delivery of the objectives of the DCC Waste Management Plan will be implemented through the development management process by accommodating recycling facilities for new residential and commercial developments.

The Greater Dublin Waste Management Plan provides a framework for minimising waste encouraging recycling and ensuring the avoidance of environmental pollution. The plan includes the policy of diversion from landfill in accordance with targets set out in the European Union Landfill Directive.

Overall the Dublin Region continues to perform well in line with the targets and objectives of the Dublin Waste Management Plan. The household recycling rate is up 3% to 44%, municipal waste recovery is up 1% to 47%, and landfill has decreased by 1% to 53%. The region remains overly reliant on landfill with 56% of household waste and 49% of commercial waste sent for disposal. There remains a need to develop recovery alternatives for residual waste.(5th annual progress report, 2011, waste management plan for the Dublin Region).

Commercial waste arising generated in Dublin in 2010 was 739,121 tones. This represents an estimated increase of 1% compared to 2009 data. Municipal waste arising of 1,192,466 tonnes has been reported for 2010 in the Dublin Region, representing a 3.4% decrease on municipal waste arising recorded in 2009. The rate of disposal to landfill remains high at 56% and Dublin like the rest of the country remains overly dependent on landfills. The need to deliver treatment technologies for the long term management of residual waste remains a priority for the region and the country. The move away from a disposal reliant system towards a more sustainable recovery based approach is dependent on the key treatment infrastructure, such as the Dublin Waste-to-Energy facility, being developed in the region as planned.

3.7.4 Dublin District Heating System

In 2002 Dublin City Council undertook a feasibility study on the implementation of a citywide district heating network with a preliminary feasibility study for the network and the subsequent publication of a detailed study in late 2008. Following this an assessment of the market for District Heating was undertaken by Codema in 2010

Development of the system is planned to begin in Docklands Areas initially and then expand to other parts of the city. . This will have a number of benefits:

- Energy efficient and flexible in its energy choices
- Less dependent on imported energy
- More competitive and environmentally clean
- A leader in managing climate change

3.7.5 Transport

Increasingly, there is a greater awareness of the potential negative impacts of the transport sector on the environment, both in terms of local air and noise pollution and the effects of CO2 emissions. The challenge is to encourage more people out of the car and on to more sustainable forms of transport. The vision for transport in the Dublin City Development Plan 2011-2017 is to promote the integration of land uses and transport so that as much movement as possible is accommodated by high quality public transport, by walking and by cycling. This remains the main vision for transport in the proposed Docklands planning scheme, the proximity of rail stations and bus routes to the docklands area provide important public transport options to people.

The preparation of a LAP for the area presents an important opportunity to develop and promote the area as a sustainable community and city quarter. The strategic movement vision for the area is one of an environment that is pleasant, accessible and easy to move around on foot and by bicycle and where movement to, from and within the area is predominantly by sustainable means.

3.7.6 Progress to Date

A potential new rail station was planned for the eastern end of the area adjoining Rathoath Road, and this was a key influence of the Action Area Plan 2000, key structuring principles, including the approach to density. While not commenced to date, lands remain available for this station, and the project is the subject of a planning application to Dublin City Council.

The nearby Broombridge Station (some 700m to the east of plan area) will remain operational and will be supplemented by a new LUAS terminus to the proposed extension to the Green Line, known as LUAS Cross City. This will facilitate interchange of passengers between train and LUAS and because the Green and Red LUAS lines will be integrated the range of potential destinations stops is greatly increased. Enabling construction works for LUAS Cross City have now commenced, with passenger services planned to start in 2017.

The proposed airport rail link originally proposed for the AAP has not been delivered and is not included in either the NTA strategy or in the Dublin City Development Plan, and is therefore not included in this LAP.

A bus service through the site was also sought in the AAP, and a privately run route operated until the route became feasible for Dublin Bus to take over. The route 120 now traverses the pan area, terminating at River Road (near Ashtown Road).

Modal Split

In relation to modal split, a target of 40% of journeys by public transport and 60% by car was sought for all journeys – the delivery of the second train station near Rathoath Road being the key to achieving this. Using small area statistics from the 2011 census in relation to journeys to work/school etc, the figure now calculates at 40% public transport and 50% private car.

Road Network

The AAP sought a high level connectivity, with a network that encourages low traffic speeds by integrating traffic calming measures into road designs. While main access routes are mainly in places, the overall network remains uncompleted.

Cycle and Pedestrian Routes

The AAP strongly encouraged safe and direct routes through the scheme for walking and cycling. Whilst both have been provided, they are not fully connected due to a number of fenced off sites remaining undeveloped. The AAP also had specified objectives for two new pedestrian/cycle only bridges. These have not been provided to date. The planned rail station at Rathoath Road will accommodate a pedestrian bridge and cycle bridge over the canal and rail line.

3.7.8 Deficits in Infrastructure

- The delivery of a second train station on the eastern end of the plan area.
- The upgrading/improvement of River Road.
- The implementation of the Rathoath Road Realignment scheme and associated rail overbridge.
- The replacement of the existing manned rail level crossing at Ashtown.
- The delivery of LUAS terminus at Broombridge Rail station in association with proposals for LUAS Cross City

3.7.9 Evolution of Material Assets (Including Transport &Waste Management) in the absence of the LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

A priority of the development plan's core strategy is connecting the city through an integrated landuse and transportation strategy to arrive at a situation where the city is more people-focused, less polluted, and more accessible and allows for ease and safety of movement. Making Dublin accessible allows it to intensify and grow. In the creation of this more sustainable city, a modal shift from private modes of transport to public transport, cycling and walking is required along with the implementation of travel plans. It also requires a recasting of the public domain in favour of pedestrians, cyclists and mobility impaired as well as a network of strategic green routes. While transport management is a transboundary issue and largely outside the control of any one functional area or local authority, these positive objectives of the city development plan core strategy assists in having an overall beneficial impact on sustainable transport objectives.

The LAP provides a framework for the improvement of public transport services and infrastructure within the areas as well as the creation of a green infrastructure at a local level extending outwards into the city and region. The LAP promotes objectives to facilitate a modal shift from the private car to more sustainable forms of transport. This will be achieved through the creation of linkages and a street hierarchy that allows for ease of movement for pedestrians and cyclists. Barriers to movement will be removed to allow for this desired permeability. Less dependency on the private car will have positive impacts on movement in the area, particularly with for cyclists, pedestrians and those with limited mobility help mitigate against climate change and will greatly assist in the creation of a compact, green and sustainable city. The LAP also affords the opportunity to open up and create new routes through the existing large, underutilised and impenetrable sites.

In the absence of the LAP, the area would remain impermeable with physical barriers to movement remaining. Private car usage would be unlikely to decrease. The elements of green infrastructure at this local level would be less likely to be implemented with negative consequences for sustainable travel methods and overall quality of life. Furthermore, without the LAP in place to encourage population and economic growth in the plan area the future viability or expansion of public transport services would be under threat as the density of population required would not be in place to justify the investment in future transport improvement.

3.7. 10 Key Environmental Issues - Material Assets

- Deficiencies exist in the capacity of the wastewater collection system.
- Traffic congestion and traffic management issues - to restrict through traffic and calm traffic in city
- Need to reduce the amount of waste being generated within the LAP area, particularly in relation to reducing the reliance on landfill.
- Lack of The need to create linkages that will radically improve public transport, pedestrian and cyclist movement and facilitate the gradual integration of the area into the existing urban fabric of the city
- The need to provide for ease of pedestrian and cyclist access to Tolka Valley Park, , the canal, parks and leisure facilities
- Lack of interconnections between walking and cycling routes with key public transport and amenity destinations.

3.8 Cultural Heritage (including architectural and archaeological heritage)

Protecting an areas heritage involves the retention of landscape features and maintaining and protecting historic buildings, features and their settings. A key challenge in the city is to balance the protection of its significant archaeological and architectural heritage with its continuing growth, and development. An important mechanism to achieve this is to formulate appropriate objectives for the protection, enhancement and management of the built heritage, while encouraging and facilitating regeneration, development and change in a sustainable manner.

3.8.1 Archaeological Heritage

Zones of Archaeological Interest are marked on the Record of Monuments and Places (RMP) maps and new sites are marked on the archaeological survey database hosted on www.archaeology.ie. The RMP also documents known individual archaeological monuments and their original locations in the case of destroyed monuments. RMP sites are protected under the National Monuments Acts 1930-1994. Zones of Archaeological Interest in urban areas must be addressed in relation to development

and regeneration and development led archaeology provides opportunities for understanding the City's past.

The sites relate to a castle site, a bridge and a burial ground. References below relate to the Archaeological Survey database of the National Monuments Service;

DU014.074 Remains of fortifications. The Civil Survey (1654-6) mentions this castle at Ashtown.

DU014.075 This bridge spans the River Tolka south of Finglas. It is a four-arched example with three round arches close together and one on the south bank.

DU014.095 Three unenclosed inhumation burials, probably pre-Christian (2nd to the 7th century)

The locations of these are illustrated in map 3.10.1

3.8.2 Conservation Areas

Dublin City Council has identified conservation areas in recognition of their unique contribution and importance to the heritage of the city. The conservation area designation is applied both to the built and to natural heritage.

The conservation area designation (represented by a red hatched line on the development plan maps) as it relates to this plan area applies to i)Tolka Valley along with Cardiffsbridge Park extending into the area of Pelletstown House and environs and ii) the Royal Canal to the south. The Royal Canal is also a proposed Natural Heritage Area.

There is a recognised need to protect these two conservation areas in the plan area. Dublin City Council seeks to protect the special character of the conservation areas and ensure that all development proposals within these designated areas consider the impacts of the development proposed and ensure that the development complements and enhances the character and setting of the area

3.8.3 Industrial Heritage

Structures of architectural heritage merit, although not all are put forward for inclusion in the Record of Protected Structures (RPS), designated as a Conservation Area or as a Natural Heritage Area, may continue to contribute to the identity of a locality. The contribution of any features, which give identity to and enhance that uniqueness, should be given recognition. In this regard, the industrial heritage of the plan area is of importance. This is a relatively new area that refers to industrial activities of the past and associated infrastructure. Regard for industrial heritage is an important issue for future planning and development.

In recognition of the role of industry in the development of the city, the City Council commissioned a comprehensive survey of the industrial heritage of the city area – the Dublin City Industrial Heritage Record (DCIHR). In 2007, Phase 5 of the DCIHR project commenced. This stage focused on the area referred to as the 'North City' and includes three City Council administrative areas (i) Central, (ii) North West and (iii) North Central. A total of 529 sites and structures were surveyed. Of the 529 sites and structures surveyed a total of 19 were found within, or very close to, the LAP area. These include the Royal Canal, Ashtown station, the 7th, 8th and 9th local, the tow path, the remains/sites of lock keepers' house and two level crossings. Of the 19 sites, five of the features are designated as 'national merit' (the Royal Canal, 8th and 9th locks, H.S. Reilly Bridge and Midland Great Western

Railway), one as ‘regional merit’ (towing path), two as ‘local merit’ (level crossings) and the remaining as ‘recorded only’ or ‘unknown’. Those sites/features categorised as ‘unknown’ are located within the administrative boundary of Fingal County Council and information on them is held by that local authority. The DCIHR recommends that those sites that have been evaluated as of ‘regional or higher merit’ should be considered for inclusion in the RPS.

3.8.4 Protected Structures

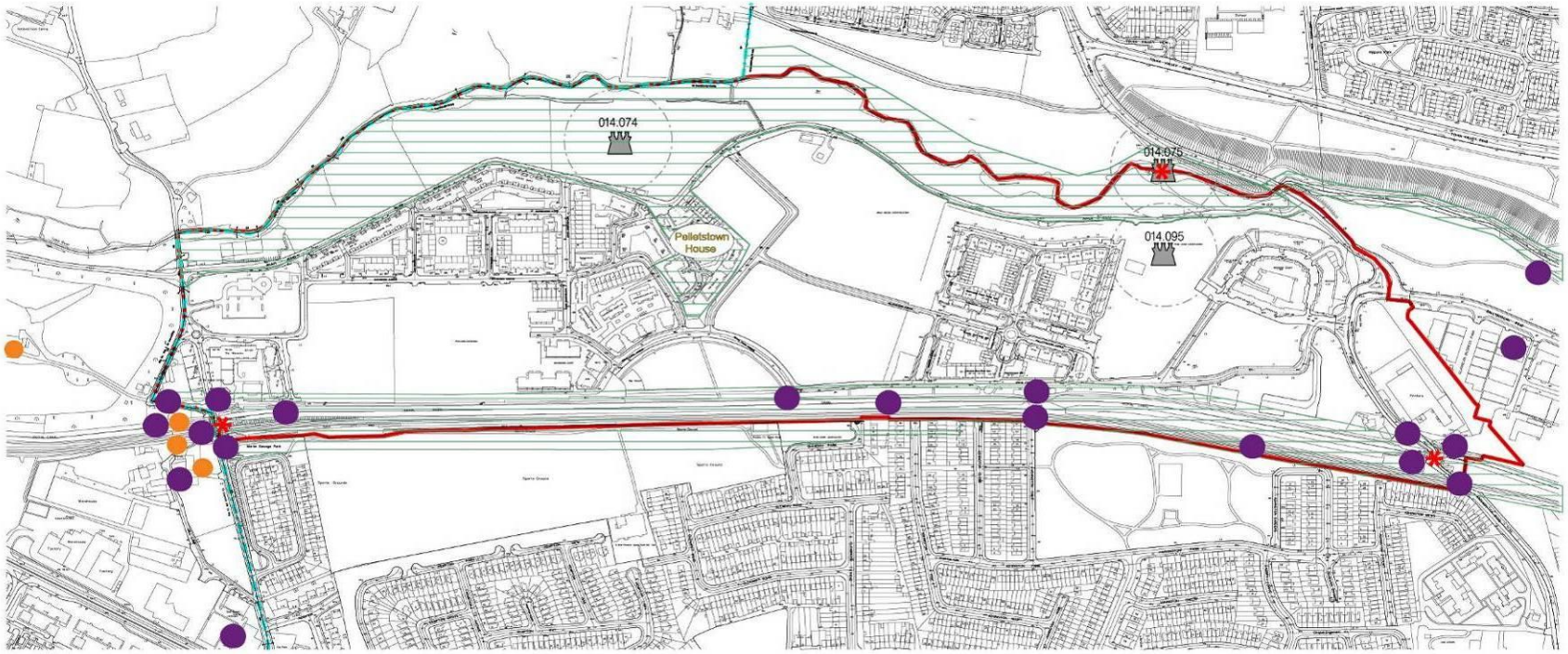
The city’s built heritage significantly contributes to the city’s identity and to the richness and diversity of its urban fabric.

There are three protected structures contained within the plan lands.

- **H.S. Reilly Bridge** (protected structure ref. 913), Ratoath Road.
- **Longford Bridge/Ashtown Road Bridge (**Dublin City Council ref. 907; Fingal County Council ref. 693)
- **Cardiffsbridge** (protected structure ref. 895)

The location of each of these is shown on map 4.7.1 below and detail relating to each is set out earlier in chapter 2. The protection of buildings on the Record of Protected Structures (RPS) requires protection of the built fabric of the structure and also the safeguarding of the curtilage and attendant grounds. It is policy of the city council to protect the structure and maintain and enhance the potential of protected structures to contribute to the cultural character and identity of an area.

Ashtown / Pelletstown - Built, Natural and Industrial Heritage Features



Conservation Areas

Sites of Archaeological Interest

Protected Structures

Protected Structures (Fingal Co Co)

Industrial Heritage

3.8.5 Evolution of Cultural Heritage in the absence of the LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

The LAP affords an opportunity to utilise heritage assets in line with Development Plan policy, to develop an identity and a sense of place. Heritage assets can be used to frame future development and can become memorable focal point, thereby giving legibility to the area. Structures of architectural and/or historical importance can also have potential for integration into the emerging urban fabric in a manner which safeguards their long-term survival. The LAP seeks to ensure that the local architectural, archaeological, and industrial heritage is, recorded, conserved and enhanced for the benefit of future generations.

3.8.6 Key Environmental Issues - Cultural Heritage

To preserve and enhance the setting and character of the built heritage of the area and to ensure future development has regard to the historical value of these sites.

To promote the in-situ preservation of archaeology within the LAP area where possible

3.9 Landscape & Soil

For the purposes of this planning scheme, landscape encompasses landscape and soil.

3.9.1 Landscape

With regards to landscape, the landscape of the LAP area starts at the doorstep of the building and consists of streetscapes, neighbourhood parks, area parks, coastal stretches and waterfronts. This diverse landscape resource offers the opportunity to create an inspiring public space.

3.9.2 Soil

Soil is defined as the top layer of the earth's crust. It is comprised of mineral particles, organic matter, water, air and living organisms. It is an extremely complex, variable and living medium which acts as the *interface* between the earth, air and water. It performs many vital functions including: food and other transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. To date, there is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

3.9. 3 Soil functions

The proposed Soil Framework Directive (COM[2006] 232) identifies seven main environmental, economic, social and cultural functions performed by soil that need to be preserved. These functions are:

- Biomass production, including in agriculture and forestry
- Storing, filtering and transforming nutrients, substances and water
- Biodiversity pool, such as habitats, species and genes
- Physical and cultural environment for humans and human activities
- Source of raw materials
- Acting as carbon pool
- Archive of geological and archaeological heritage[11].

The function of soils in abating climate change is particularly important in a regional context for cities such as Dublin experiencing rapid growth beyond city boundaries. The conversion of greenfield sites and sealing of soils can release CO_2 into the atmosphere and further reduce areas of 'carbon sinks'. Soils contain about three times the amount of carbon globally as vegetation, and about twice that in the atmosphere. Land use planning must target the use of Brownfield sites.

The existing baseline of data on soils in Dublin City has been developed by the Geological Survey of Ireland (GSI) in cooperation with Dublin City Council. This work has been in progress since 2009 under the SURGE Project and was completed in 2011. The project aims to create a baseline of persistent organic pollutants (POPs) and heavy metals in Dublin's topsoil's for the first time and provides information on soil chemistry in the urban environment relevant to the protection of human health, compliance with environmental legislation, land use planning and urban regeneration. This involved sampling of 368 points within public parks and open spaces has been completed - see map for locations of these sampling points.

[11] SEA Practical Guidance for Practitioners on How to Take Account of Soil (2009), Scotland & Northern Ireland Forum for Environmental Research

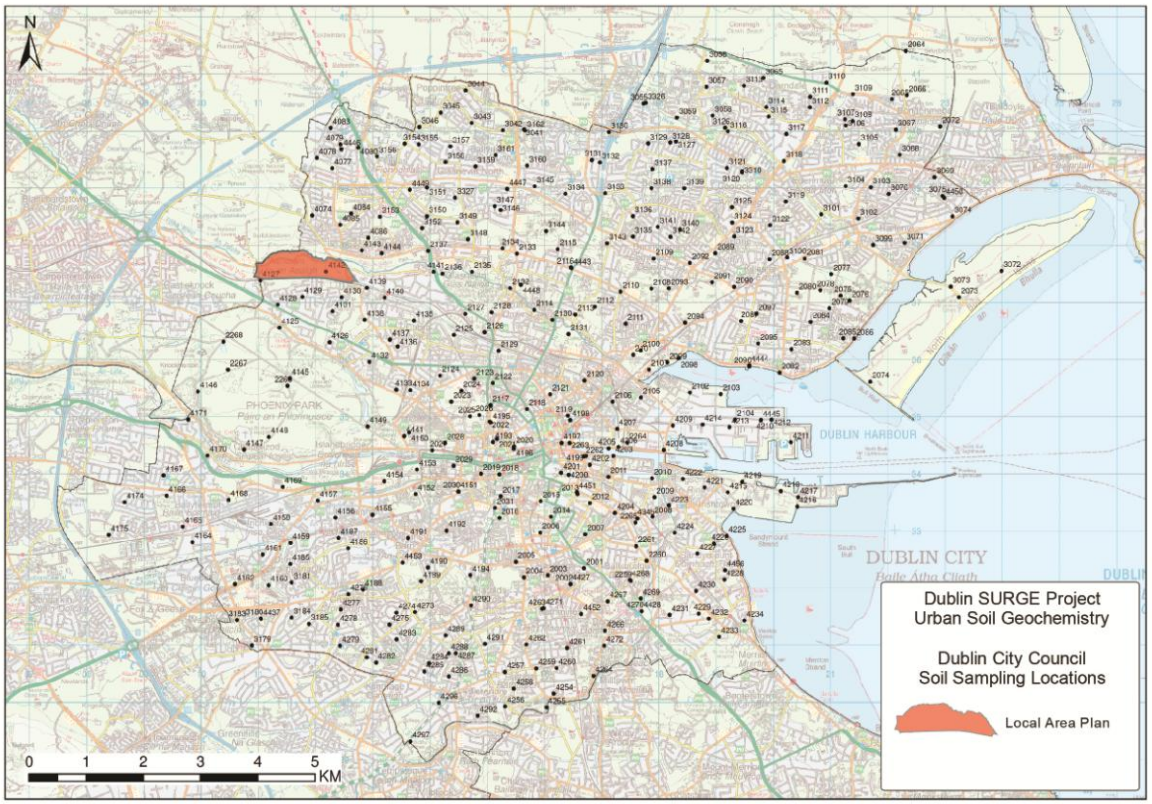


Figure 3.3 Soil Sampling Locations in Dublin City Council

DCC Parks and Landscape Services Division has provided access to sites and is preparing reports on site history for each sampling location. Detailed soils analysis and mapping of results is progressing and will inform the SEA once this information is made available to the Planning and Economic Development Department.

3.9.4 Evolution of Landscape in the absence of the LAP

The core strategy of the Dublin City Development Plan 2011 – 2017, to create a compact, green, smart, well connected city, which generates a dynamic environment for living and cultural interaction together with the creation of real long term economic recovery and based on sustainable neighbourhoods, is being delivered through a number of mechanisms.

The LAP affords an opportunity to create a high quality public realm with integration of SUDS.. In the absence of the planning scheme the improvements to soil quality are unlikely to take place in a co-ordinated manner, and also many of the public open spaces would be less likely to be delivered. This would have negative impacts on the quality of the urban spaces provided and also impact on population and human health.

3.9.5 Key Environmental Issues –Landscape & Soils

- To ensure that the natural environment and open space amenities are connected and integrated as main features of the area's identity and character and to align with the City Council's wider Strategic Green Network(SGN).
- To diversify the existing landscape character through the creation of new green spaces, parks etc
- Increased volumes of surface water run-off due to conversion of permeable landscapes to impermeable causes increased flooding, erosion and alteration of soils and their associated habitat.

Section 4

4.0 Environmental Protection Objectives

SEA Environmental Protection Objectives are measures used to show whether the objectives of a local area plan are beneficial to the environment, to compare the environmental effects of alternatives, or to suggest improvements. If complied with in full, the environmental objectives set should result in an environmentally neutral impact from implementation of the plan. The environmental protection objectives, which usually express a desired direction of change, are established for each of the environmental receptors and are often aspirational in nature. They serve a different purpose from the objectives of the local area plan, though they may overlap with them in some cases.

The SEA Directive requires the identification of objectives relevant to the plan only, so a process of selection was necessary. Objectives set have been adapted to the local circumstances and environmental issues of the Ashtown-Pelletstown Area and in some cases Dublin city (more strategic issues). The environmental protection objectives set for the SEA have been derived from environmental protection objectives which have been established in law at international, European Union, national and local level and from a review of baseline information and the environmental problems identified by the SEA team.

It is necessary to devise accompanying targets for the objectives set. Targets set aims and thresholds which should be taken into consideration to effectively assess the impact of the local area plan on the environment. These targets once breached would require remedial action.

Along with the targets, indicators have also been devised. Indicators are those measures used to track the achievements of the Environmental Protection Objectives towards the particular targets set and to monitor the impact of the local area plan on the environment.

Table 5 below details the Environmental Protection Objectives set for the protection of each of the environmental receptors. It should be noted that all environmental protection objectives set impact on population and human health.

Table 5: Environmental Protection Objectives, Targets and Indicators

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PHH** To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.
Biodiversity/Flora & Fauna	**BFF** To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors
Water	**W1** To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area **W2** To reduce and manage the risk of flooding **W3** To provide adequate wastewater treatment, water distribution networks and drainage networks
Air Quality & Noise	**AN 1** To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter) **AN2** To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area
Climatic Factors	**CF** To minimise emissions of greenhouse gases
Material Assets	**MA1** To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling **MA2** To reduce the generation of waste and adopt a sustainable approach to waste management
Landscape & Soils	**LS1** To conserve and enhance valued natural landscapes and features within them including those of geological value **LS2** To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites
Cultural Heritage	**CH** To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features

Section 5

5.0 Identification of Local Area Plan Alternatives

Article 5 of the SEA Directive requires the plan-making authority to identify, describe and evaluate alternative ways of realising the objectives of the plan. As stated in the Directive "an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated."

5.1 Identification of Alternatives

It is standard practice when devising a plan that various ways of fulfilling its objectives are considered. Dublin City Council, as the plan-making authority, is obliged therefore to consider alternative ways of achieving the objectives of the local area plan for Ashtown-Pelletstown. SEA involves a systematic and explicit appraisal of alternatives. The alternatives considered must be reasonable, realistic, capable of implementation and also set at the appropriate level at which the plan will be implemented, operating within the planning hierarchy i.e. the higher the level of the plan the more strategic the options which are likely to be available.

A workshop was held with the SEA team and local area plan team to consider alternative ways of delivering on objectives of the local area plan.

For the purposes of the Local Area Plan, three possible realistic alternatives have been identified and described, reflecting the need to achieve the following objectives:

- To provide effective guidance for the completion of development in the local area.
- To assist the completion of important social, physical and green infrastructure to service existing and future communities
- To address the issues of vacancy and interim proposals on lands not likely to be completed with development in the medium to long term
- To co-ordinate with developers and state agencies in the delivery of physical and social infrastructure to service the growing population (new rail station at the east end and a new primary school campus in the centre of the LAP area in particular).

5.1.1 Alternative 1 – Reissue the Pelletstown Action Area Plan 2000 (A Do Nothing Scenario)

This option proposes to reissue the previous Pelletstown Action Area Plan 2000 and use this as the main planning framework document to guide the completion of developments in the area.

This document provided an urban design framework for mixed services and mixed residential typologies within walking distance of good public transport, commercial, community and leisure/recreational services. The main objectives of the plan were to:

- Create a sustainable living environment.
- Optimise the use of public transport.
- Ensure sufficient densities to sustain public transport and create urban vitality.
- Create a design framework to create a viable and vibrant urban living environment.
- Create high quality urban spaces with architecture and landscape as dynamic components.

A key element of this plan was the creation of two public transport service locations (rail) at the west and east ends of the developing area. The locations of the rail stations would become the main foci of activity in the area.

Image from the Pelletstown Action Area Plan 2000 showing an aerial of the plan area and its character.

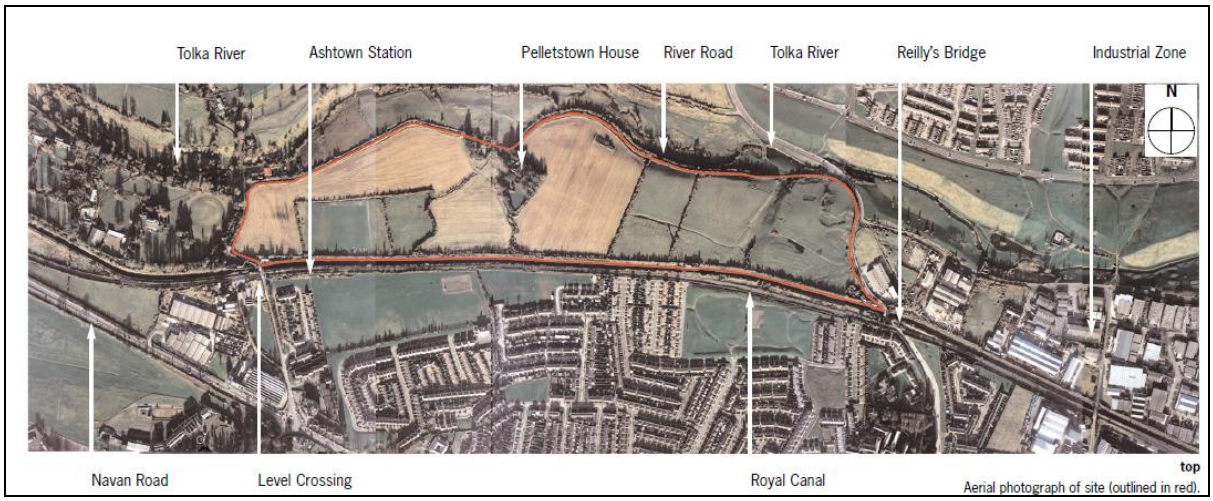
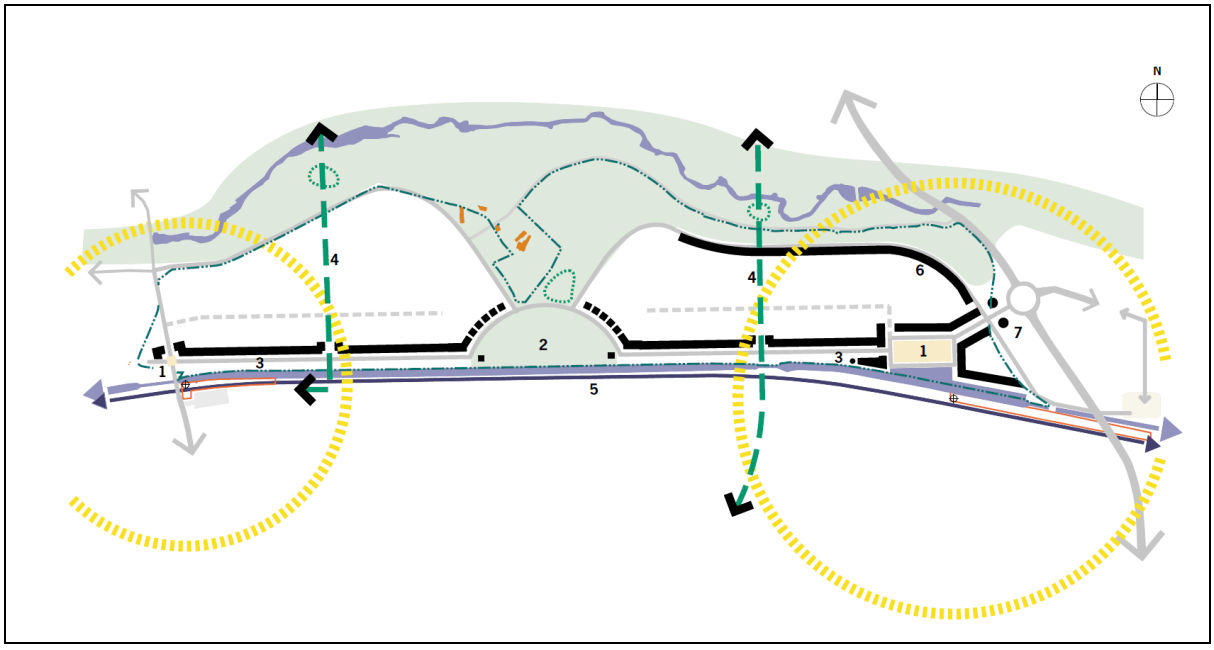


Image from the Pelletstown Action Area Plan 2000 showing the main spatial structure (two public transport focal points at either end a key feature).



The principle elements of the spatial structure were:

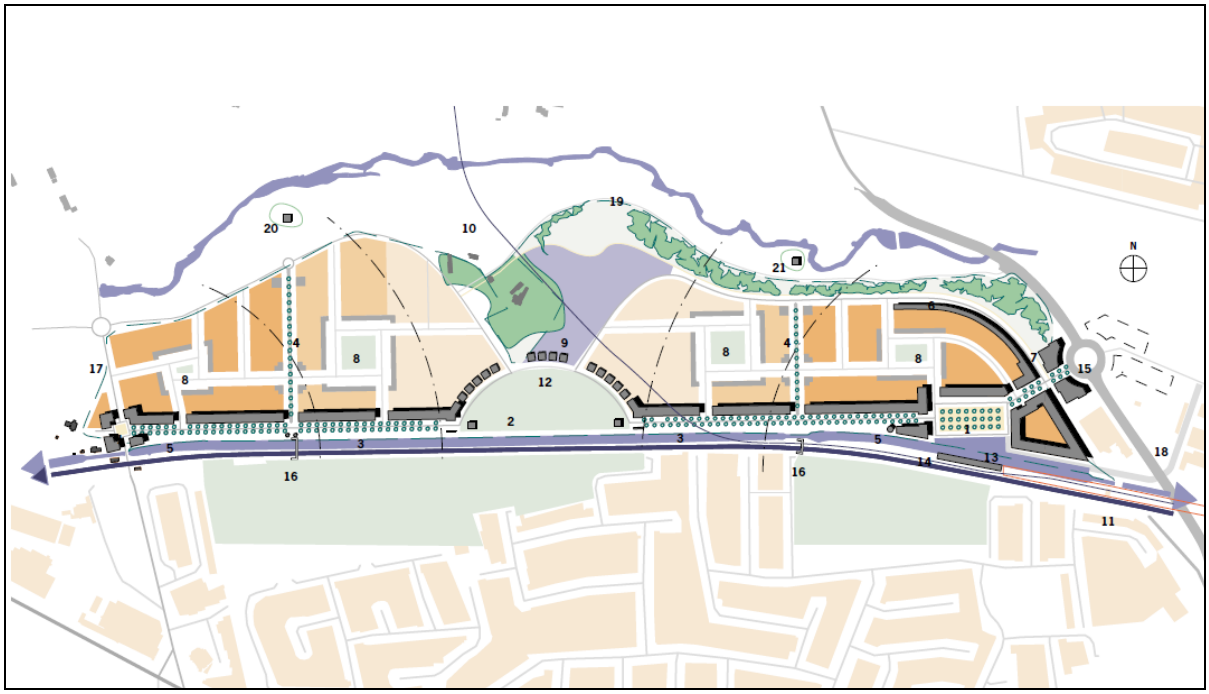
1. Two new public spaces at the east and west end of the plan area anchored by public transport services with public activities, mixed use developments and active ground floor uses.
2. A central park bound by the canal and crescent of housing as a focal point for community and leisure activity.
3. Tree lined canal side boulevards running east to west into each of the two public spaces.

4. Secondary routes running north to south through the development area linking the Tolka river valley and the canal with opportunities to extend to communities beyond the plan area.
5. The existing canal and towpath developed as a linear park with a sequence of experiences along it and cycle way access.
6. Well defined building lines, particularly along the north-east ridge looking out over the river valley.
7. A gateway development at the new junction into the realigned Ratoath Road creating a front door to the site.

The plan sets out clear residential density bands as targets to maximise access to public transport. Higher density decreases with increased distance from the rail station nodes. Density ranges between 150 units per ha and 80 units per ha were set out across a number of density bands and land use mix targets of 60% residential 40% commercial were required closet to public transport stations.

A target population of c 10,000 people was set for the area following these residential density targets.

Image from the Pelletstown Action Area Plan 2000 showing an indicative block layout across the plan area following urban design framework guidance.



5.1.2 Alternative 2 – Don't prepare an LAP and allow the Z14 land use zoning objective principles for strategic development and regeneration areas as the mechanism for development of the area. This is also a Do Nothing Scenario.

This option would see the Z14 land use zoning objective as the only mechanism for influencing how the area would develop. The objective of the Z14 zoning is to seek the social, economic and physical development and/or rejuvenation of an area with mixed use, of which residential and Z6 would be the predominant uses. Z6 zoning is to provide for the creation and protection of enterprise and facilitate opportunities for employment.

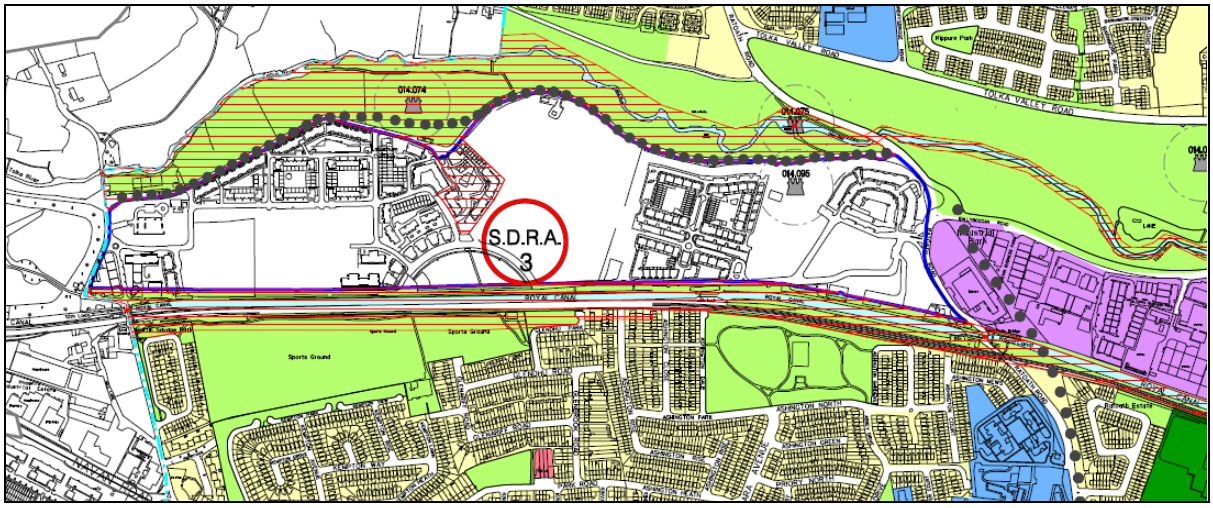
The Dublin City Development Plan 2011-2017 also sets out principles for strategic development and regeneration of areas. The principles for SDRA 3 Pelletstown include the following:

- To provide for a sustainable living environment, prioritising public transport and mixed use.
- To achieve a density of development that can be met by the public transport, social, educational, recreational and community infrastructure available in the immediate area.
- To develop a coherent spatial structure based on a hierarchy of linked streets, public spaces and design in keeping with the natural and other adjacent amenity areas of the Phoenix Park, the Royal Canal and Tolka Valley.

SDRA 3 also reaffirms the main components of the spatial structure for the area which area:

- Two high quality village centres, one to the east and west respectively, as the focus for mixed use development and community activities.
- A tree lined canal side boulevard linking the two village centres and providing the potential for developing a range of different experiences, including recreation uses.
- A central park to provide the setting for leisure and community activities.
- North/south linkages facilitating good access to public transport and to the amenities of the Tolka Valley.

Extract from Map A of the Dublin City Development Plan 2011-2017 showing the Z14 zoning and SDRA designation for the LAP area.



5.1.3 Alternative 3 – Develop a framework for proper planning and sustainable development of the Pelletstown-Ashtown area (Preparation of an LAP)

The preparation of an LAP would provide an updated strategy on how the area should be developed and managed in line with best practice in sustainable urban planning to meet the needs of all existing and future residents. The LAP would focus on policies and mechanisms that would deliver necessary physical, social and environmental infrastructure for the local area. It would also set out interim priorities to improve the quality of life for the existing community and address the challenges caused by the decline in the economy.

Within the alternative option of preparing a Local Area Plan, there are three further options to be explored concerning the spatial distribution of development and residential density patterns. These options will also be evaluated.

Section 6

6.0 Evaluation of Local Area Plan Alternatives

6.1 Introduction

Article 5 of the SEA Directive requires the Environmental Report to evaluate the alternatives identified i.e. "reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated."

6.2 Testing the Local Area Plan Alternatives

The three identified alternatives have been identified as per **Section 5**. These three alternative scenarios have been assessed against the set Environmental Protection Objectives.

The environmental objectives have each been given a unique code e.g. BFF equates to the objective 'To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors' and so forth. This allows for ease of legibility and reference in the assessments matrices as set out in **Appendix 1**.

Table 6 below sets out the Environmental Protection Objectives alongside their unique shorthand code.

Table 6: Environmental Protection Objectives, Targets and Indicators

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PPH** To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.
Biodiversity/Flora & Fauna	**BFF** To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors
Water	**W1** To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area **W2** To reduce and manage the risk of flooding **W3** To provide adequate wastewater treatment, water distribution networks and drainage networks
Air Quality & Noise	**AN 1** To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter) **AN2** To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area
Climatic Factors	**CF** To minimise emissions of greenhouse gases
Material Assets	**MA1** To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling **MA2** To reduce the generation of waste and adopt a sustainable approach to waste management

Landscape & Soils	**LS1** To conserve and enhance valued natural landscapes and features within them including those of geological value **LS2** To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites
Cultural Heritage	**CH** To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features

Table 7 and **Section 6.3** below contain the detail of the evaluation of the three alternative local area plan alternatives as tested against each of the environmental protection objectives using the following key:

SYMBOL	IMPACT ON ENVIRONMENT
+	Potentially Significant Beneficial Impact on the status of the Environmental Protection Objective
-	Potentially Significant Adverse Impact on the status of the Environmental Protection Objective
0	No Relationship with, or an Insignificant Impact on, the status of the Environmental Protection Objective

Environmental Receptor	Environmental Protection Objectives	Alternative 1 – Reissue the Pelletstown Action Area Plan 2000	Alternative 2 – Don't prepare an LAP and allow the Z14 land use zoning objective and SDRA principles as the mechanism for the development of the area	Alternative 3 – Develop a framework for proper planning and sustainable Development of Ashtown –Pelletstown (Preparation of an LAP)
Population / Human Health	***To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns***	**-** The original plan was prepared 13 years ago and requires updating informed by the policies and objectives of the current Dublin City Council Development Plan 2011-2017. In particular, important policies and objectives from the city level for sustainability, environmental enhancement, green infrastructure, social and economic development, quality residential living standards etc need to be transposed to the local level through an appropriate local plan framework. While the original plan provided clear guidance for urban design and spatial structure, it does not set out detailed policies on how to deliver social infrastructure which will benefit the population. The original plan does not have a clear phasing sequence which would benefit the ordered completion of development in the LAP area.	**-** Using general zoning guidance, it would be difficult to co-ordinate between different developers to complete developments, co-ordinate with state agencies to complete social and physical infrastructure and secure a logical sequence to next phase development. Each separate proposal would need to be evaluated as it was applied for without a framework to set out, before applications are lodged, what the most appropriate land uses, height proposals, density patterns and infrastructure requirements were for each phase of development. There would be more uncertainty for the local population in how the completion of developments will be co-ordinated , how the area will be improved in the interim period and where the next developments on site will proceed. Using permissible and open for consideration uses as guidance under the general zoning provisions, incompatible uses such as extensive commercial or industrial uses could be proposed which would conflict with established residential character, urban design coherence and amenity enhancement,.	**+** The LAP provides an opportunity to co-ordinate between developers and state agencies on the incremental completion of development in the area and in particular on the completion of physical and social infrastructure including public transport, parks, walking and cycling routes, education and community facilities etc, all of which will improve the quality of life for existing and future residents. Issues identified as important by the community and stakeholders are translated into policies and objectives with implementation and review mechanisms to track their delivery. This provides the community with more assurances that improvements will be delivered. There is more certainty on which sites will be developed next, how infrastructure will be completed, amenities enhanced and how sites will be treated in the interim awaiting completed development. The LAP sets out the most appropriate urban design, land use and density proposals at different locations. In this way, there is more certainty on which locations are best suited for family orientated housing, which locations are best suited for higher density housing and mixed services adjacent to public transport etc.

Biodiversity/Flora & Fauna	***To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors***	**-** While the original AAP provided clear guidance for an urban structure which included creating new public open space, improving the amenity potential of the Royal Canal and creating connections to wider area amenities including Tolka Valley Park and the Phoenix Park, there were no specific policies or objectives seeking biodiversity protection/enhancement. The plan would not be guided by new city policy and in particular the opportunities to enhance green infrastructure in the LAP area would be lessened unless a new plan was created. This plan would be non-statutory and would not have been informed by the SEA process or the requirements of the Habitats Directive. With increase in construction there is a likelihood that permeable landscapes are converted to hard surfaces which may lead to alteration and direct loss of habitat unless mitigated against	**-** This option would predominately result in individual planning applications being assessed in isolation and without due cognisance given to the role of biodiversity. Using zoning and general guidance principles only, there would be no mechanism to seek specific actions in the local area to develop green infrastructure, deliver an integrated and connected sequence of open space areas and target specific local environmental protection and enhancement. There would be potential for a lack of co-ordination in relation to the creation of green routes and corridors across different landowners. There would be no process to assess the impacts of an overall framework for the area on the environment, test alternatives and achieve mitigation. With increase in construction there is a likelihood that permeable landscapes are converted to hard surfaces which may lead to alteration and direct loss of habitat unless mitigated against	**+/-** The LAP would aim to balance the development of an urban environment with the protection and enhancement of the environment. The layout of new urban development would be required to incorporate high quality landscaping and quality pen space providing opportunity for habitats. The LAP will provided a co-ordinated approach across different sites to develop green corridors and networks. The LAP also an SEA and AA process to be undertaken to protect the environment and impacts on sensitive habitats. With increase in construction there is a likelihood that permeable landscapes are converted to hard surfaces which may lead to alteration and direct loss of habitat unless mitigated against. The policies and objectives of the LAP will require residential/mixed use schemes to incorporate landscape and open space proposals. The overall phasing and implementation proposals will require an integrated approach to delivering green infrastructure and protecting the amenity value of important habitats and open space areas.

Water	***W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area***	**-** The plan will promote an increased population placing increased pressure on waste water infrastructure which is already close to capacity. This situation could potentially lead to deterioration in water quality if not mitigated against. As a non statutory plan, there is no incorporation of specific policies or objectives to improve water quality, in particular there is no opportunity for a co-ordinated surface water drainage management plan or phasing proposals to increase quantity of development in tandem with infrastructure improvements.	**-** The general zoning principles will facilitate development leading to an increased population placing increased pressure on the waste water infrastructure which is already close to capacity. This situation could potentially lead to deterioration in water quality if not mitigated against. In the absence of a plan, there will be no opportunity for a co-ordinated approach in protecting water quality, seeking co-ordinated surface water management or for phasing to regulate next phase development in tandem with infrastructure improvements.	**-/+** The plan will promote an increased population placing increased pressures on the waste water infrastructure which is already close to capacity. This situation could potentially lead to deterioration in water quality if not mitigated against. With the LAP in place, there is an opportunity to incorporate specific policies and objectives to improve water quality, in particular for a co-ordinated surface water drainage management plan and phasing proposals to increase quantity of development in tandem with infrastructure improvements.
	W2 To reduce and manage the risk of flooding	**-** There is no Flood Risk Assessment process with this non statutory plan which is mostly urban design focused. Without policies and objectives, there is no mechanism to include mitigation (surface water management, flood resilient designs adequate set back from watercourses etc) which would reduce the risk of flooding.	**-** While individual planning applications can address Flood Risk Assessment, the absence of an overall plan for the area reduces the potential to undertake a sequential approach to minimise flood risk in the overall plan area.	**+** With the LAP process, the preparation of a Flood Risk Assessment ensures that a sequential approach to minimising flood risk is undertaken, a justification test is undertaken, mitigation measures are identified and flood resilient designs are promoted. This will assist individual planning proposals.
	W3 To provide adequate wastewater treatment, water distribution networks and drainage networks	**-** There would be limited co-ordination, in particular phasing, across the area to ensure the co-ordinated upgrading of infrastructure in tandem with increased quantities of development.	**-** As each separate application is made, there would be limited co-ordination, in particular phasing, across the area to ensure the co-ordinated upgrading of infrastructure in tandem with increased quantities of development.	**+** With the LAP, a phasing strategy will ensure that appropriate levels of development are phased in tandem with improvements in physical infrastructure including wastewater . water supply and drainage networks (a co-ordinated approach to SUDS)

Air Quality & Noise	***AN 1 To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter)***	**-** The lack of a robust phasing strategy would potentially lead to unsustainable travel patterns if transport infrastructure necessary to support development is not completed or prioritised through phasing. In particular, co-ordination with state agencies and developers to provide a new rail station, completing street infrastructure which would improve bus routes, enhancing pedestrian and cycling routes etc will all be impacted upon if a new strategy is not prepared.	**-** Taking guidance from zoning and general principles, it will be difficult to co-ordinate in a plan led manner with state agencies and developers to complete public transport and green infrastructure that promotes more sustainable modes of transport (to reduce private car emissions)	**+** The preparation of a LAP will allow co-ordination with state agencies and developers to improve public transport and green infrastructure routes. This will lead to improvements and efficiencies in sustainable modes of transport resulting in modal shift from the private car and will have a greater impact on protecting good air quality.
	AN2 To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area	**-** With this option, there is no clear direction on a phasing strategy. Phasing proposals will ensure that the completion of development is well managed and progressed incrementally, allowing impacts during construction period to be managed. In the absence of an updated framework, it will be difficult to co-ordinate with state agencies and developers to improve the delivery of public transport, walking and cycling routes which will lessen reliance on private car travel.	**-** With this option, there is no clear direction on a phasing strategy. Phasing proposals will that the completion of development is well managed and progressed incrementally, allowing impacts during construction period to be managed. In the absence of a plan led framework, it will be difficult to co-ordinate with state agencies and developers to improve the delivery of public transport, walking and cycling routes which will lessen reliance on private car travel.	**+** Phasing proposals will that the completion of development is well managed and progressed incrementally, allowing impacts during construction period to be managed. With plan led co-ordination, it will be possible to co-ordinate with state agencies and developers to improve the delivery of public transport, walking and cycling routes which will lessen reliance on private car travel.

Climatic Factors	***CF To minimise emissions of greenhouse gases***	**-/+** The absence of an updated plan led strategy will impact on the ability to improve public transport, improve green infrastructure provision (walking, cycling and sustainable designs) and guide sustainable neighbourhood designs. This could potentially lead to unsustainable travel patterns and increase CO2 emissions as the residential base expands. The AAP promoted high residential densities adjacent to public transport services which is a sustainable model for accommodating increased population growth within the city (consolidating the metropolitan area) and reducing urban sprawl on Greenfield sites. The construction period will result in increased in CO2 emissions for a temporary duration. There will be opportunities to mitigate against impacts in the longer term with sustainable design principles, particularly for building designs, optimising public transport and promoting quality green infrastructure. Reissuing the Action Area Plan would however limit the extent of these mitigation opportunities as it is not updated and informed with higher qualitative standards in sustainable design as required under the current 2011-2017 Dublin City Development Plan.	**-** Using zoning and general principles, the opportunity to co-ordinate with state agencies and developers to deliver improved public transport facilities is lessened. The lack of a robust phasing strategy would potentially lead to unsustainable travel patterns if transport infrastructure necessary to support development is not provided. This would increase CO2 emissions In the absence of a plan led strategy, there is a lessening in the ability to guide appropriate residential densities across the area to optimise residential access to public transport and sustain public transport services. The construction period will result in increased in CO2 emissions for a temporary duration. There will be opportunities to mitigate against impacts in the longer term with sustainable design principles, particularly for building designs, optimising public transport and promoting quality green infrastructure. Without a plan led strategy, the opportunity to optimise sustainable design principles in a co-ordinated manner across the area is eroded.	**+** A new LAP will allow co-ordination between the local authority, developers and state agencies to deliver within early phases improved public transport services and access and improvements to walking and cycling routes (reducing reliance on private car transport and reducing potential CO2 emissions as the population base expands). The LAP will give effective guidance to achieve minimum residential density targets to optimise access to public transport (new train station in particular) and sustain the provision of public transport into the future. The construction period will result in increased in CO2 emissions for a temporary duration. There will be opportunities to mitigate against impacts in the longer term with sustainable design principles, particularly for building designs, optimising public transport and promoting quality green infrastructure. Having a new LAP in place will ensure that high qualitative standards in sustainable design as required under the current 2011-2017 Dublin City Development Plan are coordinated across the area implemented effectively.

Material Assets	***MA1 To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling***	**+** A key objective of the AAP was the integration of higher density mixed use and residential development adjacent to public transport services. Residential areas would be within walking distance of these services. The principles of the AAP and in particular the spatial structure are still valid and robust in this respect. The opportunity to re-evaluate the density patterns and co-ordinate the provision of a new rail station at the east end of the LAP area is not presented if an updated plan led framework is not prepared.	**-** While the general principles for SDRA 3 promote public transport and land use integration, the absence of a plan led framework will erode the opportunity to phase the early completion of new public transport facilities, complete connections that make public transport services accessible (by walking and cycling in particular) and co-ordinate the distribution of sustainable residential densities to sustain public transport services in the future.	**+** A new LAP will have specific policies and objectives for Transport and Movement that will promote the use of public transport and sustainable modes of travel and require the early completion of infrastructure to facilitate sustainable mode of travel. The phasing strategy will prioritise the completion of infrastructure to encourage sustainable modes of travel. The LAP will set out minimum residential density targets that will optimise the use of and access to quality public transport services. The phasing strategy and land use guidance of the LAP will promote walkable neighbourhoods where supporting services and recreational amenities are accessible to peoples' homes. It is specific objective of the LAP to target 40% of residents to use public transport as the primary mode of travel and a further 10% to use soft modes such as walking and cycling.
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against

Landscape & Soils	***LS1 To conserve and enhance valued natural landscapes and features within them including those of geological value***	**+** The AAP recognised the value of natural assets and promoted the opportunity to enhance the amenity value of these assets, in particular a linear park along the Royal Canal and development of a new park along the Tolka Valley. New public parks were also proposed (the Crescent Park) for example.	**-** Using general guidance and zoning principles, there is less opportunity to co-ordinate a public open space strategy across the developing area, green infrastructure strategy and promote enhancement of bio diversity and landscape protection. The absence of a plan led strategy would remove the role for environmental assessments (SEA and AA) to ensure that natural amenities and landscapes are protected.	**+** A LAP will include environmental assessments which protect important amenity areas and natural landscapes within and close to the LAP area. Specific policies and objectives will be created (under Urban Design and Form and Environmental Sustainability) which will balance new sustainable formats of urban development with protection of existing amenities and landscapes (the Royal Canal and Tolka Valley), promote the creation of new amenity areas and promote biodiversity protection and enhancement.
	LS2 To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites	**-/+** The development of the area will use ground and soils which has a negative impact but must be balanced between the sustainable principles of planning in a zoned and serviced urban location. Mitigation through land use proposals and quality sustainable design principles can be sought. The area is in progress however as a development area and lands that were Greenfield prior to the original AAP, are now altered and in a condition of partial/commenced development. Completing development on these sites will utilise lands designated for development in a sustainable manner. The absence of an updated plan led strategy will however erode the opportunity for greater amenity provision, green infrastructure and SUDS measures to be co-ordinated across the LAP area.	**-** The development of the area will use ground and soils which has a negative impact but must be balanced between the sustainable principles of planning in a zoned and serviced urban location. The lack of a plan led approach for both the interim and longer term use of zoned and serviced land in the city boundary would lead to a delay in completing sustainable forms of urban development and put more pressure on development to occur on greenfield sites outside the city boundary.	**-/+** The development of sites will replace the existing ground with development including buildings, new hard surfaces and also new permeable surfaces and green spaces. The area is designated for development, zoned and services and all sites have been modified in the past in preparation of future development. The LAP puts in place a strategy to ensure a satisfactory interim site solution (including site improvements including planting and allotments) and long term quality sustainable urban designs that will include green spaces, green infrastructure, SUDS techniques in addition to new buildings, hard surfaces and infrastructure.

Cultural Heritage	***CH To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features***	**-** The Action Area Plan was largely focused on urban design and spatial structure guidance. An updated plan led strategy would give greater focus on the cultural heritage of the wider area and promote amenity connections between such features.	**-** The absence of a plan led strategy will erode the opportunity to promote a network of local cultural heritage features and set out policies and objective to protect them, promote awareness of them and increase the amenity potential of these features.	**+** The LAP will include specific policies and objectives that protect and enhance the value of cultural heritage in this area including the protection of features of industrial heritage (the canal locks) and promotion of amenity routes connecting different locations in the wider locality with points of cultural interest (promoting walking and cycling routes along the canal tow path and between the Phoenix Park and Dunsink Observatory for example).

6.3 Assessment of Alternatives

All three alternatives will place increased pressures on wastewater infrastructure, which in turn could potentially lead to deterioration in water quality and impact negatively upon biodiversity in the city if not mitigated against. However, all three alternatives are all reliant on the wastewater treatment infrastructure being upgraded as well as a new wastewater treatment plan coming on stream at regional level.

All options require developing land which uses a land resource and soil. It is recognised that the lands of the LAP area, within the city boundary, are zoned and serviced for development and have been subject to past planning permissions and development works. The alternative options each seek to complete an area under going development. Consolidating the city area, providing quality compact residential areas integrated with public transport and services and integrating environmental protection and open space amenity within these developments is inherently sustainable in its approach.

6.3.1 Alternative 1: Reissue the Pelletstown Action Area Plan 2000

This option presents a negative outcome from most receptors.

Reissuing the Action Area Plan is not robust or holistic enough to meet the challenges which are now facing the area. The developing lands are in a state of transition between completed and occupied and incomplete. A new strategy in particular a phasing sequence will help the completion of the area and addressing the vacant sites in a sustainable way.

The previous plan is also outdated with respect to requirements under the since published Dublin City Development Plan. A new LAP would update the framework for planning in the area and allow policies and objectives to be made that create a more sustainable neighbourhood. In particular, requirements for higher residential quality, sustainable design technology, green infrastructure including SUDS and the protection of water quality can be made within an updated plan. The protection of water quality and requirements to improve water quality status under the WFD is not referenced in the previous plan for example which is urban design focused and predates such regulations. There is also the role of SEA, AA and FRA which will inform a new planning framework, all environmental protection tools that are now requires since the original action plan was prepared.

6.3.1 Alternative 2: Don’t prepare an LAP and allow the Z14 land use zoning objective principles for strategic development and regeneration areas as the mechanism for development of the area

This option presents a negative outcome from most receptors.

Developing the area’s infrastructure, in particular completing street connections, implementing a Green Infrastructure network, co-ordinating SUDS measures and guiding the appropriate densities in the right location would be impacted. There would be no forum to co-ordinate with the developers and other state agencies to provide infrastructure including the new school campus, new rail station and road re-alignment at Ratoath Road (over the rail line). Each separate proposal would have to be assessed on its merits without an overall co-ordinated strategy to measure progress in achieving important works. The community would be left with uncertainty on the priority, phasing and timing of delivering these works.

Using the zoning principles solely would also remove the opportunity to environmentally assess the environmental impacts of the overall planning framework (SEA/AA and FRA) resulting in each separate proposal being assessed rather than a holistic assessment of the approach to developing the overall area.

6.3.1 Alternative:3 Develop a framework for proper planning and sustainable development of the Pelletstown-Ashtown area (Preparation of an LAP)

This approach would have the greatest benefit for the environmental receptors. The LAP would seek to guide the successful completion of the area in accordance with the principles of good planning and sustainable development. It would present a clear phasing strategy and provide updated policies and objectives to co-ordinate the delivery of open space, quality housing, schools, public transport and improvements in the condition of vacant sites in the interim period. The LAP would allow a co-ordinated approach between different developers to integrate new developments and from an environmental perspective, integrate positive sustainable designs within schemes. A SUDS strategy connected walking and cycling routes, a GI strategy, integrated sequence of open space areas, optimising densities close to public transport etc can all be co-ordinated. Policies and objectives can require each application to deliver high performance criteria for sustainable design and layouts including green technology, SUDS, renewable energy etc. Compliance with such requirements, would provide effective mitigation against the impact of development, would not be as strong if no statutory LAP was in place.

With this process, environmental assessments can be conducted testing the environmental performance of the overall planning framework and identifying mitigation measures to assist the designs of future planning applications.

6.4 Preferred Alternative

Based on the analysis of the alternative scenarios as detailed in Table 6, the preparation of an LAP was selected as the preferred approach. This approach has been found to have the most positive impact on the environment.

Having selected this alternative, three possible options with an influence on land use and density of development within the LAP area were examined.

6.4.1: Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area.

Within this option, densities as promoted under the original Pelletstown Action Area Plan would remain the target across the entire LAP area in a range of 80 to 150 units to the ha minimum.

This option would retain the requirement for higher density residential layouts including a large proportion of apartments and taller building forms across the entire LAP area.

6.4.2: Alternative 3 Option 2: Within a new LAP framework, promote lower net residential densities across the entire LAP area.

Within this option, densities would be allowed to reflect current market conditions for the most part without the requirement for minimum targets at locations that include existing and future proposed public transport. The range assumed would be 40 units to the hectares and below mostly.

This option would allow for houses with gardens (more traditional suburban housing models) as a predominant character across the LAP area

6.4.3: Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing.

Within this option, the LAP will recognise within its phasing strategy the different density targets for different character areas including higher densities (80 units plus per ha as a minimum) adjacent to the train stations and village centre focal points at the east and west end of the LAP area and more flexible ranges (between 40-50-60 units per ha) in phases between these node points to encourage greater variety in house typology (greater mix of higher density house types with apartment and duplex models as opposed to apartment mostly designs).

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Population / Human Health	***To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns***	**+/-** High residential densities would promote a large population base and critical mass to support the viability of mixed services and promote the use of public transport. Retaining this high density throughout the LAP area would not however create a sufficient mix of residential unit types, in particular house types, which would attract family occupancy. A pre dominant apartment character would be created, leaving possibilities for a more transient community and impact on community development. The high density yield as a minimum may not allow flexibility in building design for larger (three bedroom plus) units and meet qualitative criteria, in particular private open space, for sustainable neighbourhoods as set out under the Dublin City Development Plan 2011-2017. Taller building forms and higher plot ratios and site coverage would lessen the potential for different character areas and suitable locations for lower scaled development and larger green areas. The quality of the residential environment (daylight and sunlight for units and public open space), visual outlook and ambient noise levels could be impacted negatively in a high density profile through the entire LAP area.	**+/-** Lower residential densities would provide opportunities for larger areas of housing character with private open space. This format may respond to current market conditions and create large homes which would attract families and longer term residents. Having this character of development extensively throughout the LAP would however lower the potential population base and critical mass of people to support the viability of mixed services, public transport investment and community facilities. The absence or closure of these facilities would impact negatively on residential amenities. A lower density format of development would create larger areas of privatised land (private garden space and private parking) and erode the opportunity to use the land resource sustainably and create for larger areas of publically accessible and communal open space. Lower building heights throughout the area would not successfully mark focus points , gateway entry points into the area or enclose public open space. Animation, activity and passive supervision of public spaces would be lessened lowering the quality and enjoyment of use of these spaces.	**+** With this option, a rational approach to density planning is achieved. Where public transport facilities are being provided and more dynamic public realm areas proposed, the critical mass of units needed to support services (and activity) and more successful design responses are created with higher densities. At increased distances from public transport services and in locations where mixed commercial services are not concentrated, a greater mix of residential types with quality family housing opportunities are created within flexible density parameters. The flexibility allows creative design responses for good quality development throughout the LAP area. The mix in unit type facilitated by this flexible range in densities allows market responsive housing to help kick start progress without undermining the overall sustainable use of the land resource (densities at 40 units to the ha are a minimum for identified areas in the phasing strategy only). A mix in typology of units for socially inclusive developments and opportunities for quality public open space (more opportunity for height variations at suitable locations to achieve density and create ground level space for the public realm) are achieved to a greater extent.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Biodiversity/Flora & Fauna	***To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors***	**-** At this higher density target throughout the LAP area, it will be difficult to balance the residential unit yield target with opportunities for more openness and quality open space between buildings. The area may not be suitable for taller building formats across all locations resulting in greater site coverage to achieve density targets. The opportunity to create green corridors for example for recreation and biodiversity will be eroded owing to the requirement to retain town centre character densities throughout all phases of development. A higher concentration of people and activity in each part of the LAP area could cause disturbance to fauna in particular. This scale of development adjoining the public open space areas and natural environments adjoining the LAP would represent an abrupt and sudden change in character. With limited ground area available for open space to achieve the density targets, the opportunities for landscaping and biodiversity enhancement will be minimised.	**+/-** A lower density target would lessen the intensity of development and provide a greater ease of transition between the natural environment and urban development (lower building formats and higher levels of private gardens and private landscape spaces). There would be less activity generated overall which may be less disruptive to wildlife. However, while the overall residential yield from the land resource is lower, there is a negative potential for layouts to sprawl and be inefficient in the use of land, privatising much of the area for the curtilage of units, road surfaces and parking spaces. Private open space would be fragmented which would impact the ability to co-ordinate landscaping of larger public open space areas to enhance habitats. With a lower density and critical mass, the ability to sustain public transport services, retail and community facilities within walking distance of homes would be impacted. This would create conditions where greater reliance on private car trips and unsustainable modes of travel to access recreation, jobs and services are created.	**+/-** The range of density targets allows a more thought through spatial analysis of the plan area with suitable densities to free the ground area for public realm, new public open space and green corridors at suitable locations balanced with other locations where more family orientated homes with private open space will be provided. More viability is created to provide and sustain infrastructure including public transport which will lessen sprawl and reliance on private car and green infrastructure which will include the framing of routes between amenity areas for walking, cycling and wildlife corridors. Any development on lands that are now vacant, will impact on wildlife and potential for biodiversity to improve if sites are left vacant in the longer term. Mitigation can be created by new areas of public open space incorporating existing natural site features.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Water	***W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area***	**-** This high intensity approach throughout the LAP area would create pressures on existing infrastructure capacity both on site and off site. The need to fulfil the density targets without relying of extensive heights could create extensive hard surfaces eroding the chance for SUDS measures to manage surface water drainage and protect water quality.	**-** A lower quantum of development will ease pressure on the capacity of existing drainage networks and waste water treatment. However, a lower density of development may lead to layouts that privatise much of the lands eroding the opportunity to implement good quality public open space and green infrastructure features. A lowering of development would also impact on levies generated to finance infrastructure improvements.	**-/+** Development across a varying scale of densities will still place pressure on networks and water demand with potential to impact on water quality. However a more sustainable approach to using the land recourse will allow a high threshold of population to be provided in tandem with infrastructure upgrades, green infrastructure provisions and quality areas of open space to reduce surface water run off and minimise impacts on water quality
	W2 To reduce and manage the risk of flooding	**-** The need to fulfil density targets at this level for all areas would create larger areas of hard surfaces and building footprints. This would lessen the impact for SUDS solutions and green areas to manage surface water, in particular pluvial flooding. Greater challenges would be presented to flood resilient designs with no flexibility in minimum density returns.	**-** A lower density development may lead to suburban character sprawl with more extensive hard surfaces for streets (car dependant layouts) and less opportunity for green infrastructure and quality open space which would help mitigate the potential for flooding (in particular managing pluvial flooding).	**+** With a balanced distribution of densities, the layout of schemes can respond with greater flexibility to incorporate SUDS features to manage surface water run off and reduce the impacts of flooding. More sustainable and flood resilient designs can be created.
	W3 To provide adequate wastewater treatment, water distribution networks and drainage networks	**+/-** A greater quantum of development could generate levies to help fund infrastructure improvements and capacity upgrades. However, within the LAP area, extensive high density would erode the opportunity to manage and regulate loading on the system, instate green solutions to surface water management and phase growth with capacity.	**-** A lower density of development would reduce the levy base from which to fund infrastructure improvements. A sprawling character to the layout of developments would extend the reach of distribution networks.	**+** The range of densities allows a phasing programme to commence with family orientated units at medium density and higher density development at later phases. This allows demand to be phased and to match improvements in capacity. A greater quantum of development at the appropriate locations will also help the levies to fund infrastructure upgrades.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Air Quality & Noise	***AN 1 To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter)***	**+ /-** This high density option would optimise the use of public transport, concentrate services and create walkable neighbourhoods which would reduce reliance on private car transport and help reduce CO2 emissions. During construction, there would be temporary impacts on air quality from machinery and construction activity.	**-** A lower density throughout the LAP area would fail to optimise the use of public transport services and create a more car dependant neighbourhood, increased car journeys and increased C02 emissions. During construction, there would be temporary impacts on air quality from machinery and construction activity.	**+/-** With a range of densities, locations close to public transport will be optimised and mixed use services concentrated to promote sustainable modes of transport, reduce reliance on private car and reduce CO2 emissions. The variation of densities will ensure that locations with medium to lower density are well connected with locations where services and public transport are accessible. During construction, there would be temporary impacts on air quality from machinery and construction activity.
	AN2 To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area	**-** A high density option throughout all areas of the LAP would concentrate people and mixed activities in close contact, require extensive use of apartments as the main house typology and increase the potential for noise disturbance. During construction, there would be temporary impacts on noise quality from machinery and construction activity.	**+/-** With a lower density layout throughout the LAP area, there would be less concentration of activity and mixed uses in close proximity and more separate house units than multiple dwelling unit schemes. This would lessen the potential for noise disturbance. A more car dependant neighbourhood would potentially generate higher levels of car trips and increase noise levels on residential streets. During construction, there would be temporary impacts on noise quality from machinery and construction activity.	**+/-** At locations where higher densities are encouraged, the concentration of people and activity will increase the potential for noise disturbance. Mitigation will be required to reduce noise impacts including the careful integration of mixed uses with residential and good quality design standards for sound insulation. Within lower to medium density locations, the potential for noise impacts will be lessened. During construction, there would be temporary impacts on noise quality from machinery and construction activity.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Climatic Factors	***CF To minimise emissions of greenhouse gases***	**+/-** The high density model maximises the use of zoned and serviced urban land with densities that consolidate the city area and maximise the use of public transport. This model can help accommodate a large threshold of population reducing urban sprawl into Greenfield areas beyond the city and this reducing a reliance on private car transport and reducing CO2 emissions. Urban development, by the service and energy requirements for buildings and activities, has the potential to impact on emissions. A higher level of activity from a higher density of development increases the potential for emissions. Mitigation will be required to promote sustainable design techniques that utilise energy efficient techniques and use renewable sources of energy. During construction, temporary negative impacts will arise from building activity (machinery usage and construction activity using fuel and energy). Mitigation measures during construction activity should be required.	**-** A lower density model does not optimise the use of zoned and serviced urban land accessible to public transport. A lower threshold of population will be accommodated leading to pressures for housing land elsewhere on Greenfield sites. This will increase the footprint of urban areas and increase reliance on private car, thus increasing emissions. The buildings will require energy usage albeit with this option, there is less concentration of development and less demand for energy. Mitigation will be required to promote sustainable design techniques that utilise energy efficient techniques and use renewable sources of energy. During construction, temporary negative impacts will arise from building activity (machinery usage and construction activity using fuel and energy). Mitigation measures during construction activity should be required.	**+/-** This option promotes a range of densities that optimise the use of urban land and public transport at appropriate locations. Accommodating a high population connected with services and sustainable transport will reduce urban sprawl onto Greenfield areas, reduce car dependency and reduce emissions. Where medium and lower densities are allowed in locations within this option, larger family units high a higher bed space potential are required. These locations are close to and well connected with the higher density nodes where services and public transport are accessible within walking distance. This will still create conditions to reduce emissions. Urban development, by the service and energy requirements for buildings and activities, has the potential to impact on emissions. A higher level of activity from a higher density of development increases the potential for emissions. Mitigation will be required to promote sustainable design techniques that utilise energy efficient techniques and use renewable sources of energy. During construction, temporary negative impacts will arise from building activity (machinery usage and construction activity using fuel and energy). Mitigation measures during construction activity should be required.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Material Assets	***MA1 To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling***	**+** This high density model maximises the potential for a high population base accessible to public transport services. It integrates a high concentration of activity and mixed uses within walking distance of homes,	**-** This model will not maximise the advantages of public transport to service a higher level of population and will reduce the viability to sustain and extend such services. A sprawling layout to development will increase areas of privatised road space and reduce the opportunity to integrate quality green routes within urban layouts. This model will also disperse the location of services from homes (greater distances) increasing the potential for car trips.	**+** With this option, the locations accessible to public transport facilities are optimised for higher density development and concentration of mixed services and activities. Where family orientated dwellings are located, they are still accessible to public transport and services nodes. The higher density of development at the node points improves the viability of services and allows green routes to be integrated more successfully between locations to promote walking and cycling.
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against	**-** Plans for an increase in population and increase in construction would have the potential to increase waste levels unless mitigated against

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Landscape & Soils	***LS1 To conserve and enhance valued natural landscapes and features within them including those of geological value***	**-** The development would be located on lands zoned for development with no development directly on lands designated for natural conservation or public open space. Tolka Valley Park protects the natural landscape of the river valley and this option would not encroach on that space. The high density option throughout the LAP area will require greater massing of buildings, site coverage and heights minimising the potential to enhance or protect natural settings Any urban development will have an impact on the landscape but this option lessens the extent of mitigation that could be employed within layouts (less areas of open space , alerting height profiles, minimal set backs from amenity areas to enhance their settings)	**-** The development would be located on lands zoned for development with no development directly on lands designated for natural conservation or public open space. Tolka Valley Park protects the natural landscape of the river valley and this option would not encroach on that space. A lower density of development would lessen the extent of building heights and minimise the visual impact of the developments within the landscape. However, a more sprawling form to development over the entire area could also reduce the potential for good set back's to natural landscapes.	**-/+** The development would be located on lands zoned for development with no development directly on lands designated for natural conservation or public open space. Tolka Valley Park protects the natural landscape of the river valley and this option would not encroach on that space. The varying density profile will include some locations where development footprints are larger and heights taller but also other locations for lower scaled development, minimising impacts on the landscape. Within this option, which identifies phasing appropriate within each location, the envisioned urban form is clearer allowing public open space and GI routes to be identified, framed and appropriate set backs created (from the Canal corridor for example)
	LS2 To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites	**-/+** Urban development will use ground area and soil. Within this option, owing to high density approach for all parts of the LAP, there are less opportunities for open space where soil can be protected. However, this must be balanced with the more sustainable approach to land use within the city that is zoned , serviced and subject to previous development work to reduce urban sprawl onto Greenfield lands beyond the city boundary.	**-** Urban development will use ground area and soil. While lower density, this character of development would lead to a more sprawling layout requiring more street surfaces and eroding the quality of open space and GI routes. Also, by using zoned and serviced land within the city less efficiently, there is greater potential for housing demand elsewhere that would utilise green field sites and soils not yet altered for development.	**-/+** Urban development will use ground area and soil. With this option, density will be balanced to utilise zoned and serviced lands at high density close to public transport and lower densities in other locations with the provision of quality open space and GI routes protecting and enhancing soils as a mitigation. The sustainable approach to using the lands, already commenced with development, will reduce demand for Greenfield sites elsewhere.

Environmental Receptor	Environmental Protection Objectives	Alternative 3 Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area. 80-150 units/per ha minimum	Alternative 3 Option 2 : Within a new LAP framework, promote lower net residential densities across the entire LAP area. 40 units per ha and lower	Alternative 3 Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing. Range 40-80 units per ha.
Cultural Heritage	***CH To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features***	**-** The high density approach to the overall site would intensify urban footprints and reduce the potential to allow set- backs and enhancement of cultural heritage features.	**-** A lower density across all the LAP area would reduce the extent of urban development but with a more spread out layout, the design of new schemes would not enhance the setting or appreciation of cultural heritage.	**+** With this option, a range of densities allows different built forms to respond to the setting of cultural heritage features and to enhance their appreciation as a feature for the area (more creative layout of public open space and walking /cycling routes connecting with heritage features).

6.5 Assessment of Options under Chosen Alternative 3: Prepare a LAP

Having determined that preparing a LAP was the best alternative, there were three options considered in the planning approach.

6.5.1: Option 1: Within a new LAP framework, promote high net residential densities across the entire LAP area.

This option presents a negative outcome from most receptors.

While a maximum density approach increases the population base and promotes a greater potential use of public transport, there are negatives which arise in the qualitative assessment of the option.

Extensive density throughout the area will require a trade off in having either extensive footprints of development to achieve the density required or extensive height if more space at ground floor is required for the public realm and open space. With this option, extensive urban development will lessen the potential to allow good quality public open space, retain green areas and develop green routes through the scheme. With a requirement to maximise quantities, less open areas would reduce the potential for green design and SUDS measures which could improve water quality. High demand for services would create pressures on water and drainage infrastructure.

6.5.2: Option 2: Within a new LAP framework, promote lower net residential densities across the entire LAP area.

This option presents a negative outcome from most receptors.

While a less intensive use of the land would reduce pressure on services, the layout of extensive low density housing would privatise much of the lands creating more roofscape, hard surface areas for streets and surface parking and reduce the potential to integrate good quality open space within layout designs. The opportunity to incorporate creative green designs would be lessened (less opportunity for co-ordinated SUDS across the area for example). The critical mass of development would be lowered so as to undermine the viability of services and in particular public transport. Increased private car trips would be generated increasing CO2 emissions and creating a car dominated rather than sustainable travel neighbourhood.

6.5.3: Option 3: Within a new LAP framework, promote variations to net density requirements including high density adjacent to public transport and medium densities at other locations for family housing.

This option presents more positive outcomes from receptors.

A balance is struck where the locations closest to public transport are maximised with high density to promote the use of public transport, increase the viability services and promote sustainable modes of travel. Lower density locations will encourage family orientated housing areas but all locations are well integrated with public open space, walking and cycling routes. This provides opportunities for more green spaces and integration of strong GI principles for environmental protection.

6.6 Preferred Option for the LAP

Based on the analysis of the alternative scenarios as detailed in Table 6, Option 3 is selected as the preferred approach. This approach has been found to have the most positive impact on the environment.

Section 7

7.0 Evaluation of the Ashtown – Pelletstown Local Area Plan

This section of the Environmental Report evaluates the policies and objectives of the local area plan and should be read in conjunction with the Evaluation Matrix set out in Appendix A.

This evaluation assesses the likely or potential significant effects on the environment, i.e. on biodiversity, human health, fauna, flora, soil, water air, climatic factors, material assets, cultural heritage (including architectural heritage) and soils & landscape of implementing the Ashtown Pelletstown Local Area Plan

These effects include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative impacts and these will be highlighted where relevant.

7.1 Evaluation Methodology

The assessment of the likely significant effects on the environment of implementing the local area plan was carried out, in accordance with best practice methodology. The methodology employed was the accepted and commonly used methodology of creating a matrix, whereby the policies and objectives of the plan area listed on one axis and the environmental protection objectives on the other. The policies and objectives of the local area plan were tested against the Environmental Protection Objectives developed earlier in the SEA process.

To avoid the Environmental Report being dominated by a series of complex matrices these detailed matrices have been included as an appendix in this report (see Appendix A) while a summary of the significant environmental impacts are provided in Tables 8 – 15 below. Potential beneficial and adverse impacts have been identified in line with the requirements of the SEA Directive. Potential effects of plan policies have been categorised as:

Potential to have:

- A ‘Significant Beneficial Impact’
- An ‘Uncertain Impact’ on Environmental Receptor
- A ‘Significant Adverse Impact’ on Environmental Receptor
- An ‘Insignificant Impact’ or ‘No Relationship’

7.1.1 Population and Human Health

The policies of the plan have been found to have overall significant beneficial and long term impacts on population and human health. The plan focuses in particular on mechanisms that deliver the necessary physical, social and environmental infrastructure for the local area. The plan supports residential development by seeking to deliver community, educational and mixed retail services. It seeks the continued development and strengthening of two mixed use village nodes at the west (Ashtown Station) and the east (Ratoath road gateway) end of the plan area. Both locations will be serviced by quality public transport (a new rail station and public square is proposed for the east node). Employment generating uses are encouraged in the mixed use centres benefitting from completed road infrastructure, public transport and a high quality public realm. The plan supports the protection and creation of new amenity areas including children’s play areas, allotments and enhancement of bio diversity. It supports the development of green linkages (walking and cycling) between open space within the LAP area and amenities in the wider area including the Phoenix Park and Tolka Valley Park. It supports the development of recreational amenities along the Royal Canal.

Housing policy and objectives seek the development of a range of unit types with particular emphasis on quality family orientated housing.

These measures will promote good quality of life, accessibility, services and a high level of amenity for the population. Examples include:

- Land use policy LUS2 In support of residential development, to seek appropriate mixed use development in selected areas, the protection and enhancement of green areas and amenities , and to allow for the sustainable development of community/ educational uses.

- Movement policy MA3 To promote increased cycling and pedestrian activity through the development of a network of routes that connect to public transport, centres of employment, community and retail destinations.

- Movement objective MAO11 Within the plan period, to seek the achievement of a target of 50% of journeys by public transport modes combined (based on measures of travel to work/school/college)

- Urban design policy UD1 seeks to ensure that all future development delivers a high quality, attractive and robust public realm, that will provide a pleasant setting for new residential communities, support biodiversity and ensure public safety.

- Urban design objective UD07 seeks to support and promote the development of a pedestrian and cycling connection linking the Phoenix Park and Ashtown Station to Dunsink Observatory through the LAP areas as a joint project between Dublin City Council, Fingal County County, Waterways Ireland, the Office of Public Works & The Dublin Institute of Advanced Studies..

- Housing policy H1 seeks a balanced range of residential typologies and unit sizes across the LAP area to accommodate larger households and families. Policy H4 seeks to encourage the development of high quality, energy efficient and sustainable housing.

- Housing objective HO2 seeks a minimum 50% of all units to be of a larger size (three bedroom plus).

- Community objective CIO1 to promote the development of a new primary school and achieve the provision of a school hall as a community resource.

- Community objective CIO2 to prove a new play facility adjacent to the canal at Royal Canal Park as part of a new public open space area.

- Community objective CIO3 to promote the use of the Royal Canal and Tolka Park as active community resources for leisure purposes and examine the creation of sli na slainte circular routes and outdoor adult gym facilities.

Table 8: Summary of Potential Impacts of the Ashtown-Pelletsown Local Area Plan on Population and Human Health

Local Area Plan Policies & Objectives	Summary of Significant Impacts on Population and Human Health
Land Use, Housing and Urban Design Strategy	Significant Beneficial and Long Term Impacts
Economic Development Strategy	Significant Beneficial and Long Term Impacts
Movement and Transport Strategy	Significant Beneficial and Long Term Impacts
Cultural Heritage Strategy	Significant Beneficial and Long Term Impacts
Infrastructure and Water Strategy	Significant Beneficial and Long Term Impacts
Green Infrastructure Strategy	Significant Beneficial and Long Term Impacts
Community and Social Infrastructure Strategy	Significant Beneficial and Long Term Impacts
Sustainable Strategy	Significant Beneficial and Long Term Impacts

7.1.2 Biodiversity, Flora and Fauna

The plan was found largely to have potential for significant beneficial and long term impacts on the biodiversity, flora and fauna of the area. The plan includes a specific chapter for Green Infrastructure which seeks the development of open space amenity, tree planting, attenuation lakes and ecological corridors. Policies and objectives that promote sustainable modes of transport and sustainable building design will help to reduce carbon emissions and promote a cleaner environment.

An interim land use strategy for vacant sites is required so that the lands can be visually improved and used for landscaping, recreation or community uses (such as allotments) in the temporary period before full development is completed.

The protection of water and improvement of water quality status in rivers is promoted in the LAP.

These measures will promote the protection and enhancement of biodiversity in the LAP area. Examples include:

- Green infrastructure objective GIO1 seeks to complete a linear park along the Royal Canal in tandem with new development, enhancing biodiversity and ecological value.
- Green infrastructure objective GIO2 seeks to complete north to south green links from the Royal Canal to Tolka Valley Park. The design and planting of these links should encourage biodiversity through careful selection of tree species.
- Green infrastructure objective GIO4 seeks to implement a Green Points System to achieve improved green infrastructure for new developments and incorporate a high level of biodiversity.

- Green infrastructure objective GIO5 seeks landscaped and amenity areas to address biodiversity and where possible provide aquatic features as part of SuDS proposals.

- Infrastructure and water management objective IWO1 seeks to promote the achievement of good ecological status and good ecological potential for the River Tolka in accordance with the Water Framework Directive. IW08 seeks to ensure the protection of surface and ground water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and the protection of protected habitats and species including designated national and international conservation sites. IW09 requires that the recommendations of the Eastern Catchment Flood Risk Assessments and Management Plan (CFRAM) study shall be incorporated into any future development of the area.

Policies and objectives which have potential for short term significant adverse impacts include infrastructure works that are close to waterbodies, in this case the Royal Canal. Movement objective MAO3 seeks the delivery of a second train station close to Ratoath Road, incorporating a pedestrian and cycle bridge over the canal and rail line. Movement objective MAO6 supports objective SIO38 of the city Development Plan to seek delivery of the proposed re-alignment of the Ratoath Road including a new bridge across the railway and canal and a new junction with Ballyboggan Road. Land use objective LUSO2 promotes the provision of a widened berthing area at the Royal Canal adjacent to a new community plaza.

These objectives will promote the construction of transport infrastructure close to the canal. Mitigation at the design detail stage, through the planning process and environmental assessment of the project (EIS) will be the most appropriate mechanism to provide mitigation measures for the construction and operational phases to protect the canal, its water quality, amenity value and habitats.

A specific objective is provided in the LAP to promote the protection of the canal corridor, a pNHA designated area, and require that mitigation measures are put in place at the construction and operation stage to protect the water quality, habitats and amenity value of the Royal Canal and its corridor.

Objective IWO7 states that any works for infrastructure development adjacent to the Royal Canal pNHA, in particular works in pursuit of the delivery of Objectives MAO3, MAO6 and LUS02, shall require effective mitigation measures, agreed with Waterways Ireland and agreed with the planning authority through the appropriate planning and environmental assessment process for each project, to minimise the potential for significant adverse short term and long term impacts on the canal, its water, habitats and amenity value.

Protection of the canal corridor is further provided through urban design objective UDO2 which seeks to ensure the completion of the linear park on the Royal Canal towpath for the full extent of the LAP area, with a minimum width of 10 meters from the canal edge to park railing.

See Table 9 for a summary of potential impacts of the local area plan on Biodiversity, Flora and Fauna.

Table 9: Summary of Potential Impacts of the Ashtown –Pelletstown Local Area Plan on Biodiversity, Flora and Fauna.

Local Area Plan Policies & Objectives	Summary of Significant Impacts on Biodiversity, Flora and Fauna
Land Use, Housing and Urban Design	Significant adverse and long term impacts could occur from developing un-built land for permanent development (policy LUS1) and developing high density housing (Objective HO1). However, there is mitigation within the LAP to ensure that green amenities are incorporated and existing important habitats protected. Due to the mitigation, potential adverse and potential beneficial impacts are recorded. Significant adverse and long term impacts for LUSO1 and LUSO2 which seek the provision of a community plaza and train station adjacent to the Royal Canal. Mitigation is required. Policies GI4, GI5 and Objective IWO7 provides this seeking protection of the Royal Canal (pNHA) **MA012 requires that all planned infrastructural improvements (including widening berthing areas at the Royal Canal bridge crossings etc) shall ensure that the requirements of the EIA, Habitats, Water Framework and Floods Directives respectively are taken into account where appropriate** Many urban design policies and objectives seek green space provision and enhanced biodiversity with development and have Significant beneficial and long term impacts. Many policies and objectives have insignificant impacts.
Economic Development Strategy	Majority of policies found to have Insignificant Impacts on, or no relationship with, Biodiversity, Flora and Fauna. Significant adverse and long term impacts on the canal corridor from policy ED1 and EDO3 seeking economic development and activity close to the canal (a p NHA) which are mitigated by objectives that provide for a linear park and set back of development from the canal (Objective UDO2 and GIO1) and protection of the pNHA from works (Policies GI4, GI5 and Objective IWO7).

Movement and Transport Strategy	Largely Insignificant Impacts. Significant adverse and long term impacts could potentially arise from policy and objectives seeking infrastructure works close to the canal for a new rail station and bridges (Objectives MAO3 and MAO6). Mitigation to protect the habitats of the canal are provided through Policies GI4, GI5 and Objectives UDO2 ,GIO1 and IWO7. Policy MA3 promotes cycle and pedestrian routes that could disturb habitats. As vegetation matures along walking and cycling route corridors, there would be more opportunity for habitat and cover. Objectives in the LAP seek habitat creation and enhancing biodiversity along such routes. Due to the mitigation included in the LAP, this policy is recorded as potentially adverse balanced with a beneficial impact as mitigation is instated. Objective MAO4 seeks a completed and integrated street network for movement. While this promotes the development of green links, walking and cycling which is potentially beneficial for biodiversity, such routes may also have an adverse impact on habitats and disturbance to nature. Mitigation is included elsewhere in the LAP for landscaping routes and developing green links as part of the movement strategy. Due to this mitigation, both potential beneficial and adverse impacts are recorded. Objective MAO7 seeks the replacement of the manually operated level crossing at Ashtown Station with an alternative in cooperation with Fingal. The specific proposal is itself long term and not included in this LAP. The impact was therefore recorded as uncertain. Mitigation from any future infrastructure works on biodiversity is included through Objective ****.
Culture Heritage Strategy	Overall significant beneficial and long term impacts or insignificant Impacts.
Infrastructure and Water Strategy	Overall significant beneficial and long term impacts, in particular where water quality protection, surface water management, water conservation and phased development in line with infrastructure capacity improvement is promoted in policy and objectives.
Green Infrastructure Strategy	Overall significant beneficial and long term impacts. Policy and objectives promote green points, amenity areas, green links and biodiversity protection and enhancement.

	Potential for significant adverse and short term impacts from objective GI03 which seeks pedestrian and cycle crossings across the canal. These crossings could impact on habitats through construction and disturbance. Mitigation to protect the habitats of the canal are provided through Policies GI4, GI5 and Objectives UD02, GI01 and IWO7.
Community and Social Infrastructure Strategy	Overall insignificant impacts with a potential short term significant adverse impact from objective CIO3 which promotes activity amenity use of the River Tolka and Royal Canal. This is mitigated by objective UDO2 and GI01 seeking a linear park along the canal GIO6 seeking habitat protection from lighting close to water bodies. As vegetation matures along water body corridors, this will help mitigate the impacts of amenity related activity on habitats.
Sustainable Strategy	Overall significant beneficial and long term impacts.

7.1.3 Water

The plan places emphasis on high quality and sustainable densities to consolidate the area and achieve population and economic growth. A potentially significant adverse impact of the plan on water is the potential deterioration of water bodies. Dublin Region's wastewater treatment plant at Ringsend is currently operating at capacity. Without the provision of upgraded and new wastewater infrastructure, the city's ability to absorb additional population, economic growth and development is seriously restricted. This impact is indirect and cumulative. The infrastructure improvements required are at a city level. The impact is in the short to medium term as infrastructure improvements will facilitate growth and protect water. Mitigation is required to ensure that the infrastructure is adequate to accommodate phased development in the short to medium term pending upgrades to facilitate long term growth. The LAP sets out a robust phasing strategy under Chapter 5 which indicates the location for next phase development, land use and quantum of development and require infrastructure. Policies further affirm that water supply, waste water treatment and network capacity need to be improved in tandem with phasing.

Other policies and objectives have been found to have likely significant beneficial impacts on water in the area where they seek improvements in water quality, compliance with measures and targets set out by the Water Framework Directive and Eastern River Basin Management (for the River Tolka) and the preparation of surface water drainage plans that employ SUDS measures.

These measures will promote the improvement of water quality. Examples include:

- Infrastructure and water management policy IW1 which seeks delivery of water supply and waste water infrastructure in the region to service the LAP area.

- Infrastructure and water management policy IW2 seeks that developments are phased and permitted in tandem with available water supply, waste water treatment and network capacity.

- Infrastructure and water management policy IW3 requires all large development proposals to include water conservation and demand managemnet measures.

- Infrastructure and water management policy IW5 requires improved water quality to meet the objectives of the Eastern River Basin District Management Plan.

- Infrastructure and water management objective IWO1 seeks good ecological status, good ecological potential and good chemical status for the River Tolka by 2027 in accordance with the Water Framework Directive.
- Infrastructure and water management objective IWO5 seeks all planning applications to submit a surface water drainage plan following the principle of SuDS.
- Infrastructure and water management objective IWO8 seeks to ensure the protection of surface and water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and
- Infrastructure and water management objective IW09 sees that the recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area upon its adoption.

See **Table 10** below for a summary of potential impacts of the local area plan on Water.

Table 10: Summary of Potential Impacts of the Ashtown-Pelletstown Local Area Plan on Water.

Local Area Plan Policies & Objectives	Summary of Significant Impacts on Water
Land Use, Housing and Urban Design Strategy	Significant adverse and long term impacts as a result of policy and objectives for mixed use development and high density residential development which will generate demand for water consumption, generate hard surfaces with surface water runoff and generate waste which will require drainage and waste water treatment services. Mitigation is provided through the infrastructure and water services strategy which includes policy and objectives for infrastructure improvement, phased development in line with capacity, water conservation and improved water quality in line with WFD and ERBD targets. For the reasons that mitigation is included in the plan, an adverse and beneficial impact is recorded (Objective HO1).
Economic Development Strategy	Mostly insignificant impacts**.**
Movement and Transport Strategy	Mostly insignificant Impacts. Any potential for impact associated with surface water runoff from hard surfaces (new roads) and developing transport

	infrastructure on lands currently only built out is mitigated against in the Infrastructure and Water strategy , particularly where SuDS is required and FRA (IWO4 and IWO5). Significant beneficial and long term impacts from Objective MAO5 which promotes a phasing programme for all large scale developments. Phasing will assist water and drainage services infrastructure to be improved to match increased demand from new developments.
Culture Heritage Strategy	Insignificant Impacts overall Significant beneficial and long term impacts from Objective CHO3 which seeks to protect both the Royal Canal and Tolka Valley conservation areas which includes protection of the water courses.
Infrastructure and Water Strategy	Mostly significant and long term beneficial impacts. Policy and objectives seek good ecological status for the River Tolka in line with WFD (Objective IWO1), require Flood Risk Assessment and implementation of SuDS (Objectives IWO4 and IWO5) and improved capacity in the infrastructure networks for waste water, water distribution and drainage networks (policies IW1 and IW2).
Green Infrastructure Strategy	Mostly significant beneficial and long term impacts and insignificant impacts. Objectives GIO2 and GIO5 seek SuDS measures including surface water attenuation and improved biodiversity value.
Community and Social Infrastructure Strategy	Mostly insignificant impacts**.**
Sustainable Strategy	Mostly insignificant impacts or significant beneficial and long term impacts. Policy ES3 seeks sustainable technology in deign which includes grey water collection and green roofs.

7.1.4 Air Quality & Noise

Overall the local area plan will have significant beneficial and long term impacts on air and noise. Emissions from the transport sector are the main threat to air quality. The emphasis throughout the plan is on reducing the need to travel by private car whilst encouraging and facilitating modal change to more sustainable forms of transport e.g. travel by foot, bicycle and public transport.

Policies and objectives of the LAP seek to improve access to public transport and enhance walking and cycling through the LAP area to locations, in particular recreation locations, in the wider locality.

Reducing the need to travel by private car will serve to have significant beneficial long term impacts on the air quality of the area. In particular the objective that 40% of all journeys are to be made by public transport and a further 10% by soft modes will have a positive impact.

Policies and objectives also seek good quality sustainable design which will promote energy efficient buildings, reduce energy consumption and improve air quality.

Policies and objectives seeking enhance greenery, provision of open space and tree planting will promote good air quality.

In relation to noise, again transport is the main issue. Traffic noise is the dominant noise source in the area. The emphasis throughout the plan is on reducing the need to travel by private car whilst encouraging and facilitating modal change to more sustainable forms of transport e.g. travel by foot, bicycle and public transport. The policies and objectives promoting this modal change will have significant beneficial and long term impacts in terms of noise in the area.

Implementing the local area plan will result in high levels of construction activity and associated site traffic movements with potential for negative impacts on the environment in terms of vibration, noise, dust, exhaust emissions etc. However these impacts are not considered to be of a strategic nature, will be temporary in their impact and overall are more appropriately dealt with at project level. Some development proposals may also be accompanied by an EIS which will provide for mitigation of negative impacts.

High density development, particularly within the village nodes, is based on sustainable principles to concentrate a larger population and mixed services accessible to public transport. A concentration of mixed activities could lead to long term adverse impacts on the population and disturb biodiversity unless mitigation is used in building quality (noise insulation and compatible uses) and set backs from amenity corridors.

Examples of policies and objectives that will promote good air and noise quality include:

- Movement objective MAO11 seeks the achievement of a target of 50% of journey's by public transport modes combined (40% public transport and 10% by walking and cycling).
- Environmental sustainability and sustainable design policy ES1 seek that new developments utilise state of the art energy efficiency techniques to reduce resource consumption.
- Environmental sustainability and sustainable design policy ES2 seeks opportunities within the form, use mix and orientation of buildings to maximise solar gain and minimise heat loss.
- Environmental sustainability and sustainable design policy ES4 seeks opportunities within larger block developments to create efficiency in energy consumption both in buildings, blocks and use of public transport.
- Environmental sustainability and sustainable design policy ES7 promotes the use of environmentally sustainable materials in the construction of developments.

Specific objectives to improve noise quality were required through the environmental assessment process as mitigation and include:

UDO10

- To minimise the adverse impacts of noise and promote good health and a good quality of life through effective management of noise within the Ashtown-Pelletsown Local Area Plan

See **Table 11** for a summary of potential impacts of the plan on Air Quality and Noise.

Table 11: Summary of Potential Impacts of the Ashtown-Pelletstown Local Area Plan on Air Quality and Noise.

Local Area Plan Policies & Objectives	**Summary of Significant Impacts on Air Quality and Noise**
Land Use, Housing and Urban Design Strategy	The potential for significant adverse short term and long term impacts on air and noise quality could exist by promoting mixed service development, transport infrastructure and high density housing giving rise to potential energy consumption and noise disturbance (Policy LUS1 and HO1 and HO3). However mitigation is provided by seeking green areas with development (LUS2), high quality energy efficient design (H4, ES1, ES2 and ES3). Transport objectives that seek a high level of public and soft modes of transport will reduce noise and energy consumption by private transport. Due to the mitigation included in the plan, neutral impacts or potentially adverse and beneficial are recorded. A specific objective to improve noise quality is included in Objective UDO10.
Economic Development Strategy	Mostly insignificant impacts. Objective EDO1 seeks to create an economic nodal point adjacent to the new train station at the east end of the LAP. This could have significant adverse and long term impacts as a high concentration of different economic uses could create noise disturbance. Mitigation is provided through Objective UDO10 which balances this adverse impact with a potential beneficial impact.
Movement and Transport Strategy	Mostly insignificant impacts. Policy and objectives seeking the completion of a street hierarchy could potentially create significant adverse and long term impacts

	from increase traffic noise and car emissions (MA1 and MAO4). Mitigation is provided through the promotion of public transport facilities (new rail station), cycle and pedestrian networks which are quieter modes with no emissions and policy and objectives seeking a high use of public and sustainable travel modes (MA2 and MAO11). Due to the mitigation included in the LAP, both adverse and beneficial impacts are recorded.
Culture and Heritage Strategy	Insignificant impacts overall
Infrastructure and Water Strategy	Insignificant impacts overall
Green Infrastructure Strategy	Mostly significant beneficial and long term Impacts on air and noise quality with policy promoting open space amenities, green links for ecology and soft modes of travel and a green points system for sustainable techniques in design, all of which will promote reduction in energy consumption, cleaner air and quieter noise environment.
Community and Social Infrastructure Strategy	Insignificant impacts overall
Sustainable Strategy	Mostly insignificant or significant beneficial and long term impacts from policy seeking energy efficient design and sustainable technology (Policies ES1, ES2, ES3 ES4 and ES5).

7.1.5 Climatic Factors

The LAP will promote the completion of development in the LAP area including the consolidation of residential development, mixed services and transportation networks. Housing objective HO1 encourages the sustainable development of approximately **920-1270** residential units on remaining development lands in the LAP area.

Increased urban development will have demand on energy use with potential for significant long term adverse impacts on climate. However, there are fundamental sustainable development principles incorporated into the LAP strategy including the utilisation of the land resource efficiently so that a high population is achieved on lands serviced and zoned and accessible to public transport and services. This will help to reduce demand for housing land on Greenfield sites elsewhere.

Policies and objectives that promote sustainable land use patterns will promote more energy efficient formats of development, in particular walkable neighbourhoods.

Policies and objectives that promote sustainable modes of travel, in particular use of public transport, walking and cycling, will reduce private car demand and help reduce CO2 emissions to improve air quality.

Policies and objectives that promote high quality sustainable design, energy efficiency and recycling will reduce the impact of development on using the earth's resources and energy consumption.

Policies and objectives that promote a high quality green environment, tree planting and open space provision will improve air quality.

Examples of such measures include:

- Movement policy MA2 which promotes 40% of residents to us epublic transport and a further 10% soft modes (walking and cycling).

- Movement policy MA3 to promote increased cycling and pedestrian activity through the development of routes that connect to public transport centres of employment, amenities, community and retail destinations.

- Urban form objective UDO2 to complete a linear park along the Royal Canal.

- Urban form objective UDO6 to complete north and south routes for pedestrians and cyclists linking the canal to Tolka Valley Park via existing and proposed public open spaces.

- Housing policy H3 to seek new housing provision at sustainable densities to create and sustain critical mass necessary to support existing and future infrastructure investment and services in the plan area.

- Housing policy H4 to seek high quality, energy efficient housing.

- Green Infrastructure objective GIO4 to implement a green points system as a flexible means to achieve improved green infrastructure for new developments, and incorporating high levels of biodiversity.

- Environmental sustainability policy ES1 seeks that new developments utilise state of the art energy efficiency techniques and best practice technologies to reduce resource consumption of the earth's resources and promote environmental sustainability.

- Environmental sustainability policy ES7 promotes the use of environmentally sustainable materials in the construction of any development in the LAP area.

- Infrastructure objective IWO3 seeks the principles of good waste management and to provide for local recycling facilities.

Some short-term impacts on climatic factors will occur (particularly in relation to the emissions of greenhouse gases and use of energy) as a result of increased development and construction but these would not be considered significant and are for short term duration.

Infrastructure objective IWO6 seeks construction management plans and measures to minimise the impacts of traffic, noise and dust during construction phases as a mitigation against such short term impacts.

See Table 12 for a summary of potential impacts of the plan on Climatic Factors.

Table 12: Summary of Potential Impacts of the Ashtown – Pelletstown Local Area Plan on Climatic Factors.

Local Area Plan Policies & Objectives	Summary of Significant Impacts on Climatic Factors
Land Use, Housing and Urban Design Strategy.	Mostly significant beneficial and long term impact. The policies and objectives of the LAP promote sustainable densities and mixed use services integrated with public transport, green infrastructure and sustainable designs.
Economic Development Strategy	Mostly insignificant impact. Significant beneficial and long term impacts from Policy ED1 and Objective EDO1 which promotes employment uses close to public transport.
Movement and Transport Strategy	Mostly significantly positive and long term as policy and objectives promote sustainable modes of travel including public transport and environmentally attractive walking and cycling routes. This will reduce private car emissions.
Culture and Heritage Strategy	Mostly insignificant impacts.
Infrastructure and Water Strategy	Mostly insignificant impacts. Objective IWO6 provides a significant beneficial and short term impact where it seeks construction management plans to mitigate against the impact of construction phases. l
Green Infrastructure Strategy	Mostly significant beneficial and long term impacts in the promotion of green infrastructure for sustainable technology in design, provision of open space amenity, habitat protection and enhancement and green links to encourage walking and cycling between amenity areas.

Community and Social Infrastructure Strategy	Mostly insignificant impacts. Objective CIO3 promotes amenities for walking routes which will promote sustainable travel, reduce Co2 emissions from private cars and promote significant beneficial and long term impacts.
Sustainable Strategy	Mostly significant beneficial and long term impacts. Policies promote energy efficient design to reduce consumption of the earth's resources and reduce emissions.

7.1.6 Material Assets

Overall the plan will have significant beneficial impacts on transport in the area. The need for a greater modal shift from private car to more sustainable forms of transport is strongly emphasised. Walking and cycling is encouraged by creating quality routes through the LAP area and connecting to the wider locality, in particular south across the canal and to the Phoenix Park. The completion of the internal street network is promoted through the phasing strategy. Movement on the wider local road network will be improved by proposals for a part one way system on River Road, support for a realignment of a section of Ratoath Road to by-pass O Reilly's Bridge and the rail line level crossing and proposals for an improved rail level crossing at Ashtown Station. The provision of a new rail station at the east end of the LAP area will service residential and mixed use services with public transport and increase accessibility for a larger extent of the population to public transport.

The plan will also serve to have significant beneficial impacts on waste management as the policies and objectives of the plan are focused on delivering sustainable infrastructure, including for waste management, as well supporting the principles of good waste management, to prevent and minimise waste, to develop biological treatment, encourage and support material sorting and recycling and support the provision of waste to energy.

The policies and objectives will improve movement and waste management. Examples include:

- Movement policy MA1 which seeks to improve accessibility throughout the plan area, facilitate the completion of a hierarchical road network and encourage links to public transport nodes.
- Movement policy MA2 which seeks in tandem with new public transport services to sustain and build upon the existing high percentage (40%) of residents using public transport and soft modes (10%).
- Movement policy MA3 which promotes increased cycling and pedestrian activity.
- Movement objective MAO1 which seeks to implement an improvement scheme for River Road which includes enhanced pedestrian and cyclist provision and a new part two way and part one way system.
- Movement objective MAO3 which seeks the delivery of a second rail station in the LAP area at the east end.
- Movement objective MAO5 which seeks completion of transport infrastructure aligned with a phasing sequence to improve pedestrian, cyclist and motorist mobility.

- Movement objective MAO6 which seeks the delivery of a re-alignment of a section of Ratoath Road for a new crossing over the canal and rail line.

- Infrastructure objective IWO3 which supports the principles of good waste management and to provide for local recycling facilities.

See Table 13 below for a summary of potential impacts of the plan on Material Assets.

Table 13: Summary of Potential Impacts of the Ashtown – Pelletstown Local Area Plan on Material Assets.

Local Area Plan Policies & Objectives	Summary of Significant Impacts on Material Assets
Land Use, Housing and Urban Design	For modal change, mostly significant beneficial and long term impacts as policies promote sustainable high density adjacent to public transport to promote modal shift to sustainable modes of travel. Mostly insignificant impacts on waste management. Policy LUS1 and Objectives HO1 and HO3 seek development for mixed use services and higher residential densities that will create waste and requirement for infrastructure to deal with waste disposal. These policies and objectives could have significant adverse and long term impacts. However, mitigation is provided through Objective IWO3 which supports the principles of good waste management and recycling. Due to the inclusion of mitigation in the LAP, the impact is recorded as neutral or adverse and beneficial.
Economic Development Strategy	For modal change, mostly significant beneficial and long term impacts as policies and objectives promote economic uses in locations well serviced by public transport and integrate such services with other mixed uses at centres accessible to public transport. For waste, insignificant impacts. Objective IWO3 will ensure good waste management practice for employment generating uses.
Movement and Transport Strategy	For modal change, mostly significant beneficial and long term. Policy MA2 and Objective MAO11 promote high level of public transport usage to encourage modal change to sustainable modes of travel.

	For waste, insignificant impacts.
Culture Heritage Strategy	Insignificant impacts
Infrastructure and Water Strategy	For modal change, insignificant impacts. For waste, mostly insignificant. Objective IWO3 supports good principles of waste management and local recycling which is a significant beneficial and long term impact.
Green Infrastructure Strategy	For modal change, mostly significant beneficial and long term. Green infrastructure policy and objectives will create green links that will encourage modal change (walking and cycling routes in particular). For waste, mostly significant beneficial and long term. Policy and objectives will promote sustainable design techniques which will promote reduction in waste and recycling.
Community and Social Infrastructure Strategy	For modal change, mostly insignificant and significant beneficial and long term. Objective GIO1 promotes a primary school within the LAP accessible via green links and public transport. This will promote sustainable modes of travel to school. For waste, insignificant impacts.
Sustainable Strategy	For modal change, mostly insignificant impacts. For waste, mostly significant beneficial and long term in the promotion of sustainable design principles, energy efficiency and reduction of waste.

7.1.7 Landscape (encompasses landscape and soil)

The plan will serve to have potential significant beneficial impacts overall on landscape and soils of the area. The context of this LAP is that the area is in a state of transition with developments previously permitted and commenced. The LAP promotes a completion of development and an updated strategy to ensure that this completion is now phased and accompanied by proposals for temporary site treatment.

The policies and objectives of the plan encourage initiatives on vacant sites as interim proposals for the physical, visual and environmental improvement of vacant land banks. These are temporary and positive impacts. High quality urban development accompanied with landscaping schemes and the

delivery of public open space and amenity areas will improve the long term physical and visual impact of the landscape.

Examples of objectives that will promote landscape improvements include:

- Green infrastructure objective GIO5 which seeks landscaped and amenity areas to address biodiversity.
- Green infrastructure objective GIO8 which encourages the development of community gardens and provision of allotments at appropriate locations within new schemes.
- Green infrastructure objective GIO9 to support short term options for appropriate planning of areas of undeveloped lands pending future development and with regard to the phasing programme.

See Table 14 below for a summary of potential impacts of the plan on Landscape and Soils.

Table 14: Summary of Potential Impacts of the Ashtown – Pelletstown Local Area Plan on Landscape.

Local Area Plan Policies & Objectives	**Summary of Significant Impacts on Landscape**
Land Use, Housing and Urban Design Strategy	Mostly insignificant impacts. The development of lands for residential, mixed uses and infrastructure is potentially significant adverse and long term as ground (soils) are used for permanent developments. However, as with policy LUS2 there is inherent sustainability within these policies and objectives as green amenities are to be developed and enhanced in tandem (will be a significant beneficial and long term impact for natural landscapes and soils) and sustainable densities (Objectives HO1 and HO3) utilise the land resource efficiently allowing the creation of green amenities and helping to conserve soils and natural landscapes. Also, much of the soils remaining in the LAP area are designated for development with past works carried out. Due to the existing character of the LAP area and mitigation included in the LAP, a neutral impact is recorded.
Economic Development Strategy	Insignificant impacts.
Movement and Transport Strategy	Mostly Insignificant impacts. Objectives MAO3 and MAO6 seek

	infrastructure work adjacent to the canal corridor which could have potential adverse and long term impacts on natural landscapes (the Royal Canal p NHA). Mitigation is provided through Policies GI4, GI5 and Objectives UDO2, IWO7 and GI01.
Culture and Heritage Strategy	Mostly insignificant impacts. Objective CHO3 seeks to protect and enhance the Royal Canal and Tolka Valley conservation areas which will help to conserve valued natural landscapes. This will be a significant beneficial and long term impact.
Infrastructure and Water Strategy	Insignificant impacts
Green Infrastructure Strategy	Mostly significant beneficial and long term impacts GI policies and objectives encourage the development of green infrastructure including the enhancement of amenity areas, green links between them and biodiversity value. These provisions will help to conserve natural landscapes and protect soil quality.
Community and Social Infrastructure Strategy	Insignificant impacts
Sustainable Strategy	Mostly insignificant impacts. Policy ES1 seeks to reduce consumption of the earth's resources through energy efficient and sustainable design which will help to protect natural landscapes and conserve soil. This will have a significant beneficial and long term impact. Objective ESO1 seeks to implement an attractive and bio-diverse living and working environment which is a significant beneficial and long term impact for improvements in amenities, protection of natural areas and soil protection.

7.1.8 Cultural Heritage (including architectural and archaeological heritage)

The LAP promotes protection and enhanced awareness of the key features of cultural and historic identity which are in the local area. The plan seeks to preserve the character and historic fabric of the Royal Canal and Tolka Valley conservation areas, features of industrial heritage and in-situ archaeological heritage, all of which will be a long term benefit.

An example of policies and objectives that promote the protection of cultural heritage include:

- Cultural heritage policy CH1 which promotes awareness, appreciation and protection of the cultural and built heritage of the Ashtown-Pelletstown LAP area and environs in order to sustain its unique significance, fabric and character and to ensure its survival as a unique resource to be handed over to future generations.

- Cultural heritage objective CHO2 which promotes awareness and appreciation of and access to the area's archaeological inheritance ensuring their protection and conservation.

See Table 15 below for a summary of potential impacts of the plan on Cultural Heritage.

Table 15: Summary of Potential Impacts of the Ashtown – Pelletstown Local Area Plan on Cultural Heritage.

Local Area Plan Policies & Objectives	**Summary of Significant Impacts on Landscape**
Land Use, Housing and Urban Design Strategy	Mostly insignificant impacts. Significant beneficial and long term impacts from objectives UDO2 (a linear park along the Royal Canal which is a conservation area), UDO7 which promotes the development of cycle and pedestrian links between amenity and historic sites and objective UDO9 which promotes protection of O Reilly's Bridge as an amenity feature.
Economic Development Strategy	Insignificant impacts.
Movement and Transport Strategy	Insignificant impacts.
Culture and Heritage Strategy	Significant beneficial and long term impacts. Policy CH1 promotes awareness, appreciation and protection of the features of cultural heritage in the area and Objectives CHO1-CHO5 seek protection and enhancement of heritage features including important industrial heritage.
Infrastructure and Water Strategy	Insignificant impacts.
Green Infrastructure Strategy	Mostly significant beneficial and long term impacts Green infrastructure policy and objectives that enhance amenities and create green links between amenity features will compliment appreciation and protection of the area's cultural and landscape heritage.
Community and Social Infrastructure Strategy	Mostly insignificant impacts. Objective CIO3 promotes the area of the Royal Canal and Tolka Valley for recreation and amenity value which will be a significant beneficial and long term impact on cultural heritage.
Sustainable Strategy	Mostly insignificant impacts.

Section 8

8.0 Mitigation

This section describes measures to prevent, reduce and as fully as possible offset any potential significant adverse environmental effects of implementing the Ashtown-Pelletstown LAP.

As described and detailed in Section 7 and Appendix A, potential significant adverse impacts of implementing the LAP arise as a result of policies and objectives to facilitate an increased population by achieving high densities, economic growth, improvements in infrastructure, increased access to recreational areas and improving new patterns of pedestrian and cycle movements. While these policies and objectives are fully in line with city, regional and national policy to consolidate and ensure a more compact city with greater intensity of uses and to ensure that the city's role as the economic engine of the state is strengthened there is potential for significant adverse impacts on the receiving environment unless mitigated against. Mitigation measures are the measures to prevent, reduce and as fully as possible offset any significant adverse environmental effects as a result of implementing the plan.

Dublin City Council placed sustainability as the overarching theme from the outset of the preparation of the local area plan. The developing lands in the LAP area are designated, zoned and serviced to accommodate a range of potential new uses but in particular to provide opportunities for living and working close to public transport facilities and integrate commercial, community and amenity services for new residents and workers in the area.

The LAP as a statutory planning document transposes sustainable policies from the international, national, regional and city levels to the local level. During the Dublin City Development plan preparation process for the current City Development Plan (2011-2017) the Framework for a Sustainable Dublin (FFSD), a five level framework for a sustainable city offering a strategic approach to guide and align policies, objectives and actions towards sustainable development was devised. The LAP is an opportunity therefore to apply and deliver on the Framework for Sustainable Dublin at a local level.

Policies and objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the local plan. Mitigation in the form of polices and objectives serve to formalise the mitigation measures and fully integrates them into the local area plan process.

8.1 Water – Mitigation

Currently the supporting infrastructural capacity, particular water supply and wastewater infrastructure is at, or very close to capacity. Any additional loading on the wastewater and water supply infrastructure has potential to have significant adverse impacts on local water quality (the River Tolka) and supply of drinking water.

To mitigate against these potential negative impacts at a local level within the LAP area, policies and objectives have been included in the local area plan to ensure that the necessary supporting infrastructure is provided and that appropriate measures are taken to support development in the long term and avoid significant adverse impacts on water quality.

The following policies are noted:

IW2: To ensure that development is permitted in tandem with available water supply, waste water treatment and network capacity. To manage and phase development so that new schemes are permitted only where adequate capacity or resources exist or will become available within the life of a planning permission.

IW3: To require that all large development proposals include water conservation and demand management measures.

IW5: To seek to improve water quality and meet the objectives of the Eastern River Basin District Management Plan by ensuring the separation of foul and surface water effluent through the provision of separate sewage networks in any new permission, and by ensuring the implementation of a stormwater management system in the detailed design of the plan lands, following the principles of Sustainable Urban Drainage Systems (SuDS).

The following objectives are noted:

IWO1: To promote the achievement of good ecological status, good ecological potential and good chemical status for the River Tolka by 2027, in accordance with the Water Framework Directive.

IWO2: To implement the programme of measures (POM) for the River Tolka set out in the Eastern River Basin Management Plan 2009 – 2015.

IWO8 -To ensure the protection of surface and ground water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and the protection of protected habitats and species including designated national and international conservation sites in implementing the plan.

IWO9 -The recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area , upon its adoption.

To mitigate against potential negative impacts with regard to water supply, Dublin City Council has committed to provide for the expansion of water systems (see Dublin City Development Plan 2011-2017). The following policy has been included in the LAP at local level to mitigate against any potential adverse impacts as a result of deficiencies in water supply:

IW1: To actively seek the funding and delivery of key infrastructure including water supply and waste water for the Dublin Region to enable development in the Ashtown – Pelletstown area.

IW2: To ensure that development is permitted in tandem with available water supply, waste water treatment and network capacity. To manage and phase development so that new schemes are permitted only where adequate capacity or resources exist or will become available within the life of a planning permission.

8.2 Biodiversity – Mitigation

Objectives contained within the plan to increase pedestrian and cyclist access to areas of natural recreation such as the Tolka Valley park and Royal Canal and throughout the wider plan area (walking and cycling connections to the Phoenix Park) could have potential significant impacts in terms of disturbance of habitats. Any significant adverse impacts are offset by the inclusion of

mitigating policies and objectives in the plan which will ensure that habitats, designated and undesignated, are protected and enhanced.

The following objectives are noted for their mitigation:

GIO1: To complete the linear park along the Royal Canal in tandem with new development, enhancing biodiversity and ecological value, and improving amenity value for those using the towpath.

GIO2: In association with objective UD06 to provide/complete the following south-north green links from the Royal Canal to entrances to Tolka Valley park. Design and planting of these links should encourage biodiversity through careful selection of tree species and under storey planting.

GIO4:To implement a Green Points System as set out in section 4.11, as a flexible means to achieve improved green infrastructure for new developments, and incorporating a high level of biodiversity. (see also objective ES01 in chapter 4.11)

GIO5: Landscaped and amenity areas to address biodiversity and where possible provide aquatic features as part of SuDS proposals. Native species should be included as part of a 3 –layed structure to include canopy, shrub and ground layers.

GIO6: Amenity and/or security lighting shall be designed to minimise negative impacts on protected species such as bats. Such designs may include directional/cowled lighting or be based on the advice of an ecologist. Particular attention shall be paid to areas close to water bodies.

GIO7: To retain and enhance, where feasible, remnants of existing hedgerows and tree lines.

There are three specific objectives in the LAP that promote infrastructure improvements for transport and amenity close to the Royal Canal. The re-alignment of a section of the Ratoath Road over the canal identified in Objective MAO6 of the LAP is also an objective of the Dublin City Development Plan (Objective SI038). A new rail station and community square at the east end of the LAP area (Objective MAO3) would be located adjacent to the canal. The provision of a widened berthing area at the Royal Canal adjacent to the new plaza (Objective LUSO2) would result in works to the canal itself.

Objective IWO6 provides an objective that developers shall take adequate measures to minimise the impacts of traffic, noise and dust during construction stages. While this objective provides a mitigation measure for all works, it does not specifically relate to the sensitive location context for works adjacent to the Royal Canal as identified in Objectives MAO3, MAO6 and LUSO2 of the LAP.

Mitigation measures identified at the design detail stage and through the planning process for each project, including EIS where required, will ensure that appropriate measures and actions are recommended and carried out to protect the Royal Canal and minimise any potential significant adverse impacts during construction stages (short term) and operational stages (long term).

To strengthen the mitigation of potential significant short term and long term adverse impacts on the Royal Canal, an objective was specifically created to highlight the sensitive context for these works and highlight the future requirement for effective mitigation at the project design, construction and operational stages:

Objective IWO7

Any works for infrastructure development adjacent to the Royal Canal pNHA, in particular works in pursuit of the delivery of Objectives MAO3, MAO6 and LUS02, shall require effective mitigation measures, agreed with Waterways Ireland and agreed with the planning authority through the appropriate planning and environmental assessment process for each project, to minimise the

potential for significant adverse short term and long term impacts on the canal, its water, habitats and amenity value.

Policy GI 4

Any plan or project with the potential to give rise to significant direct, indirect or secondary impacts on a Natura 2000 site(s) shall be subject to an appropriate assessment in accordance with Article (3) of the Habitats Directive.

Policy GI 5

To enhance the bio diversity value of the local area by protecting habitats, in particular along water bodies, and creating opportunities for new habitats through appropriate native species landscaping schemes to integrate the natural environment with high quality urban development and to control / remove invasive species.

8.3 Air and Noise– Mitigation

The plan promotes the completion of the internal street networks including the main east to west boulevard route for traffic and public bus and north to south permeable connections linking the amenities of the Tolka Valley Park with the Royal Canal. The LAP also supports the construction of a new section of road as part of a re-alignment of the Ratoath Road over the rail line and canal (by passing O Reilly's Bridge) and improvement works to River Road.

The completion of road infrastructure projects may potentially lead to an increase in noise levels in the plan area. In addition, the promotion of higher sustainable densities and mix of uses, particularly at the village node points, will increase the potential for noise disturbance by virtue of for intensive activities (high population concentration and mixed residential, employment, commercial, community and leisure uses).

Any significant adverse impacts are offset by the inclusion of a mitigatory objective in the plan which will ensure that the impacts of noise are minimised as follows:

It is an objective of the Local Area Plan:

UDO10

- To minimise the adverse impacts of noise and promote good health and a good quality of life through effective management of noise within the Ashtown-Pelletsown Local Area Plan

8.4 Conclusion

In conclusion it is apparent from the above assessment that the local area plan includes mitigatory measures in the form of policies and objectives to offset any potential impacts on the environmental receptors. No additional mitigation measures were considered necessary in relation to any of the environmental receptors. Policies and objectives with sustainability at their core allow them to act as mitigation measures to offset any potential adverse impacts on the environment as a result of implementing the plan. Mitigation in the form of policies and objectives serve to formalise the mitigation measures and fully integrates them into the local area plan process.

Section 9

9.0 Monitoring

This section sets out the proposed monitoring measures in accordance with Article 10 of the SEA Directive which requires that *"significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen effects, and to be able to undertake appropriate remedial action".* A monitoring programme has been devised having regard to the existing monitoring systems in place and in use by Dublin City Council.

For the purposes of the Strategic Environmental Assessment (SEA) of the local area plan, the SEA in-house team developed environmental protection objectives, targets and indicators early on in the SEA process. These are set out in Section 4 of this report. Monitoring of the indicators is essential in order to track the impacts of the development plan on the environment.

See **Table 16** below for Monitoring Programme.

Table 16 Monitoring

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Population / Human Health	***To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns***	All Drinking Water and Drinking Water Sources to comply with the European Communities (Drinking Water) (No.2) Regulations, 2007 and European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water) Regulations, 1989	Status of drinking water and drinking water sources	Annual	Environment and Engineering Department (Water Division)
		Sustainable densities achieved in new residential / mixed-use schemes	Average density of new residential development	Annual	Planning and Economic Development Department
		All water bodies to meet targets set in ERDB plan	Ecological status of water bodies	Annual	Environment and Engineering Department (Drainage Division)

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Biodiversity/Flora & Fauna	***To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors***	No adverse impacts on designated nature areas / species / habitats	Survey and monitor extent and distribution of invasive species	Annual	Culture, Recreation & Amenity Dept.
			Survey and monitor bird population	Annual	Culture, Recreation & Amenity Dept.
			Survey and monitor distribution of bat populations	Annual	Culture, Recreation & Amenity Dept.
			Total area of designated sites (Natura 2000 and pNHA's)	Annual	Culture, Recreation & Amenity Dept.
		Identification of other undesignated areas of natural heritage throughout the city	Length of linked green corridor/routes	Annual	Culture, Recreation & Amenity Dept.
		Implementation of new setback/buffer zones along River Mayne for developments	Level of set back achieved	Annual	Culture, Recreation & Amenity Dept.
		Increased provision for soft landscape in existing and new developments	Permeability index for new sites for development	Annual	Culture, Recreation & Amenity Dept.

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Water	***W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area***	All water bodies to meet targets set in ERDB plan	Ecological status of water bodies	Annual	Environment and Engineering Department (Drainage Division)
	W2 To reduce and manage the risk of flooding	Compliance with the Floods Directive and with OPW/DoEHLG's Flood Risk Management Guidelines	Number of planning permissions compliant with the Floods Directive and OPW / DoEHLG's 'Flood Risk Management in the Planning Process' standards	Annual	Environment and Engineering Department (Drainage Division)
		Flood Risk Assessment be carried out for new developments	Number of planning permissions incorporating flood risk assessment and conditions requiring appropriate flood resilient measures for new developments	Annual	Environment and Engineering Department (Drainage Division)
		Sustainable Urban Drainage Systems in new developments	Number of Sustainable Urban Drainage Systems required in new planning applications	Annual	Environment and Engineering Department (Drainage Division)

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Water	***W3 To provide adequate wastewater treatment, water distribution networks and drainage networks***	Provision of adequate water, wastewater treatment and drainage infrastructure in accordance with Dublin City Council's Strategic Water Plan for Water Services 2009	Capacity of water supply and wastewater infrastructure versus demand	Annual	Environment and Engineering Department (Drainage Division)
Air Quality & Noise	***AN 1 To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter)***	Maintain good air quality values	Values of monitored pollutants in the air	Annual	Culture, Recreation & Amenity Dept.
	AN2 To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area	Minimise noise pollution	% of residents exposed to noise levels above undesirable levels	Annual	Roads & Traffic (Noise & Air Quality Unit)
Climatic Factors	***CF To minimise emissions of greenhouse gases***	Decrease greenhouse emissions	Average energy consumption of new residential housing stock Tonnes of CO2/Capita/Year	Annual	Environment and Engineering Department in association with Codema

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Material Assets	***MA1 To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling***	Extension and improvement of the cycling and walking network in the area	% change in modal split Length of new cycling paths/lanes and walking routes developed	Annual	Roads & Traffic Department
	MA2 To reduce the generation of waste and adopt a sustainable approach to waste management	Increased recycling (59% recycling target by 2013 – Regional Figure)	% of waste recycled Tonnes of waste per capita per year	Annual	Environment & Engineering Department (Waste Management Division)
Landscape & Soils	***LS1 To conserve and enhance valued natural landscapes and features within them including those of geological value***	Develop new areas of open space Minimise negative visual impacts from new developments	Change in area of open space Number of developments requiring a landscape impact assessment	Annual Annual	Culture, Recreation & Amenity Dept. Planning and Economic Development Department
	LS2 To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites	Brownfield sites to be developed in the area	Number of developments granted for brownfield sites (or total area of development)	Annual	Planning and Economic Development Department

	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Cultural Heritage	***CH To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features***	Ensure that the cultural heritage of the LAP area is maintained and protected from damage or deterioration	No. of archaeological sites investigated Number of planning applications with input from or screened by the City Archaeologist	Annual Annual	Planning and Economic Development Department

Appendix A

Appendix A

Evaluation of the Ashtown-Pelletstown LAP

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	**PHH** To protect and enhance people's quality of life based on high quality residential, community, working and recreational environments and on sustainable travel patterns.
Biodiversity/Flora & Fauna	**BFF** To protect and enhance the diversity and range of habitats, species and wildlife corridors/green corridors
Water	**W1** To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area **W2** To reduce and manage the risk of flooding **W3** To provide adequate wastewater treatment, water distribution networks and drainage networks
Air Quality & Noise	**AN 1** To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter) **AN2** To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area
Climatic Factors	**CF** To minimise emissions of greenhouse gases
Material Assets	**MA1** To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling **MA2** To reduce the generation of waste and adopt a sustainable approach to waste management
Landscape & Soils	**LS1** To conserve and enhance valued natural landscapes and features within them including those of geological value **LS2** To protect, improve and maintain the quality of soils and give preference to the re-use of brownfield lands, rather than developing greenfield sites
Cultural Heritage	**CH** To protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded monuments, architectural structures, materials and urban fabric) and manmade landscape features

Will the implementation of the policy serve to have:	
A Significant Beneficial Impact on Environmental Receptor?	**+**
A Significant Adverse Impact on Environmental Receptor?	-
An Uncertain Impact on Environmental Receptor?	**?**
An Insignificant Impact or No relationship with Environmental Receptor	**0**

Evaluation of the Ashtown-Pelletstown Local Area Plan Policies

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
LUS1: To actively pursue the completion of development on remaining lands, predominantly for residential uses and related services, with regard to planned infrastructural improvements and the need for improved connectivity and integration with both existing adjoining development and also the wider city.	+	-/+	0	0	-/+	0	0	+	+	0	0	0	0
LUS2: In support of residential development, to seek **appropriate** mixed use development in selected areas, the protection and enhancement of green areas and amenities, and to allow for the **sustainable** development community/educational uses.	+	+	+	+	+	+	+	+	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
ED1: To encourage employment-generating sustainable developments at the eastern and western nodes as part of mixed-use developments, benefitting from planned improvements in infrastructure and public transport. In particular, small-scale offices, business services and local level retailing will be encouraged.	+	-	0	0	+	0	0	+	+	0	0	0	0
ED2: To foster linkages with existing and emerging employment areas, including those at Finglas, Ashtown, and Broombridge/Dublin Industrial Estate, in order to maximise employment-generating potential.	+	0	0	0	0	0	0	0	+	0	0	0	0
ED3: To promote the provision of employment-generating small-scale retailing and services in tandem with new residential developments in this Key Developing Area.	+	0	0	0	0	0	0	0	+	0	0	0	0
ED4: To adopt a flexible approach towards **appropriate** temporary/short-term uses on vacant and/or underutilized lands and buildings as an interim solution, whilst ensuring that any such uses will not preclude the realisation of the longer term economic vision for the area.	+	0	0	0	0	0	0	0	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
MA1: To improve accessibility throughout the plan area, facilitate the completion of a hierarchical road infrastructure network, and encourage links to existing and proposed public transport nodes both within and beyond the LAP boundary.	+	+/-	0	0	0	+/-	-	+	+	0	0	0	0
MA2: In tandem with new public transport service delivery, to sustain and build upon the existing high percentage (40%) of residents using public transport and soft modes (10%).	+	0	0	0	0	+	+	+	+	0	0	0	0
MA3: To promote increased cycling and pedestrian activity through the development of a network of routes that connect to public transport routes, centres of employment, amenities, and community and retail destinations.	+	+/-	0	0	0	+	+	+	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
UD1: To ensure that all future development delivers a high quality, attractive and robust public realm, that will provide a pleasant setting for new residential communities, support biodiversity and ensure public safety.	+	+	0	0	0	0	0	0	+	0	+	+	0
UD2: To require that new development delivers the structuring principles of the LAP, as outlined in Section 4.5.3, so that an integrated, permeable and pleasant environment is provided capitalising on the assets of the area and fully integrating with the existing build areas.	+	+	+	+	0	+	0	+	+	0	0	0	0
UD3: To ensure that all new buildings are designed and finished to a high standard using finishes that are lasting, easily maintained and attractive, and that the designs chosen enhance the character of residential areas, fully address the street, and through finish and elevations integrate well with existing development, without seeking to imitate.	+	0	0	+	0	0	0	+	0	0	0	0	0
UD4: All development will be required to comply with the height strategy for the LAP area outlined in Section 4.5.4 and Map 4.5.4, and for all areas excluding the three identified locations for some height, the Development Plan standards regarding height shall apply.	+	0	0	0	0	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
H1: To seek a balanced range of residential typologies and unit sizes across the LAP area, and having regard to the existing typologies, to encourage larger unit sizes and particularly those that can accommodate larger households or families.	+	0	0	0	0	0	0	0	0	0	0	0	0
H2: To ensure new residential development is effectively integrated into the existing environment in terms of design, layout and scale.	+	0	0	0	0	0	0	0	0	0	0	0	0
H3: To seek new housing provision at sustainable densities to create and sustain critical mass necessary to support existing and future infrastructure investment and services in the plan area	+	0	+	+	+	0	0	+	+	0	0	0	0
H4: To encourage the development of high quality, energy efficient, sustainable housing that meets development plan standards and complies with the Dublin City Housing Strategy as outlined in the development plan	+	+	+	+	+	+	+	+	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
CH1: To promote awareness, appreciation and protection of the cultural and built heritage of the Ashtown-Pelletstown plan area and environs in order to sustain its unique significance, fabric and character and to ensure its survival as a unique resource to be handed over to future generations	+	0	0	0	0	0	0	0	0	0	0	0	+

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
IW1: To actively seek the funding and delivery of key infrastructure including water supply and waste water for the Dublin Region to enable development in the Ashtown – Pelletstown area.	+	+	+	+	+	0	0	0	0	0	0	0	0
IW2: To ensure that development is permitted in tandem with available water supply, waste water treatment and network capacity. To manage and phase development so that new schemes are permitted only where adequate capacity or resources exist or will become available within the life of a planning permission.	+	+	+	+	+	0	0	0	0	0	0	0	0
IW3: To require that all large development proposals include water conservation and demand management measures.	+	+	+	+	+	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
IW4: To protect existing infrastructure by ensuring through consultation with Dublin City Council, that buildings and structures are designed and constructed so that they do not compromise the structural integrity of trunk watermains drainage pipes, gas mains, overhead cables, and other services in the area	+	0	+	+	+	0	0	0	0	0	0	0	0
IW5: To seek to improve water quality and meet the objectives of the Eastern River Basin District Management Plan by ensuring the separation of foul and surface water effluent through the provision of separate sewage networks in any new permission, and by ensuring the implementation of a stormwater management system in the detailed design of the plan lands, following the principles of Sustainable Urban Drainage Systems (SuDS).	+	+	+	+	+	0	0	0	0	0	0	0	0
IW6: To encourage provision of suitably high quality strategic telecommunications including fibre optic, broadband links and utilities (inc. gas and electricity) infrastructure within the area of the local area plan	+	0	0	0	0	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
GI1: To encourage the development of opportunities for green infrastructure, both within the plan area and connecting to surrounding lands.	+	+	+	+	+	+	+	+	+	+	+	+	+
GI2: To implement a green infrastructure strategy in accordance with objectives herein and Map	+	+	+	+	+	+	+	+	+	+	+	+	+
GI3: Applications for significant site development to demonstrate how the proposed development will contribute to the green infrastructure and biodiversity'	+	+	+	+	+	+	+	+	+	+	+	+	+
GI 4: Any plan or project with the potential to give rise to significant direct, indirect or secondary impacts on a Natura 2000 site(s) shall be subject to an appropriate assessment in accordance with Article (3) of the Habitats Directive.	+	+	+	+	+	+	+	+	0	0	+	+	0
GI 5: To enhance the bio diversity value of the local area by protecting habitats, in particular along water bodies, and creating opportunities for new habitats through appropriate native species landscaping schemes to integrate the natural environment with high quality urban development and to control / remove invasive species.	+	+	+	+	+	+	+	+	0	0	+	+	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
CI1: To ensure the provision of community, cultural and educational infrastructure in the Ashtown-Pelletstown plan area in line with the indicative strategy set out in map 4.21 above and relevant development and design standards of the Dublin City Development Plan 2011 – 2017.	+	0	0	0	0	0	0	0	+	0	0	0	+
CI2: To facilitate the provision of educational facilities in the plan area by way of an integrated approach between the Department of Education and Skills, school authorities and Dublin City Council.	+	0	0	0	0	0	0	0	+	0	0	0	0
CI3: To support and facilitate the use of vacant commercial units and sites for publicly accessible cultural workspaces, performance venues, arts galleries etc on a temporary basis.	+	0	0	0	0	0	0	0	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
ES1: To seek that new developments utilise state of the art energy efficiency techniques and best practice technologies to reduce resource consumption of the earth's resources and promote environmental sustainability	+	+	+	0	+	+	+	+	0	+	+	+	0
ES2: Through design, to enable opportunities within the form, use mix and orientation of the buildings to maximise solar gain and minimise heat loss.	+	+	0	0	0	+	+	+	0	0	0	0	0
ES3: To promote the use of environmentally sustainable technologies and facilities within any development in the LAP area such as the inclusion of CHP (Combined heat and power) units on site, community recycling facilities, grey water collection facilities, green roofs and green walls.	+	+	+	+	+	+	0	+	0	+	0	0	0
ES4: To seek opportunities within larger block developments to create efficiency in energy consumption both in buildings, blocks and in use of public transport, with future-proofing of systems to facilitate district wide schemes in the future.	+	+	0	0	0	+	+	+	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
ES5: For larger schemes and larger/tall buildings, building design will give careful consideration to the design and arrangement of buildings on a site in relation to the development of a microclimate. New developments should be future-proofed to aid in the conservation of energy and maximize solar gain and renewable technologies.	+	+	0	0	0	+	+	+	0	0	0	0	0
ES6: All buildings including housing units should incorporate flexibility in form and internal design in terms of size and tenure. Building design and technology used should allow for adaptation and for change of use in the long term. A building should not become obsolete on cessation of an activity, but should be capable of facilitating new activities without onerous renovation, in order to conserve “embedded energy”.	+	0	0	0	0	+	0	0	0	0	0	0	0
ES7: To promote the use of environmentally sustainable materials in the construction of any development in the LAP area.	+	+	0	0	0	0	0	+	0	0	0	0	0

Evaluation of the Ashtown-Pelletstown Local Area Plan Objectives

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
LUSO1: To promote the development of an urban community plaza adjoining the entrance to the proposed new train station, and framed by mixed uses. A playground and community garden will be integrated with this plaza	+	-	0	0	0	0	+/-	0	+	0	0	0	0
LUSO2: To promote the provision of a widened berthing area at the Royal Canal and adjacent to the community plaza. Associated with this will be related services focused around the immediate area, and supplementing mixed uses around the community plaza (see above)	+	-	0	0	0	0	0	0	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
EDO1: To promote the sustainable economic role of the area around the eastern node, encompassing Royal Canal Park and the areas around the proposed train station and Ratoath Road, as an area for new investment and employment as part of an integrated mixed use environment at this gateway location. Uses encouraged include a mix of smaller-scale office uses, small-scale enterprise, local-level retailing and local/community services.	+	0	0	0	0	+	+/-	+	+	0	0	0	0
EDO2: To encourage the provision of sustainable employment-generating local services, local retailing, and small-scale enterprise adjoining main pedestrian thoroughfares and urban squares in conjunction with the urban design strategy.	+	0	0	0	0	0	0	0	+	0	0	0	0
EDO3: To encourage development of small-scale canal-side services which enhance public appreciation of the Royal Canal and its amenities. Any such proposals will necessarily consider impacts on existing and planned residential amenities.	+	-	0	0	0	0	0	0	+	0	0	0	0
EDO4: To promote appropriate employment-generating uses for the vacant Ormond Print works site, which occupies an important transitional area between established industrial lands and the emerging mixed-use environment at the eastern extremity of the LAP lands.	+	0	0	0	0	0	0	0	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
MAO1:To implement an improvement scheme for River Road by 2017 in accordance with objective SI038 of the Dublin City Development Plan 2011-17 that provides for (i) safe movement of traffic, (ii) pedestrian routes along and across the road, and (iii) cycle connections. The eventual design will incorporate a two-way section on the western (Ashtown) side, and a one-way eastbound section on the remainder, connecting with Ratoath Road. This design shall be the subject of detailed study. **Interim road safety measures will also be carried out.**	+	0	0	0	0	0	0	0	+	0	0	0	0
MAO2: In association with MAO1, to deliver a series of visible and safe pedestrian/cycle crossing points across River Road to interconnect key routes with access gates to Tolka Valley Park.	+	0	0	0	0	0	0	0	+	0	0	0	0
MAO3: To facilitate the delivery of a second train station close to Ratoath Road, incorporating a pedestrian and cycle bridge over the canal and rail line.	+	-	0	0	0	0	0	+	+	0	-	0	0
MAO4: To deliver an integrated road network of primary and secondary routes involving a series of transverse road routes running north/south across the plan area and connecting to existing and proposed east-west routes. This will provide a permeable street network, allowing for balanced dispersal of traffic and serving both existing and new developments.	+	+/-	0	0	0	+/-	+/-	0	+	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
MAO5: To require the preparation of a phasing programme with all proposed large-scale developments, to include *(inter alia*) clear reference to the intended roll-out of transportation infrastructure on the site. This programme shall also refer to planned improvements in connectivity for pedestrians, cyclists and motorists in the area, taking account of existing infrastructure and current barriers to movement.	+	0	+	+	+	0	0	+	+	0	0	0	0
MAO6: In accordance with objective SI038 of the City Development Plan, to seek the delivery of the proposed re-alignment of the Ratoath Road including a new bridge across the railway and canal and a new junction with Ballyboggan Road (expected completion date end 2014)	+	-	0	0	0	0	0	+	+	0	-	0	0
MAO7: To encourage and facilitate, in cooperation with Fingal County Council and Iarnrod Eireann, the replacement of the existing manually operated rail level crossing at Ashtown Road, with a suitably designed alternative. The eventual design shall have regard to both existing and proposed developments in the immediate vicinity of the plan area and provide for high quality pedestrian and cycle facilities linking with existing and proposed pedestrian and cycle networks both within and surrounding the LAP area.	0	?	0	0	0	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
MAO8: To provide for adequate car parking provision for new developments within the LAP area that promotes sustainable modes of transport, discourages casual park and ride, whilst also catering for the needs of car storage and commercial and community activities, as per section 4.3.4 of this plan.	+	0	0	0	0	+	+	+	+	0	0	0	0
MAO9: To promote appropriate temporary uses on existing surface car parking areas associated with former marketing suites in the LAP area, pending proposals for more permanent development.	+	0	0	0	0	0	0	0	0	0	0	0	0
MAO10: To seek the provision of new cycle parking facilities in tandem with new development, including community, residential, commercial and public transport developments. As part of such provision, the Planning Authority will seek secure cycle parking provision at the specific locations illustrated in map 4.7	+	0	0	0	0	+	+	+	+	0	0	0	0
MAO11: Within the plan period, to seek the achievement of a target of target 50% of journeys by public transport modes combined (based on means of travel to work/school/college)	+	0	0	0	0	+	+	+	+	0	0	0	0

MA012: All planned infrastructural improvements (including widening berthing areas at the Royal Canal bridge crossings etc) shall ensure that the requirements of the EIA, Habitats, Water Framework and Floods Directives respectively are taken into account where appropriate	**+**	**+**	**+**	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**+**	**0**
MAO13 To maintain ongoing contact with Fingal County Council in relation to traffic issues and transport-related objectives or works that may impact on the delivery of the planned transportation network in the LAP area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**+**	**0**	**0**	**0**	**0**
MAO14 To review existing signage both (a) on the adjacent main roads, and (b) within the LAP area, with the intention of providing new directional signage to encourage a sense of place for people who work and live in the area.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Chapter	**PHH**	**BFF**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF**	**MA1**	**MA2**	**LS1**	**LS2**	**CH**
UDO1: To require that new development facing the Crescent is designed and scaled appropriately to ensure that the Crescent is an area of character and distinctiveness, providing a strong elevation and passive supervision to the park, and to support the role of the Crescent Park as an area of relaxation, play and biodiversity enhancement.	**+**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

UDO2:To ensure the completion of the linear park on the Royal Canal towpath for the full extent of the LAP area, with a minimum width of 10 metres from the Canal edge to park railing and to seek an increase in future sections of park of access points to the towpath park to improve permeability and safety.	+	+	+	0	0	+	+	+	+	0	+	0	+
UDO3:To seek the completion of a main boulevard through the LAP area, providing an attractive tree lined route through the lands with a strong emphasis on walking and cycling connections, creating links between the towpath park and the main vehicular access routes for the LAP area.	+	0	0	0	0	+	+	+	+	0	0	0	0
Chapter	**PHH**	**BFF**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF**	**MA1**	**MA2**	**LS1**	**LS2**	**CH**
UDO4:To require the creation of a new 'community' square comprising of both hard and soft landscaped areas adjoining the entrance point to the proposed new rail station. This space shall provide a small pocket park with a play area for children and, subject to the agreement of residents, a community garden or landscaped garden.	+	0	0	0	0	0	0	0	+	0	0	0	0
UDO5: seek the completion of the 'gateway' entrance to the LAP area from the Ratoath Road with the southern site developed appropriately, using both some height and a high quality frontage design to frame the entrance. In the short term, this space should be landscaped and maintained to a high standard to ensure an attractive setting for entering the LAP area.	+	0	0	0	0	0	0	0	+	0	0	0	0

UDO6:To require the completion of two secondary north south routes for pedestrians and cyclists that have a strong green infrastructure character, linking the Canal to the Tolka Valley Park via existing and proposed public spaces. Design and planting of these links should promote and encourage biodiversity through careful selection of tree species and under storey both along roads and within the parks provided.	+	+	+	+	0	+	+	+	+	0	+	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
UDO7:To support and promote the development of a pedestrian and cycling connection linking the Phoenix Park and Ashtown Station to Dunsink Observatory through the LAP area as a joint project between Dublin City Council, Fingal County Council, Waterways Ireland, the Office of Public Works & the Dublin Institute of Advanced Studies.	+	0	0	0	0	+	+	+	+	0	0	0	+
UDO8:To provide for three locations where building above the prevailing height can be provided; at (i) the village centres at the eastern and western edge of the LAP; (ii) facing the canal towpath park; and (iii) the Crescent; thus providing variation and interest across the LAP area, give strong passive supervision of public spaces and provide civic identity to the village locations.	+	0	0	0	0	0	0	0	0	0	0	0	0

UDO9:To prepare and implement a landscape and public realm plan for the Ratoath Road in consultation with Irish Rail where it crosses Reillys Bridge following the completion of the overpass, so that safe and pleasant pedestrian and cycle routes are accommodated, an appropriate setting for the protected structure is provided, and the design and planting provides an attractive and workable cul-de-sac.	+	+	0	0	0	+	+	+	+	0	0	0	+
UDO10: To minimise the adverse impacts of noise and promote good health and a good quality of life through effective management of noise within the Ashtown-Pelletsown Local Area Plan.	+	+	0	0	0	+	0	+	0	0	0	0	0

Chapter	**PHH**	**BFF**	**W1**	**W2**	**W3**	**AN1**	**AN2**	**CF**	**MA1**	**MA2**	**LS1**	**LS2**	**CH**
HO1: To encourage the sustainable development of approximately **920-1270** residential units on remaining developable lands in the LAP area	+	+/-	+/-	0	+/-	+	+/-	+	+	+/-	0	+/-	0
HO2: To ensure a minimum of 50% of larger sized units, i.e. of 3+ bedrooms, are provided within the LAP area on completion of all development. Whilst percentages may be permitted to vary above or below this figure on a given site, any significant housing proposal will be required to demonstrate how it can contribute towards achieving the eventual 50% minimum across the LAP area	+	0	0	0	0	0	0	0	0	0	0	0	0

HO3: To achieve an average net density figure of 64 units per hectare across remaining residential lands, and 84 uph across the entire LAP area (including existing). Calculations based on equivalent bedspaces per hectare will be considered on their merits.	+	0	0	0	0	+	+/-	+	+	+/-	0	+/-	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
CHO1: To protect and conserve the special character of all built heritage features both within the plan area as well as those within the surrounding areas	+	0	0	0	0	0	0	0	0	0	0	0	+
CHO2: To promote awareness and appreciation of and access to the plan area's archaeological inheritance while also ensuring their protection and conservation	+	0	0	0	0	0	0	0	0	0	0	0	+

CHO3: To protect and enhance the character and historic fabric of the Royal Canal and Tolka Valley conservation areas as contained within the Ashtown-Pelletstown plan area and the extension of same into the environs surrounding the plan area	+	+	+	+	0	+	0	0	0	0	+	+	+
CHO4: To protect the buildings and features of industrial heritage of the Ashtown-Pelletstown Plan area in situ and their related artefacts and plant where appropriate.	+	0	0	0	0	0	0	0	0	0	0	0	+

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
CHO5: That the RPS be revised and updated in relation to the findings of the DCIHR for the Ashtown-Pelletstown plan area and that the following industrial heritage sites that have been evaluated as of regional or higher merit be assessed for protection under the criteria set out in Part IV of the Planning and Development Act 2000: (i) Royal Canal (ii) Midland Great Western Railway (iii) 8th Lock (iv) 9th Lock (v) Royal Canal Towing Path	+	0	0	0	0	0	0	0	0	0	0	0	+

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
IWO1: To promote the achievement of good ecological status, good ecological potential and good chemical status for the River Tolka by 2027, in accordance with the Water Framework Directive	+	+	+	+	+	0	0	0	0	0	0	0	0
0IWO2: To implement the programme of measures (POM) for the River Tolka set out in the Eastern River Basin Management Plan 2009 – 2015	+	+	+	+	+	0	0	0	0	0	0	0	0
IWO3: To support the principles of good waste management, and to provide for local recycling facilities. Any large retail site must provide a glass recycling facility	+	0	0	0	0	0	0	0	0	+	0	0	0
IWO4: To require all proposed developments to carry out a site specific Flood Risk Assessment in accordance with the Departmental Guidelines on Flood Risk Management and Appendix A1 of this plan. The flood risk assessment shall accompany the planning application and should be sufficiently detailed to quantify the risks and the effects of any residual mitigation/adaptation together with the measures needed to manage residual risks.	+	+	+	+	+	0	0	0	0	0	0	0	0
IWO5: All planning applications shall be required to submit a surface water drainage plan, following the principles of Sustainable Urban Drainage Systems (SuDS) which will include proposals for the management of surface water within sites, protecting the water quality of the River Tolka.	+	+	+	+	+	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
IWO6: A construction management plan shall be submitted for all large developments setting out a planned programme for the management, recovery, disposal of construction and demolition waste material generated at the site during the excavation and construction phases of development, in accordance with the relevant national waste management legislation. Developers shall ensure that all waste is removed from the plan lands by approved waste disposal contractors to approved waste disposal facilities. In addition, it is an objective of this plan that developers shall take adequate measures to minimise the impacts of traffic, noise and dust during construction phases.	+	+	+	0	0	+	+	+	0	0	0	0	0
IWO7: Any works for infrastructure development adjacent to the Royal Canal pNHA, in particular works in pursuit of the delivery of Objectives MAO3, MAO6 and LUS02, shall require effective mitigation measures, agreed with Waterways Ireland and agreed with the planning authority through the appropriate planning and environmental assessment process for each project, to minimise the potential for significant adverse short term and long term impacts on the canal, its water, habitats and amenity value.	+	+	+	0	0	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
IW08:To ensure the protection of surface and ground water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and the protection of protected habitats and species including designated national and international conservation sites in implementing the plan	+	+	+	0	0	0	0	0	0	0	+	+	0
IW09:The recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area , upon its adoption.	+	0	0	+	+	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
GI01: To complete the linear park along the Royal Canal in tandem with new development, enhancing biodiversity and ecological value, and improving amenity value for those using the towpath	+	+	+	+	+	+	0	+	+	0	+	0	+

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
GI02: In association with objective UD06 to provide/complete the following south-north green links from the Royal Canal to entrances to Tolka Valley park. Design and planting of these links should encourage biodiversity through careful selection of tree species and under storey planting. (a) Through Ballymore lands from a proposed civic space adjacent to the entrance to the proposed train station (see objective UD04) at the Royal Canal through a proposed new public space incorporating existing attenuation ponds, to Tolka Valley Park. This shall be designed to function as an ecological corridor with associated recreational space. (b) Through former Capel lands (the'12 acres') from a planned green space near the canal through Rathborne Avenue to Tolka Valley Park. (c) In association with urban design objective UD07 of this plan and proposals by FCC, to provide a link from the eastern end of the LAP lands at Ashtown Road, to Dunsink Observatory	+	+	+	+	0	+	+	+	+	0	+	0	+

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
GIO3: To support Fingal County Council in relation to their proposals to prepare a coordinated brief, to include pedestrian/cycle links, for all Royal Canal crossings and development adjacent to the Royal Canal	+	-	0	0	0	+	+	+	+	0	0	0	0
GIO4: To implement a Green Points System as set out in section 4.11, as a flexible means to achieve improved green infrastructure for new developments, and incorporating a high level of biodiversity. (see also objective ES01 in chapter 4.11)	+	+	+	+	+	+	+	+	0	+	+	+	+
GIO5: Landscaped and amenity areas to address biodiversity and where possible provide aquatic features as part of SuDS proposals. Native species should be included as part of a 3 –layered structure to include canopy, shrub and ground layers.	+	+	+	+	+	0	0	0	0	0	+	+	0
GIO6: Amenity and/or security lighting shall be designed to minimise negative impacts on protected species such as bats. Such designs may include directional/cowled lighting or be based on the advice of an ecologist. Particular attention shall be paid to areas close to water bodies.	+	+	0	0	0	0	0	0	0	0	0	0	0
GIO7: To retain and enhance, where feasible, remnants of existing hedgerows and treelines.	+	+	0	0	0	0	0	0	0	0	+	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
GI08: To encourage the development of community gardening and provision of allotments at appropriate locations in new schemes.	+	+	0	0	0	0	0	0	0	0	0	+	0
GI09: To support short term options for appropriate planting of areas of undeveloped lands pending future development and with regard to phasing programmes set out in Chapter 5.	+	+	+	+	+	+	0	+	0	0	+	+	0
GIO10: For new developments to examine the feasibility of connecting new swales to existing ones – thereby lengthening the existing linear habitat	+	+	+	+	+	0	0	0	0	0	+	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
CIO1: To actively promote the development of a new primary school on the reserved school site, and seek to enter into partnership with the Department of Education and Skills to achieve the provision of a school hall as a community resource.	+	0	0	0	0	0	0	0	+	0	0	0	0
CIO2: To provide one new larger size play facility adjacent to the canal at Royal Canal park as part of a new public open space ; and that smaller local play facilities are provided within developing areas.	+	0	0	0	0	0	0	0	0	0	0	0	0
CIO3: To promote the area of the Royal Canal and Tolka Park as active community resources for leisure purposes, and to examine the possibility of (i) developing a sli na slainte circular route interconnecting both, and (ii) installing outdoor 'adult gym' facilities at appropriate locations as part of sport promotion	+	-	0	0	0	+	0	+	+	0	0	0	+
CIO4 The Council in conjunction with the HSE will facilitate the development of a health care service within the LAP area.	+	0	0	0	0	0	0	0	0	0	0	0	0

Chapter	PHH	BFF	W1	W2	W3	AN1	AN2	CF	MA1	MA2	LS1	LS2	CH
ESO1: To implement a 'green points system' for all new developments in order to meet environmental objectives and to ensure an attractive and biodiverse living and working environment.	+	+	+	+	+	+	+	+	0	+	+	+	0
ESO2: With the support of residents, to promote the development of a community garden in association with the development of a community plaza adjoining the entrance to the proposed train station.	+	+	0	0	0	+	0	+	0	0	0	0	0
ESO3: To seek that communal areas of buildings, including stairwells, corridors and foyers, are effectively designed to use low levels of energy in the form of lighting and heating, and minimising heat energy loss.	+	+	0	0	0	+	0	+	0	0	0	0	0