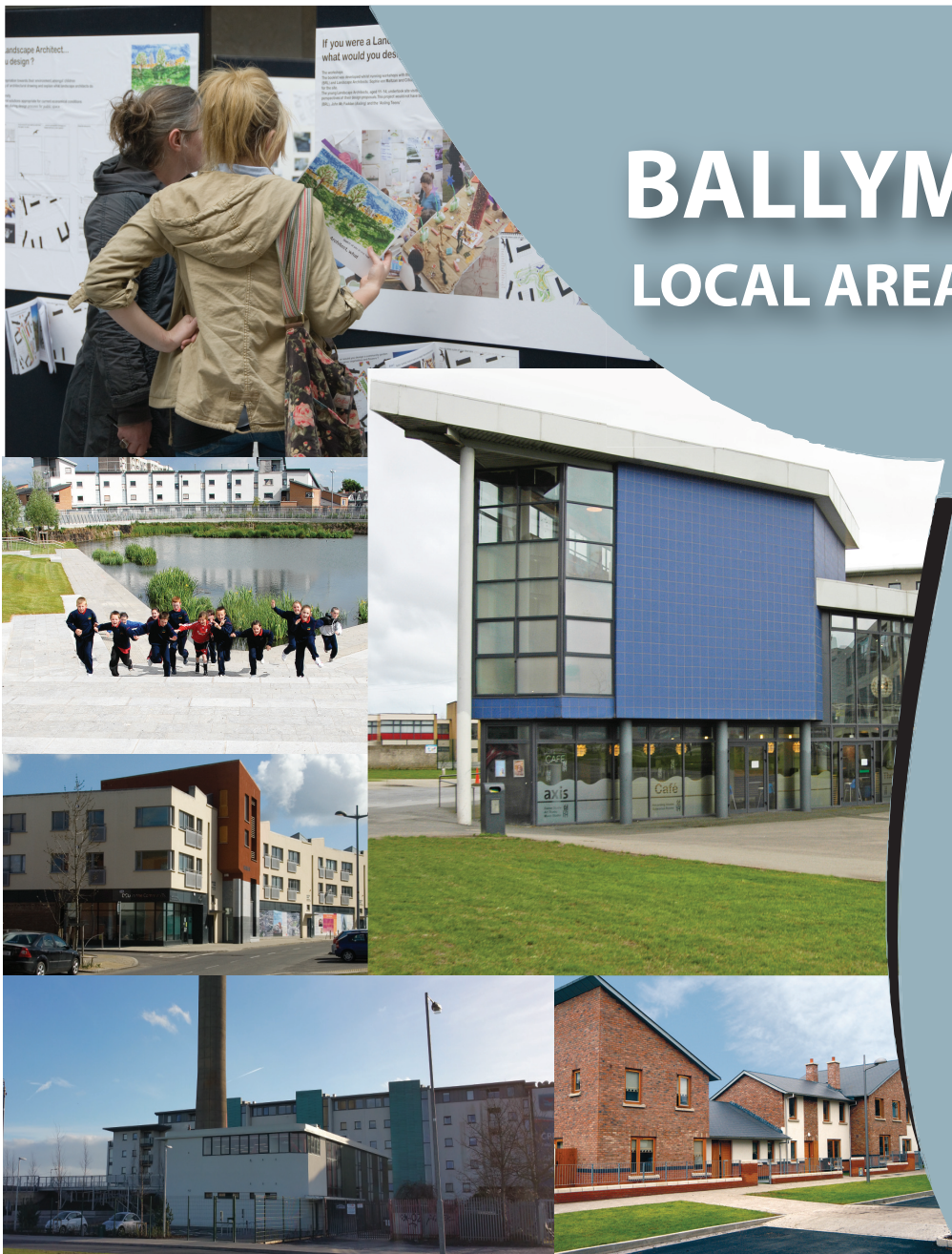


# BALLYMUN

## LOCAL AREA PLAN 2017



## Strategic Environmental Assessment (SEA)

November 2017

Planning & Property Development Department  
Dublin City Council



Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council



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## **Non-Technical Summary**

### **Context**

The Ballymun Local Area Plan was adopted at the City Council meeting on the 2<sup>nd</sup> October 2017. The LAP comes into effect four weeks from that date; **27<sup>th</sup> October 2017**.

### **Introduction**

This is the Non Technical Summary of the Environmental Report of the Ballymun Local Area Plan (LAP).

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 LAP 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 key principles, objectives, and development scenarios for the Local Area Plan with an ultimate goal of achieving sustainable development in the LAP area without causing adverse harm to the environment.

This report was originally on display with the Draft LAP (Wednesday 5<sup>th</sup> April to Wednesday 17<sup>th</sup> May 2017 (inclusive) and has subsequently being amended to take into account the changes following this display period, the material alterations display (Monday 31<sup>st</sup> July to Monday 28<sup>th</sup> August 2017 (inclusive), the submissions received, and the adoption of the Plan by the Elected Members.

### **SEA Screening**

The Planning Authority undertook a screening of the LAP for the purposes of determining whether a SEA was required and documented this in a screening report. Due to the size of the population within the LAP area (i.e. in excess of 5,000 persons), it was determined that a SEA was required.

## **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 May 2016 with the statutory consultees.

## **Vision and Key Principles of the Ballymun LAP**

The overall vision for the LAP is stated as: -

*"to create a successful and sustainable new town; which provides for and supports a thriving local economy, which caters for people across all spectrums of their lifecycle in both their house type and tenure and where communities are supported by the appropriate social, sporting and cultural amenities".*

The 10 key principles (KP) underpinning the Local Area Plan are set as follows: -

### **Vacant Sites**

KP1: To develop the remaining vacant sites in a sustainable manner.

### **Housing & Tenure**

KP2: To develop the remaining residential sites for a mix of house types and tenures to increase the population and support the existing services and businesses in the area.

### **Economic Development & Employment**

KP3: To attract economic activity and stimulate new employment generating uses within the three key areas of employment; (i) M50 lands, (ii) Main Street and (iii) Industrial Estates, alongside the local level provision operating within the neighbourhood centres.

### **Urban Form & Design**

KP4: To create distinctive urban places through the use of intelligent urban design and good quality materials having regard to the existing palette of materials and finishes in the area.

### **Movement**

KP5: To complete outstanding infrastructure to enhance connectivity both within Ballymun and to the surrounding area, and to service the remaining development sites.

### **Social & Community Infrastructure & Supports**

KP6: To consolidate existing social and community facilities to maximise their use by the whole community.

KP7: To support the local community through the implementation of the Social Regeneration Plan and maintain the level of funding.

### **Sports, Recreation & Open Space**

KP8: To consolidate existing sports and recreation facilities and open space areas to maximise their use by the whole community.

### **Green Infrastructure & Biodiversity**

KP9: To provide and maintain landscaped parks, greens and tree lined streets respecting the established public realm principles.

### **Drainage & Water**

KP10: To continue to implement the Surface Water Masterplan for Ballymun facilitating development of the vacant sites.

## **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. Ballymun is identified as a Strategic Development and Regeneration Area and a Key District Centre within the Dublin City Development Plan 2016-2022. It is identified as a key future growth zone in the settlement strategy for Dublin City Council to accommodate residential and mixed uses close to public transport infrastructure. This is in keeping with national and regional plans to consolidate the urban form of Dublin City and promote higher densities along key public transport routes.

## **Summary of Baseline Environment (Section 3 of the Environmental Report)**

### ***Population and Human Health***

Population and housing figures for the LAP are based on Census Electoral Division Wards of Ballymun A, Ballymun B, Ballymun C and Ballymun D, (the ED area of Ballymun C includes areas of Shanliss and Oldtown in Santry). The LAP area has a total stated population of 17,575 (8,508 no. males (48.4%) and 9,067 no. females (51.59%) based on the 2016 preliminary analysis. This is an increase of 1,339 persons which equates to a 8.25% increase on the 2011 census. The 2011 census revealed that the majority of the LAP population revealed that their health was good (29%) or very good (55%) while only 2% responded that their health was bad.

### ***Biodiversity, Flora and Fauna***

A Biodiversity Action Plan (BAP) for Ballymun was produced by BRL in April 2008 with the principal objective to generate greater awareness of biodiversity in the community. It was reviewed in 2014 with a finding of significant improvements in local biodiversity.

The area contains a number of district and neighbourhood parks with swales in Coultry and Balcurris Parks and a large wetland in Poppintree Park, the latter proving particularly important from a biodiversity perspective. Shrubs and hedgerows around the schools are also providing an important habitat for flora and fauna. Tree planting carried out as part of the regeneration is providing important connectors between green spaces, although the ground level shrub planting has not been as well received / maintained.

Wildflower meadows created on the vacant sites are providing a food source for invertebrates including butterflies; seeds of plants such as thistle, dock, teasel are eaten

by birds, particularly finches in winter, and the dead plant material is used for overwintering invertebrates.

As part of the LAP process, and following a submission received from the National Parks and Wildlife Service at Issues Paper stage, a new bat survey was commissioned (conducted August/September 2016) to ascertain those areas within the LAP being used by bats and identify, where possible any bat roosts. No bat roosts were confirmed during the survey. Whilst a number of buildings were deemed potentially suitable for roosting bats, there was no evidence of roosts being present i.e. no bats seen either emerging or entering the structures surveyed. Low levels of activity were recorded in the M50 lands, at the M50 crossover adjacent to the Ballymun United FC grounds and at Coultry Park. The most bat activity was recorded along the southern portion of Poppintree Park and in the vicinity of the pond/ wetlands, where four species were recorded, including the first recording here of Daubenton's bat.

### ***Air Quality and Noise***

The nearest air quality monitoring station to the LAP area is located in Finglas about a kilometre to the west of the LAP area. Recent monitoring provided by Dublin City Council for 2016 (18<sup>th</sup> Feb – 17<sup>th</sup> April) indicates compliance with the Air Quality Standards Regulations 2011 for all monitored pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM 2.5) and sulphur dioxide (SO<sub>2</sub>). Noise levels are within the ranges set down by the *Noise Action Plan for the Agglomeration of Dublin (2013-2018)*. The plan outlines that it is undesirable for the population to be exposed to a night time level greater than 55 decibels and a daytime level greater than 70 decibels. It was found that Ballymun meets these criteria for noise quality.

### ***Climate***

The National Climate Change Adaptation Framework, published in 2012 by the Department of the Environment, Community and Local Government (now known as Department of Housing, Planning and Local Government), requires local authorities to prepare local adaptation plans as part of the Development Plan process. These plans are intended to reduce adverse impacts to climate by taking an interdisciplinary approach to influencing key factors at a local level e.g. through energy usage, transport and green infrastructure. In May 2008, Dublin City Council adopted a *Climate Change Strategy 2008-2012*, that set ambitious targets for the city toward 2020. In May 2009, the Lord Mayor of Dublin signed the EU *Covenant of Mayors* under which 500 European cities aim to go beyond the EU 2020 targets of a 20% reduction in GHGs. Codema as Dublin City's energy authority, and in association with Dublin City Council, produced a *Sustainable Energy Action Plan (SEAP)* for the period 2010-2020 and monitors sustainability indicators to track progress. The aim of the plan is to reduce the city's energy consumption by 33% and associated emissions by 20%, by 2020. Codema's Monitoring and Progress Report on the SEAP noted that Dublin City, including Ballymun is on track to meeting the 33% energy reduction target according to the Sustainable Energy Authority of Ireland's benchmarking system.

### ***Water***

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) 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. Extended or lesser objectives have been granted under certain circumstances, including for certain rivers which must reach good status by 2027.

For the purposes of implementing the Directive Ireland was divided into eight river basin districts and a River Basin Management Plan (RBMPs) was prepared for each. The Ballymun plan area is located in the Eastern River Basin District (ERBD).

The first River Basin Management Plan 2009 – 2015 (RBMP), and accompanying environmental report, was published in 2009 setting out the objectives of improving and protecting water quality and ecology in the waters of each river basin district. Preparation of the updated plans and programme of measures for the next cycle of river basin management plans, covering the period 2015-2021 are expected to be delivered in the second half of 2017.

Such plans and programmes will impact all infrastructure programmes for various wastewater, foul sewerage etc schemes in the Ballymun LAP area.

The pond in Poppintree Park which forms an important element within the areas surface water management network has suffered from a number of pollution incidents over the past few years, likely caused by illegal dumping of fats, oils and grease.

### ***Material Assets (Transport & Waste Management)***

The Ballymun area is strategically located south of the M50 accessed from Junction 4. The R108 serves as an important connector from the city to Ballymun and onto the airport. Traffic levels are expected to increase as economic conditions improve and this is true of the wider area.

A major objective of the plan is to encourage as much movement as possible by public transport, cycling and walking. This requires designing the area to provide for as much permeability as possible, improving the environment and crossing facilities along the existing road network and improving and/or providing new connections to public transport infrastructure. A major challenge for the LAP is therefore that of balancing the needs of through traffic serving the city, and the needs of a regenerating community to provide sufficient, high quality transport options, movement and connectivity.

A key future benefit for the Ballymun area would be the delivery of 'Metro North' through Ballymun as per the Greater Dublin Area Transport Strategy 2016 – 2035 ([www.nationaltransport.ie](http://www.nationaltransport.ie)), linking Ballymun to the City Centre and the airport. This would radically improve accessibility to and from the area.

Waste Management is governed by the European Communities (Waste Directive) Regulations 2011, which has led to the provision of Waste Management Plans. A Regional Waste Plan (2015-2021) for the Eastern-Midlands area (including Dublin City) was published in 2015, with the promoting the idea of a circular economy and the need to rethink the approach to managing waste by viewing waste streams as a valuable resource. Over the lifetime of the Eastern-Midlands Regional Waste Plan, the main objectives are: a 1% reduction per annum per capita in the amount of household waste generated; the elimination of direct disposal of unprocessed residual municipal waste to landfill; and a reuse/recycle target of 50% of municipal waste by 2020. The regional materials recycling facility (MRF) at Ballymount in Dublin 12, operated and managed by Dublin City Council, became operational in 2009 and processes green bin recyclables for the four Dublin local authorities. It is designed to cater for the processing of green materials in the Dublin area and the facility has a capacity of 100,000 tonnes per annum. There are two full Civic Amenity (recycling centres) operating within Dublin City at North Strand and Ringsend. Closer to the LAP area there are Community Level Bring Centres located on Oscar Traynor Road and Collins Avenue, Dublin 9 (the City has 8 Community bring centres, 3 on the north side of the City). Plans within the LAP for a new civic amenity site on the Ballymun M50 lands will provide a new nearby recycling amenity.



### ***Cultural Heritage***

Ballymun has three National Monument sites ([www.archaeology.ie](http://www.archaeology.ie)) listed under the Sites Monuments and Record Maps (SMR) number: -

1. DU014-065 - Jamestown Well located in Poppintree Park.
2. DU014-067002 - Stormanstown House (in ruins) located in Ballymun Road.
3. DU014-061001 & DU014-061002 – Both are located in Balcurris and indicative of a ring fort for the first reference and of an enclosure for the latter.

There are also two buildings listed on the Record of Protected Structures; St Pappin's Church (constructed c. 1797) and adjoining Domville House. The Church is now in use as a nursing home, and Domville House, which was once the priest's residence is now home to a community based health service and drug prevention/treatment centre.

### ***Landscapes & Soil/Geology***

The regeneration of Ballymun has meant that the landscape created in the 1960s and 1970s of 36 no. high rise blocks, has been replaced by a more coherent and definable urban area, with clear residential, neighbourhood and Main Street areas, within a legible scale of 2/3/4 storeys, parks and landscaped areas. There are still areas that require development and the economic difficulties of the last 8 years has forestalled development. The absence of development has meant that particularly along Main Street and at the northern boundary towards the M50 and IKEA there are abrupt changes between recent development and areas awaiting regeneration. Nonetheless it is intended that the original intention to create well defined residential areas around landscaped open space remains a priority, and is the focus of the LAP.

The majority of soils in Dublin City are characterised under the Soil Information System as 'urban' soils i.e. soils which have been disturbed, moved and manipulated by human activities. Urban soils are generally overlain by a non-agricultural, man-made layer formed from mixing, infilling or contamination by industrial uses.

### **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 the 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.

The table 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.

<b>Environmental Receptor</b>	<b>Environmental Protection Objective</b>
<b>Population and Human Health</b>	<b>PHH</b> To create a sustainable compact city in which to live, work and/or visit.
<b>Biodiversity, Flora &amp; Fauna</b>	<b>BFF</b> To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.
<b>Air Quality &amp; Noise</b>	<b>AN1</b> To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter).  <b>AN2</b> To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.
<b>Climatic Factors</b>	<b>CF</b> To minimise emissions of greenhouse gases.
<b>Water (Including Flooding)</b>	<b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.  <b>W2</b> To reduce and manage the risk of flooding.  <b>W3</b> To provide adequate wastewater treatment, water distribution networks and drainage networks.
<b>Material Assets (Transport &amp; Waste Management)</b>	<b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling.  <b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.
<b>Cultural Heritage (Archaeology &amp; Architectural Heritage)</b>	<b>CH</b> 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.
<b>Landscape &amp; Soils/Geology</b>	<b>LS</b> To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils

### **Identification of Alternatives (Section 6 & 7 of the Environmental Report)**

Dublin City Council, as the plan-making authority, is obliged to consider alternative ways of achieving the objectives of the local area plan. For the purposes of this Local Area Plan, four key sites/locations were examined: -

1. Coultrey, Main Street
2. Industrial Estates
3. Road network alterations in Poppintree

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The alternatives for each site were: -

##### **1. Coultry, Main Street (Site 6 of Ch. 6 in the LAP)**

Alternative 1A - Retain nos. 18-25 Coultry Gardens and develop vacant lands around them.

Alternative 1B - Acquire and demolish Nos. 18-25 Coultry Gardens to make way for a comprehensive redevelopment option.

*Alternative 1B was chosen as it allows for higher densities of development along the Main Street, and for issues of drainage and road networks to be more comprehensively addressed.*

##### **2. Ballymun and Poppintree Industrial Estates**

Alternative 2A - To maintain these industrial estates for the stated zoning purpose of enterprise and employment creation.

Alternative 2B - To favour a rezoning of these lands to residential as part of the City Development Plan review, under objective CEE04.

*Alternative 2A was chosen, on the basis that the area has ample land available for housing development, the estates operate at c. 75-80% occupancy and the need to provide local employment within Ballymun, an area still classified as disadvantaged under the Pobal deprivation index.*

##### **3. Balbutcher Lane Road network, Poppintree**

Alternative 3A - Retain Ballymun Masterplan objective to extinguish a section of Balbutcher Lane North creating a cul-de-sac to the immediate north-east of No. 228 Balbutcher Lane, and with Balbutcher Lane north terminating at the 5-side of Poppintree Community and Sports Complex.

Alternative 3B – Retain the existing Balbutcher Lane road network in its current format. This scenario will require some modification to the intersection between Balbutcher Lane and Carton Terrace. It also divides the area of open space, zoned Z9 into two parts.

*Alternative 3B was chosen as the road network serves the existing population well, and with no clear use of the adjoining Z9 lands, there is no immediate rationale for carrying out this work.*

##### **4. Shangan Road housing site (Site 10 of Ch. 6 within the LAP)**

Alternative 4A - To provide residential development across the entire site.

Alternative 4B - To provide residential development and an extension of the sporting facilities to the rear of the Trinity Comprehensive School (all weather pitch).

*Both alternatives were assessed as part of the SEA process and subsequently described in the Draft LAP. The environmental assessment illustrated that both options had a positive and / or negligible impact on the environment / local population. Following publication of the Draft LAP and changes to the sports and recreation objectives, the alternative proposal (4A) has since been excluded and the site brief for site no. 10 has been amended.*

## **Evaluation of the LAP (Section 8 of the Environmental Report)**

The Environmental Report evaluates the key principles and objectives of the Local Area Plan and assesses each objective against the Environmental Protection Objectives (an Evaluation Matrix is set out in Section 8). The key principles and objective were found to largely have either 'an insignificant impact or no relationships with the environmental receptor', designated as a zero (0) in the evaluation matrix or 'a significant beneficial impact on the environmental receptor' designated as a plus (+) in the evaluation matrix or in some instances a combination of the two.

## **Mitigation (Section 9 of the Environmental Report)**

Mitigation measures are the measures to prevent, reduce and as fully as possible offset any adverse environmental effects if there are found to be any adverse impacts as a result of implementing the LAP. The LAP proposes a number of measures under the headings of water and traffic which if implemented will significantly (a) reduce the probability of surface water flooding and (b) reduce noise and air impacts from car travel.

No additional mitigation measures were considered necessary in order to implement the Ballymun Local Area Plan. Indeed the provision of additional population and employment on brownfield sites, on a major public transport route is considered to have significant environmental benefits, encouraging sustainable travel patterns and offsetting the need to develop elsewhere outside the City on greenfield sites. The key principles and objectives of the LAP are fully in line with national and regional policy to consolidate and ensure a more compact city.

## **Monitoring (Section 10 of the 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 10 of this report. Monitoring of the indicators is essential in order to track the impacts of the LAP on the environment.

# 1 Overall Introduction

## 1.1 Introduction

This is the Environmental Report prepared as part of the Strategic Environmental Assessment (SEA) of the Ballymun Local Area Plan. Strategic Environmental Assessment is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan before a decision is made to adopt the plan. 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 with a view to facilitating comments from interested parties on the environmental issues associated with the LAP. This report was originally on display with the Draft LAP (Wednesday 5<sup>th</sup> April to Wednesday 17<sup>th</sup> May 2017 (inclusive) and has subsequently being amended to take into account the changes following this display period, the material alterations display (Monday 31<sup>st</sup> July to Monday 28<sup>th</sup> August 2017 (inclusive), the submissions received, and the adoption of the Plan by the Elected Members.

The LAP provides a statutory basis for future land-use planning in the area building on the 'Ballymun Masterplan 1998' ([www.brl.ie](http://www.brl.ie)) and guiding the continued development of the area. The Ballymun Local Area Plan was adopted at the City Council meeting on the 2<sup>nd</sup> October 2017. The LAP comes into effect four weeks from that date; **27<sup>th</sup> October 2017**.

## 1.2 Legislative Context of SEA

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

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

Under this legislation member States of the EU are obliged to assess the likely significant environmental effects of Plans and Programmes prior to their adoption thus providing for

the assessment of strategic environmental considerations at an early stage of the decision making process.

### **1.3 Complementary Environmental Assessment**

Alongside the SEA process and the production of this Environmental Report, two complementary environmental assessments have been undertaken as part of the review and amendment plan process: -

#### **Appropriate Assessment (AA)**

Article 6.3 of the European Union (EU) Habitats Directive (92/43/EEC) requires that Appropriate Assessment must be carried out to assess the potential effects of the proposed plan, on its own or in combination with other plans or projects, on protected European Sites/ the Natura 2000 network.

The Natura 2000 network of sites across Europe includes those sites of the highest biodiversity importance for rare and threatened habitats and species. To help tackle issues of habitat destruction and degradation with consequent loss of biodiversity, the EU introduced the Birds and Habitats Directives to help safeguard key sites. The aim of both of these directives is to maintain, and where possible restore the favourable conservation status of natural habitats and species across Europe. Europe's most important wildlife sites are referred to as Natura 2000 sites, and legislation ensures that strong measures are put in place to protect them. Within Ireland the Natura 2000 network comprises Special Areas of Conservation (SACs, including candidate SACs), and Special Protection Areas (SPAs, including proposed SPAs).

The Birds and Habitats Directives require EU Member States to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network prior to making a decision to allow that plan or project to proceed. This process of consideration is referred to as appropriate assessment (AA). When putting forward a plan, the local authority is firstly charged with "screening" the proposal, i.e. determining, on the basis of a preliminary assessment and objective criteria, whether the proposed plan, both alone and in combination with other plans or projects; could have significant effects on a Natura 2000 site in view of the site's conservation objectives. If the Screening stage concludes that the proposed project could give rise to likely significant impacts on any Natura 2000 site, then subsequent stages of the AA process are required, including the delivery of a Natura Impact Statement. However if no likely significant effects are identified during Screening, then the assessment process goes no further.

A Stage One Appropriate Assessment screening process was undertaken for the (draft) Ballymun Local Area Plan which is available alongside this Environmental Report.

#### **Strategic Flood Risk Assessment (SFRA)**

In compliance with the Department of the Environment, Heritage and Local Government (Dept name now changed)/ Office of Public Works Guidelines & Technical Appendices, 'The Planning System and Flood Risk Management'(2009), Dublin City Council undertook a Stage 1 Strategic Flood Risk Assessment (SFRA) which also accompanied the draft Ballymun LAP when it was on public display and is still available with the adopted LAP on the City Council website.



## 1.4 Stages of the SEA

The SEA process can be broken down into a number of key steps as follows: -

**Step 1: Screening** to determine if SEA is required.

**Step 2: Scoping** to ensure that the relevant environmental issues are identified so that they can be addressed appropriately in the Environmental Report. This step involves consultation with the statutory environmental authorities at an early stage in the process, ideally with the use of a Scoping Issues Paper, highlighting environmental areas of concern. This process informs the level of detail to be included in the Environmental Report.

**Step 3: Preparation of a Draft Environmental Report** (alongside the draft LAP). The likely significant effects of implementing the LAP shall be identified, described and evaluated in the draft Environmental Report.

**Step 4: Consultation** with the general public and with environmental and planning authorities on the draft Environmental Report (alongside the draft LAP).

**Step 5: Adoption** of the LAP and accompanying Environmental Report; this report is now updated following the adoption of the LAP.

**Step 6: Preparation of an SEA Statement** summarising how environmental considerations have been integrated into the LAP and how the results of opinions expressed, submissions received and consultations carried out have been taken into account in the SEA process and the reasons for choosing the LAP as adopted.

**Step 7: Monitoring** of significant environmental effects following adoption and implementation of the Plan.

## 1.5 SEA Guidance Documents

Appropriate consideration and reference has been made to a number of SEA guidance documents during this exercise including, but not limited to the following: -

- Integrating Climate Change into Strategic Environmental Assessment in Ireland – Guidance Note. Environmental Protection Agency (2015).
- Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland, Synthesis Report (EPA, 2003);
- SEA Scoping Guidance Document (EPA, 2010);
- SEA Environmental Report and Plan Template (EPA, 2010);
- SEA Process Checklist (Consultation Document) (EPA, 2010); Implementation of the SEA Directive (2001/42/EC), Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines for Regional Authorities and Planning Authorities (Department of Environment, Heritage and Local Government (DOEHLG), 2004; Integrated Biodiversity Impact Assessment – Streamlining AA, SEA and EIA Processes: Practitioner’s Manual, EPA, 2013.



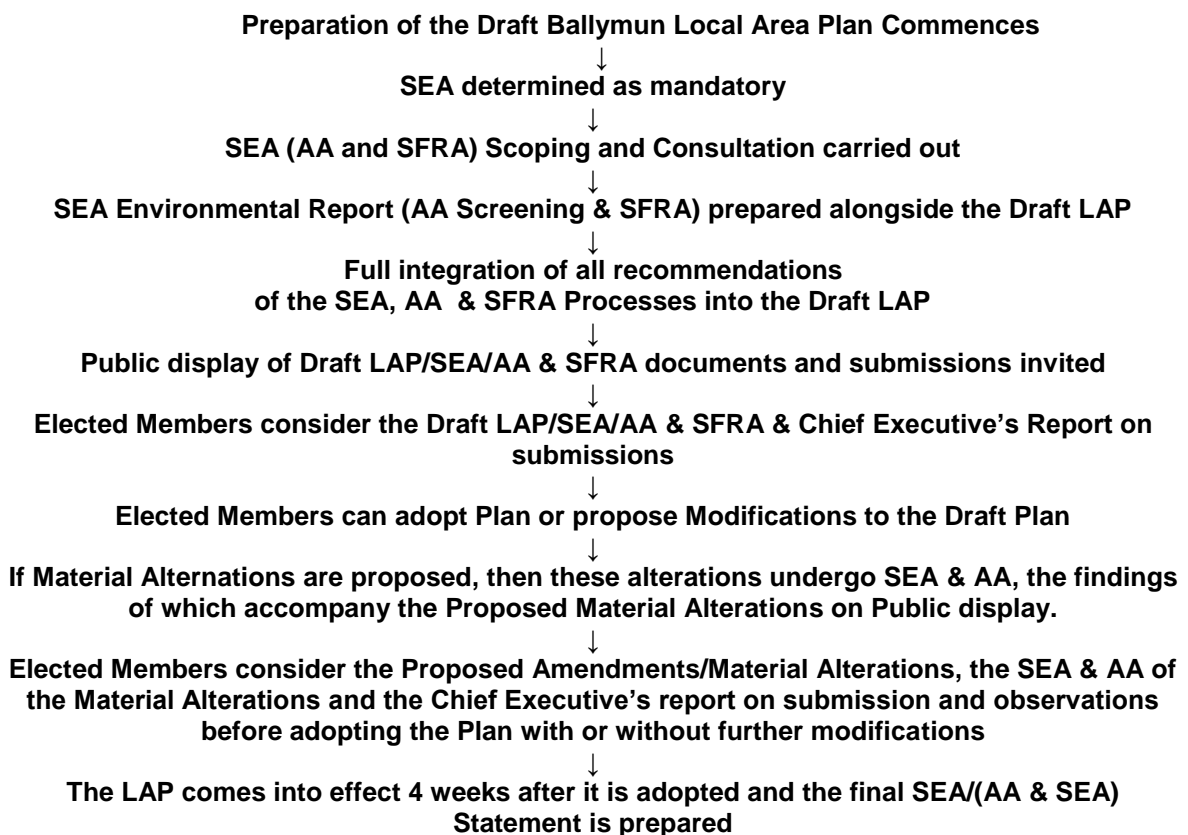
## 2 Strategic Environmental Assessment Methodology

### 2.1 Key Stages Identified

The methodology used to carry out the Strategic Environmental Assessment (SEA) of the Ballymun Local Area Plan reflects the requirements of the SEA Directive (2001/42/EC) and SEA Regulations (S.I. 435 & 436 of 2004 and as amended by S.I. 200 & 201 of 2011) and other SEA guidance documentation. The requirements of the recent European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), have also been taken into account in implementing the Plan.

The chart below sets out how the SEA (including the Appropriate Assessment and SFRA) has been undertaken alongside the preparation of the Plan.

#### **Ballymun Local Area Plan and the SEA Stages**



As outlined above the Environmental Report, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) are all undertaken in tandem with the Local Area Plan, allowing for integration between each element from the outset. The Environmental Report has guided the preparation of objectives, and local area plan alternatives for the plan, and is an important part of the local area plan documentation.

### 2.2 Screening

The screening process is the first stage of the Strategic Environmental Assessment. Screening assesses the need to undertake a Strategic Environmental Assessment.

In accordance with SEA Directive 2001/42/EC, S.I No 436/2004 (as amended) Planning and Development (SEA) Regulations 2004 and the DEHLG document “Implementation of SEA Directive 2001/42/EC Guidelines for Regional Authorities and Planning Authorities (Nov 2004)”, the Planning Authority has determined that an SEA is required for the proposed LAP having considered the following: -

- The character of the area;
- The existing population of the study area, combined with the potential population capacity of the developing areas in the proposed amended plan, will have an overall target population in excess of 5,000 persons;
- The character of the study area location close to natural amenity areas;
- The provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (as amended);
- The provisions of the DoEHLG “Implementation of SEA Directive 2001/42/EC Guidelines for Regional Authorities and Planning Authorities (Nov 2004)”; and
- The criteria of Schedule 2A of the Planning and Development Regulations 2001 (as amended).

### **2.3 Scoping & Summary of Feedback from the Environmental Authorities**

Having established that SEA is mandatory for the Ballymun LAP, 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. This stage 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 be 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: -

- i. Environmental Protection Agency (EPA)
- ii. Department of Housing, Planning and Local Government
- iii. Department of Culture, Heritage and the Gaeltacht
- iv. Department of Agriculture, Food and the Marine
- v. Department of Communications, Climate Action and Environment

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 May 2016 with the issuing of the Scoping Issues Paper to the above-mentioned statutory environmental authorities. Written feedback was received and was taken on board.

#### ***Summary of Feedback from the Environmental Authorities***

## 1. Environmental Protection Agency

The Environmental Protection Agency (EPA) responded to the Scoping Document (letter dated 31<sup>st</sup> May 2016), with the provision of updated SEA integration guidance documents ([www.epa.ie/pubs/advice/ea](http://www.epa.ie/pubs/advice/ea)) that sets out the key environmental issues, as relevant and appropriate, to be taken into account in the preparation of the SEA and LAP. The main points are set out below: -

- The LAP should be consistent with relevant higher level national planning policy and also with SEA/AA/EIA guidelines and regulations.
- The LAP should include objectives to support water quality, wastewater infrastructure, other critical infrastructure, groundwater resources, and the implementation of flood risk assessment where required, climate change adaption measures on foot of flood risk and Irish Water measures addressing Waste Water Treatment Plant (WWTP) issues.
- The LAP should include objectives to support the protection of biodiversity sites, the promotion of green infrastructure, the implementation of the Environmental Noise Directive, the improvement of air quality, support of the National Climate Change Strategy and preparation of an Energy Conservation Strategy.
- The LAP should promote the integration of land use zoning and phased development, the National Landscape Strategy.
- The LAP should promote sustainable transport options and integrated traffic management plans.

## 2. Fingal County Council

Fingal County Council (FCC) responded to the Scoping Document (letter dated 17<sup>th</sup> June 2016). They recommend that Dublin City Council and Fingal County Council should agree clear objectives for the development of DCC lands within the administrative boundary of FCC, namely the 'M50 lands'. Once this was done then a joint initiative could be considered between the two authorities to encourage economic development in the area. This would also be prescient in advance of the development of the Airport Metro and proposed stops at Ballymun and Northwood.

## 3. Department of Culture, Heritage and the Gaeltacht

The Department of Culture, Heritage and the Gaeltacht responded to the Scoping Document (letter dated 9<sup>th</sup> June 2016). They detailed that Santry Demesne was a proposed Natural Heritage Area containing: -

- Hairy St.John's Wort, a protected species under the Floral Protection Order 1987 and
- Bat species which are protected under the Wildlife Acts of 1976-2012 and listed on annex IV of the Habitats Directive.

The Dept of Culture detailed that such designations be noted in the body of the SEA.

## 2.4 Environmental Baseline Data

The SEA process is led by the environmental baseline (i.e. the current state of the environment) to facilitate the identification, evaluation and subsequent monitoring of the

effects of the LAP. Data was collected to describe the environmental baseline and its likely evolution without implementation of the LAP.

The SEA Directive (Annex I) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme'. Information is therefore provided on existing environmental problems which are relevant to the LAP, thus, helping to ensure that the LAP does not make any existing environmental problems worse.

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

The existing environment of Ballymun is characterised by way of a description of the environmental receptors as set out in SEA Directive: -

- Population and Human Health
- Biodiversity, flora and fauna
- Air Quality and Noise
- Climatic Factors
- Water (including flooding)
- Material Assets (transport and waste management)
- Cultural Heritage (including architectural and archaeological heritage)
- Landscape (including soil)

The full baseline data is presented in **Section 3 – Baseline Environment** of this report.

## **2.5 Environmental Protection Objectives**

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 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 three 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.

## **2.6 Alternatives**

Article 5 of the SEA Directive (and Article 13E of the SEA Regulations 2004) 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.”*

Taking into account the objectives and the geographical scope of the LAP, along with the Core strategy of the Dublin City Development Plan 2016-2022, alternatives were formulated in relation to the key development sites of the LAP.

**Section 6** of this report sets out the details of the Alternatives identified;

**Section 7** details the evaluations of the identified local area plan alternatives and the reasons for selecting the chosen alternatives.

## **2.7 Assessment of the Impact of the Ballymun LAP on the Environment**

In accordance with the SEA Directive, the likely significant effects on the environment of implementing the LAP must be assessed. In line with best practice, as set out in the SEA guidelines, the LAP team carried out the assessment of the likely significant effects of the plan by testing key principles and objectives contained within the local area plan against the environmental protection objectives devised by the SEA team. Key principles 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.

**Section 5** details the context and content of the Ballymun Local Area Plan;

**Section 8** carries out an evaluation of the LAP 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.

**Section 9** of this report describes the measures devised to mitigate against any potential significant impacts of implementing the Ballymun LAP.

## **2.9 Monitoring**

The significant environmental effects of implementing 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 10** of this report sets out the Monitoring Programme.

## **2.10 The SEA Environmental Report**

In this Environmental Report, which has been prepared alongside the LAP, the likely environmental effects of the LAP and the alternatives are predicted and their significance evaluated while having regard to the environmental baseline. The Environmental Report provides the decision-makers, who decide whether or not to adopt the draft LAP - with or without modifications, with a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of development in the Ballymun area of Dublin City.

Mitigation measures to prevent or reduce significant adverse effects posed by the LAP, or to maximise any benefits arising are integrated into the LAP and measures concerning monitoring are proposed.

The Environmental Report may be required to be altered should the LAP be amended to include elements which have not been evaluated by the SEA and which may be likely to have significant environmental effects.

## **2.11 The SEA Statement**

After the LAP is adopted by the Council a publically available SEA Statement is prepared. This document is required to include information on: -

1. How environmental considerations have been integrated into the LAP - highlighting the main changes to the LAP which resulted from the SEA process;
2. How the Environmental Report and consultations have been taken into account - summarising the key issues raised in consultations and indicating what action, if any, was taken in response;
3. The reasons for choosing the LAP in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the LAP was selected.

### 3 Baseline Environment

#### 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*”, ([ec.europa.eu/environment/eia/sea-legalcontext.htm](http://ec.europa.eu/environment/eia/sea-legalcontext.htm)) an Environmental Assessment of 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. This section provides a strategic description of environmental components which have the greatest potential to be affected by implementation of the LAP.

Both Article 5 of the SEA Directive and the Planning and Development Regulations 2001 (as amended) ([www.irishstatutebook.ie](http://www.irishstatutebook.ie)) state 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;
- 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 decision making 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 establishes the current existing state of the environment and is the basis to assess and predict potential impacts.

This section deals with each of the eight issues/topics, under which the Plan is assessed, in the order as outlined above.

## **3.2 Population and Human Health**

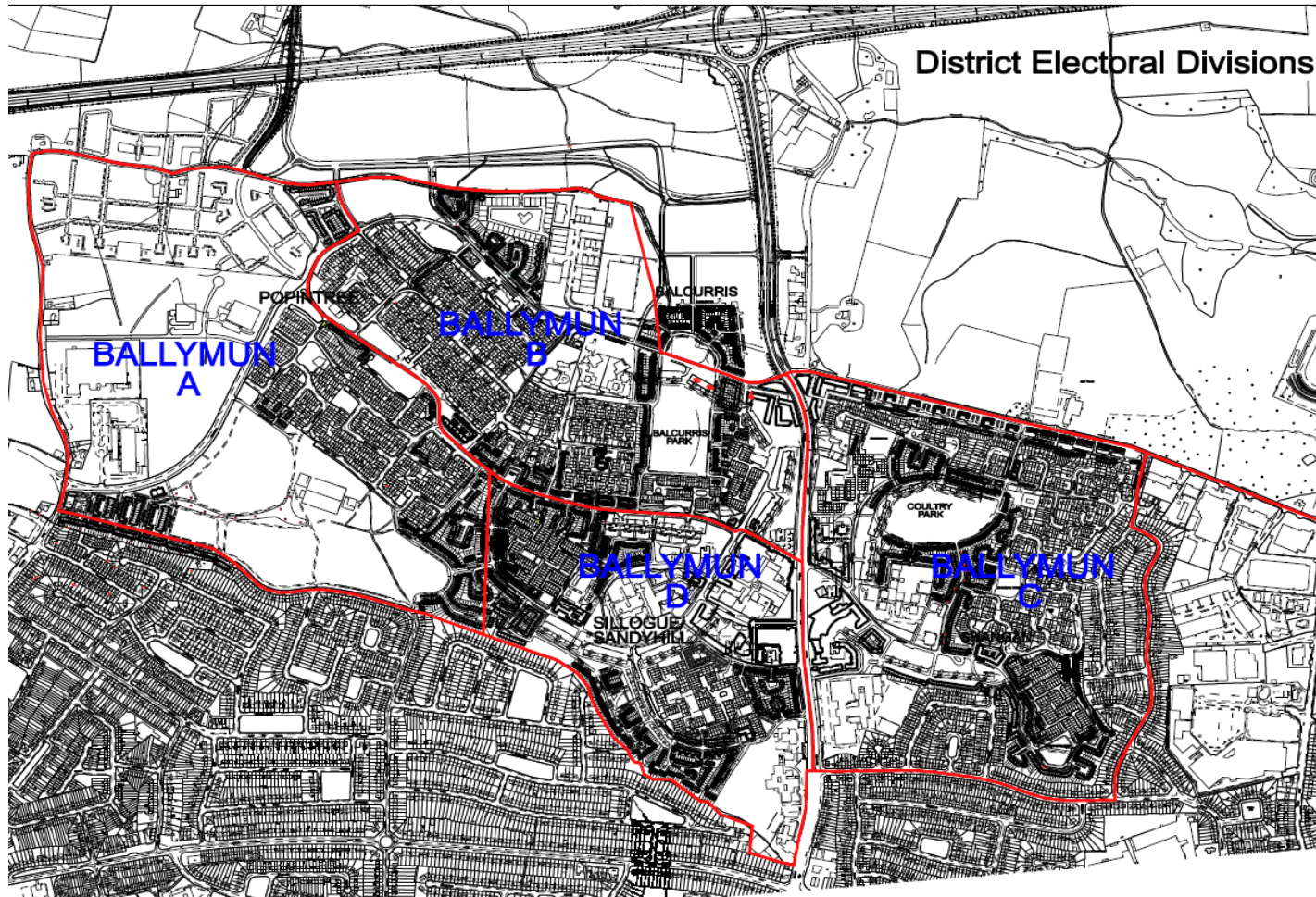
### **3.2.1 Introduction**

The Greater Dublin Area (GDA) has experienced significant population increases over the past two decades with the majority of this increase occurring in the counties surrounding Dublin City where large areas of greenfield land can result in lower house construction prices. However, this has exacerbated car dependency, traffic congestion and undermined the efficient provision of public transport.

It is current Government policy to channel future projected population growth in a sustainable manner into high quality residential environments in urban locations to take advantage of increased investment in public transport provision, minimise car dependency and to take maximum and efficient advantage of coordinated public service and infrastructure provision.

### **3.2.2 Population and Demographic Profile**

Although the most recent National Census ([www.cso.ie](http://www.cso.ie)) was conducted in 2016 (Table 1 below) information from that survey is still being collated and the 2011 census remains, at this point the most comprehensive data set. It correlates information on population, household formation and employment for every Electoral Division (ED). The LAP area is situated in the Electoral Divisions of Ballymun A, Ballymun B, Ballymun C and Ballymun D. Based on 2016 census figures, the LAP has 17,575 inhabitants an increase from the 16,236 figure recorded in 2011. The majority of the population falls below 40 years of age (71%), with a particularly strong representation from the 25-39 age cohort (28%).



Map 1: Ballymun District Electoral Divisions (DEDs)

**Table 1: Census 2016 Preliminary Results, Ballymun LAP - Basic Profile**

DED	Male	Female	Change since 2011 Census	% Change
Ballymun A	2,305	2,415	1,042	28.3
Ballymun B	2,082	2,258	328	8.2
Ballymun C	2,932	3,160	507	9.1
Ballymun D	1,189	1,234	-538	-18.2
<b>Total</b>	8508	9067	1339	+ 8.2%
<b>Total Population</b>	17,575			

This table details that the population has increased in the LAP area by 8.2% since the 2011 census from 16,236 to 17,575.

**Table 2: Census 2011 Ballymun LAP - Demographic Profile**

DED	Male	Female	<12	13-19	20-24	25-39	40-65	>65
Ballymun A	1779	1899	778	348	237	1350	801	164
Ballymun B	1903	2109	858	537	343	939	959	376
Ballymun C	2690	2895	938	792	514	1318	1450	573
Ballymun D	1445	1516	671	354	257	721	655	303
<b>Total</b>	7817	8419	3245	2031	1351	4328	3865	1416
<b>LAP Population</b>	16,236							
<b>Age Profile in LAP Area</b>			20%	12%	8%	27%	24%	9%

### 3.2.3 Housing Profile

The average household size in the area is 2.8 persons and the average family size (where family = 2 or more persons) is 2.77. 23% of the total households in the area are made up of 1 person households, with 26% making up 2 person households. In comparison one person households in the City account for 30.7% of all households.

**Table 3: Census 2011 Ballymun LAP - Private Household Accommodation Type**

House Type/ DED	House or Bungalow	Flat or Apartment	Bedsit	Caravan or mobile Home	Not Stated	Total Households
Ballymun A	792	527	1	1	45	1,366



<b>Ballymun B</b>	992	239	1	21	104	1,357
<b>Ballymun C</b>	1,333	538	8	0	3	1,952
<b>Ballymun D</b>	492	525	5	0	98	1,120
<b>Total for LAP</b>	3,609	1,829	15	22	320	5792
<b>Household Type in LAP</b>	62%	32%	0.25%	0.75%	5%	

**Table 4: Census 2011 Ballymun LAP - Private Households by Size**

<b>Size of Household (Persons)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8 or more</b>
<b>Ballymun A</b>	302	386	289	220	109	43	9	8
<b>Ballymun B</b>	289	331	280	226	125	62	26	18
<b>Ballymun C</b>	446	517	400	323	149	77	24	16
<b>Ballymun D</b>	301	244	280	178	72	36	9	0
<b>Total</b>	1338	1478	1249	947	455	218	68	42
<b>Total Households</b>	5795							
<b>Percentage Split</b>	23.1%	25.5%	21.6%	16.3%	7.9%	3.8%	1.2%	0.7%

In terms of accommodation the 2011 Census details that the predominant form of accommodation in the area is houses/bungalows at 62%, with flats/apartments making up 32%.

Recent years have seen dramatic changes to the housing and property development market following the economic crash. High unemployment and emigration have been significant factors, as has limited credit availability to potential buyers. Whilst market conditions in Dublin City are now changing back towards positive growth, it remains the case that Dublin City needs to provide quality housing in sustainable neighbourhoods to meet the future need of all members of the community. To do this, consideration must be given both to changing demographic trends and to locations for new development.

### **3.2.4 Human Health**

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 and food production; and the availability of open spaces for recreational and sporting purposes can benefit human health.

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.

**Table 5: Census 2011 Ballymun LAP - Health Indicators**

Health	Males	Females	Total
Very Good	4370	4512	8882 (55%)
Good	2193	2497	4690 (29%)
Fair	712	877	1589 (10%)
Bad	153	165	318 (2%)
Very Bad	33	31	64 (0.5%)
Not Stated	356	337	693 (3.5%)
<b>Total</b>	<b>7817</b>	<b>8419</b>	<b>16236</b>

It should be noted that approximately 693 persons (4%) of those surveyed did not indicate their health status. 55% indicated that their health was 'Very Good' which was by far the largest percentage, while 29% indicated that their health was 'Good'. 2% indicated that their health was 'Bad' to 'Very Bad'. The same figures for the overall city detailed that 57% felt their health was very good, 28% that their health was 'Good' while 0.4% felt their health was very bad.

### 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 within various plans and policies – including the National Spatial Strategy, Regional Planning Guidelines, and the City Development Plan. The core strategy of the Dublin City Development Plan 2016 – 2022 focuses on the creation of a socially inclusive city of urban neighbourhoods, all connected by an exemplary public transport, cycling and walking system and interwoven with a quality bio-diverse green space network. In the absence of the LAP the City Development Plan forms the basis for all future development decisions in the area.

The LAP includes objectives for quality of life initiatives such as the compact sustainable neighbourhood and places a strong emphasis on 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, enhancement of biodiversity, public realm improvements etc. The LAP allows for more detailed local objectives to be considered and for greater levels of public participation in the future redevelopment of the area.

### 3.2.6 Existing Environmental Issues relating to Population and Human Health

- The need to develop residential neighbourhoods at sustainable densities with service provision to match.
- Develop a sustainable transport infrastructure particularly walking, cycling and public transport and one that is integrated and of practical benefit to the population.

### **3.3 Biodiversity, Flora & Fauna**

#### **3.3.1 Introduction**

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 their associated habitats within the LAP area. It refers to both semi-natural habitats and habitats created or extensively modified by human influence. Biodiversity information was sourced from information gathered for the 'Ballymun Biodiversity Action Plan, 2008 ([www.brl.ie](http://www.brl.ie)) and follow up 'Ballymun Biodiversity Action Plan Review 2014'; in addition to information gathered by local park wardens/superintendants. Use was also made of a 2011 bat survey commissioned by BRL and an independent bat survey commissioned for the LAP.

#### **3.3.2 Introduction to Existing Green Network**

Natural and semi-natural habitats in the area have largely been replaced by the artificial surfaces of housing, road and other developments. The area does however contain a number of green spaces, including parks, with varying biodiversity attributes. The key parks are described in brief below: -

##### **1. Poppintree Park**

Poppintree Park is approximately 18 hectares and underwent extensive redevelopment since 2008 where over 100,000 tons of soil have been removed in the excavation of the pond area and over 50,000 additional plants have been planted which include trees, shrubs, hedging, bulbs, wetlands and wildflower meadows. Features of the Park include: -

- Tree Trail detailing 15 species of native trees
- Feature pond
- Wetlands and wildlife area
- Playground for 0-12 year olds
- Playing pitches (x 5 no.)
- Parkland walks
- Fully accessible for people with disabilities
- Extensive seating

##### **2. Coultry Park**

Coultry Park is 3.2 hectares and features include: -

- Playground for ages 0-12
- Wildflower meadow feature with Nature Walk
- Soccer pitch
- Multi-use games area/5-a-side pitch

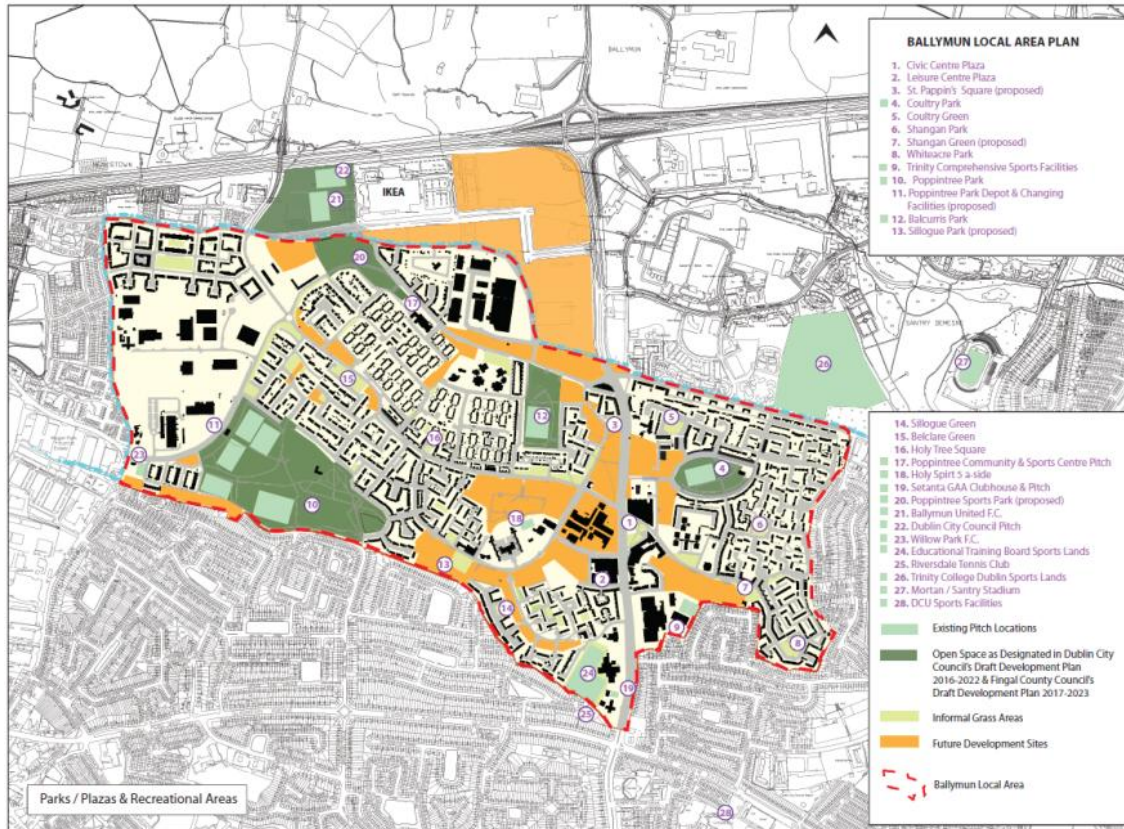
- All-weather basketball court

### **3. Balcurris Park**

Balcurris Park features include: -

- GAA pitch
- Playground
- Landscaping
- Winter and spring and flower garden
- Native deciduous and evergreen shrubs to encourage wildlife
- Rowan, Cherry and Maple trees border the park

There are also a series of pocket parks located in the area, most notable Shangan Park, Whiteacre Park, Sandyhill Park and Coultry Green.



Map 2: Parks and Recreational Spaces

### 3.3.3 Flora

#### *Grasslands and wetlands*

Closely mown grassland is the commonest type of wildlife habitat in Ballymun, found in parks, school grounds and undeveloped sites. It is dominated by grass species (rye grass, Yorkshire fog, crested dog's tail and annual meadow grass) but has some of the following broad leaved herbs; meadow buttercup, daisy, ribwort plantain and dandelion which are tolerant of mowing. While closely mown grasslands have low plant diversity as few species can tolerate close mowing, and thus relatively low animal diversity, their soils have good populations of invertebrates or "mini beasts" as they have not been ploughed or disturbed.

The swale in Coultury, classified as uncut meadow type grass has been successful in enhancing plant biodiversity as it has the highest diversity of plant species (56 species) of any habitat in Ballymun. Species diversity is lower in Balcurris Park as rye grass dominates the swale. However reed has more recently been seeded into the swale. Uncut meadow type grassland such as that found in the swale is more valuable than that found in the fields as it has a greater diversity of plant species.

A number of wildflower meadows have been created on sites awaiting future redevelopment. This habitat features a greater diversity of grass and forb species compared to the traditional lawn grassland. Because the grass in a wildflower meadow is not cut until late in the season, invertebrates, which provide food for birds, benefit from flowers, seeds and tall stems.

Education and school biodiversity policies have also helped improve biodiversity in the area, with the presence of a marsh orchid in the grassland between the Holy Spirit National School and Balbutcher Lane South, which is directly associated with the school's policy of late mowing to encourage wildlife.

The artificial lake and marsh lands within Poppintree Park represent important new habitats within Ballymun. As the location of these wetlands and "wet grassland" grade into each other they comprise "ecotones" which add to the value of individual habitats. The development of these wetland habitats now means that typical wetland flora and fauna are commonly present in Ballymun.

#### *Woodlands and Trees*

A poor quality woodland is found in Poppintree (c.30 years old) and Balcurris Park (c.10 year old trees). In Poppintree trees were planted c. 30 years ago in several blocks probably near some of the old hedgerows or field boundaries which have now been obscured. The woodlands in Poppintree have some native trees and shrubs such as elder, ash, alder, sally, birch, oak and Scot's pine. The majority of trees are non-natives; mainly types of maples including sycamore as well as beech.

The wood lacks shrub and herb layers. The shrub layer has been removed due to concerns with anti-social behaviour and only two specimens of woodland herbs were found (wood avens and wood violet). While this park also contains lines of trees, along which birds can commute, and many single trees the absence of a shrub layer results in the lack of woodland birds.

The four mature trees in Ballymun, two sycamore in front of Silver Stream Nursing Home and two horse chestnuts in Scoil on tSeachtar Laoch are important reservoirs for biodiversity as they are at least 150 years old. They provide a food source for a large number of invertebrates which either visit them to feed or live off them.

The street tree planting carried out during the regeneration project has helped to provide commuting routes for birds and roosting places. Over time the value of these trees to biodiversity will improve. Ground cover has been less successful and has suffered from anti-social activity. The soil pits provide a habitat for invertebrates.

### *Scrub and Hedgerows*

The cover of native shrubbery has increased significantly in Ballymun in recent years as the linear hedgerows type habitats in local schools has matured and expanded. New hedgerows have also been planted in Poppintree, Coultry and Balcurris Parks and if managed appropriately could become valuable habitats. Other patches can be found in church grounds and adjoining priest's gardens.

Old native hedgerows are still found at several locations in Ballymun. These field boundaries were established at least two hundred years ago by planting ash, blackthorn and hawthorn on banks of soil to create stock proof boundaries around fields. St Margaret's Road to the north of Ballymun has retained most of its marginal hedgerows. The 2008 Biodiversity Action Plan noted blackthorn, ivy, hawthorn, elder, ash (and seedlings), dog rose, bramble and white willow, and the presence of rabbits in the banks. While the hedgerows are in general poor examples of hedgerow habitat they are important for their rarity in the city. The extent of remnant hedgerow in Ballymun is being reduced due to the construction of houses.

Leyland's cypress can be found in several locations along the southern boundary of the LAP area and is of low value for amenity. As it is evergreen and non-native it has led to the removal of hedgerow plants by shading. It is of low value for wildlife as few species eat it or nest in it. When grown as a hedge it soon becomes unsightly (c. 20 years), as it is difficult to prune.

To the rear of the Trinity Comprehensive School behind the sporting facilities is a fenced off area with c. 14 plant species. The plants which colonise bare soil reflect local soil conditions and seedbank. As they are mainly native they provide food for wildlife. This area could be managed to become more valuable or/and used as a teaching aid to explain the process of ecological succession.

### Houses and Gardens

Most of Ballymun is covered in the habitat type "houses and small gardens". During the regeneration process all new householders relocated out of the flats were offered a selection of trees and shrubs for their new gardens to encourage an interest in gardening. Further support and incentives were offered to these householders through Garden Action Teams and competitions. As a result, a good variety of shrubs and trees are found and a good standard of gardening is being promoted incorporating sustainability practises (organic gardening, composting and awareness of biodiversity).

Some gardens have particularly good shrubs such as lavender, hawthorn and pyracantha. Gardens of older houses tend to have more vegetation cover and are therefore of more biodiversity interest. Varieties of native species included hawthorn, willow, spindle, gorse, whitebeam and honeysuckle have been noted. These areas are of value for birds particularly if the red-berried pyracantha is planted.

### **3.3.4 Fauna**

Bird species such as blackbird, robin, wren, and blue tit which are in low numbers throughout Ballymun are always found around hedgerows which are allowed to grow naturally. However the surviving hedgerows in Ballymun have been much modified by the planting in of Leylandii to provide privacy for gardens once overlooked by the tower

blocks. Conversely many of the shrubberies in schools are adjacent to other natural type areas and as a result their value is increased. Hedgehogs and grey squirrels have been observed in the grounds of Scoil an tSeachtar Laoch. The grasslands in Poppintree Park are used occasionally in winter by small flocks of oystercatcher, gulls and blacktailed godwit which feed on the invertebrates which can be easily prised out of the soft soil.

Throughout the area, practices of the Parks Department of late cutting of grass/ meadow lands provide essential food for invertebrates including butterflies; seeds of plants such as thistle, dock, teasel are eaten by birds particularly finches in winter and the dead plant material is used for overwintering invertebrates.

A bird survey carried out in 2013 revealed thirty bird species in Poppintree Park, eleven of which are on the “amber” list and two on the “red” list, highlighting venerable species. Table 6 below shows the birds recorded during that particular survey (conducted for the 2014 Ballymun Biodiversity Action Plan Review).

The new wetlands in Poppintree Park contain a diversity of invertebrates typically associated with wetlands and play a role in attracting feeding bats. Survey work conducted in 2014 failed to reveal any newts in the ponds, and incidents of pollution of the pond in Poppintree Park poses risks to the potential to support freshwater biodiversity.

Other locally rare animal species know to occur include the siskin (finch) found feeding on newly planted alder trees growing in streets and hedgehogs (2014 Biodiversity Review).

**Table 6: List of all 30 bird species recorded at Poppintree Park, July 2013**

\* confirmed nesting

+ probable/possible nesting within park

Common Name	Scientific Name	Scientific Name
Little Grebe *	<i>Tachybaptus ruficollis</i>	Amber
Grey Heron	<i>Ardea cinerea</i>	
Mute Swan *	<i>Cygnus olor</i>	Amber
Mallard *	<i>Anas platyrhynchos</i>	
Tufted Duck *	<i>Aythya fuligula</i>	Amber
Moorhen*	<i>Gallinula chloropus</i>	
Coot *	<i>Fulica atra</i>	Amber
Great Black-backed Gull	<i>Larus marinus</i>	Amber
Herring Gull	<i>Larus argentatus</i>	RED
Lesser Black-backed Gull	<i>Larus fuscus</i>	Amber
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	RED
Wood Pigeon+	<i>Columba palumbus</i>	
<i>Columba palumbus</i>	<i>Columba livia</i>	
Common Swift	<i>Apus apus</i>	Amber
Barn Swallow	<i>Hirundo rustica</i>	Amber



House Martin	<i>Delichon urbicum</i>	Amber
Pied Wagtail+	<i>Motacilla alba yarrellii</i>	
Wren+	<i>Troglodytes troglodytes</i>	
Dunnock+	<i>Prunella modularis</i>	
Blackbird+	<i>Turdus merula</i>	
Robin+	<i>Erithacus rubecula</i>	
Blue Tit+	<i>Cyanistes caeruleus</i>	
Magpie *	<i>Pica pica</i>	
Jackdaw	<i>Corvus monedula</i>	
Rook	<i>Corvus frugilegus</i>	
Hooded Crow+	<i>Corvus cornix</i>	
Raven	<i>Corvus corax</i>	
Starling+	<i>Sturnus vulgaris</i>	Amber
House Sparrow	<i>Passer domesticus</i>	Amber
Greenfinch	<i>Chloris chloris</i>	

### 3.3.4.1 Bat Survey

All bat species are protected under the Wildlife Acts of 1976-2012 and listed on annex IV of the Habitats Directive for strict protection. A bat survey was commissioned as part of the LAP/SEA process to ascertain those areas within the LAP being used for bats and identify, where possible any bat roosts. Survey work was undertaken in August/September 2016 with priority given to those areas where bats had been previously recorded and to green corridors which link the LAP to adjacent green areas like Santry Demesne and Sillogue Park golf course. Following initial scoping of the area seven locations were deemed most suitable for bat habitation and were subsequently surveyed. They were Sillogue Road, Balcurriss Park, M50 lands, Poppintree Park, Coultry Park, Balbutcher Lane and Ballymun United Football Club and environs. Bat detectors were deployed within key areas and dusk and dawn surveys were carried out, the latter taking place at Ballymun Shopping Centre, St. Joseph's Church, Poppintree Park, the allotments near Coultry Park and at the Church of the Virgin Mary.

The activity surveys revealed a number of locations within the Ballymun LAP area that were been utilised by bats to various degrees. The area with the highest activity recorded during the study was Poppintree Park with activity concentrated on the eastern section of the park in close proximity to the newly constructed wetland areas. Poppintree Park also had the greatest species diversity with four species recorded here; Common Pipistrelle, Soprano Pipistrelle, Leisler's Bat and Daubenton's Bat. The latter Daubenton's bat was not recorded during a previous bat survey undertaken in 2012, and its activity during the 2016 survey was only detected in the wetland area. The wetland habitat was identified as being the most important feature for bats in the park, which together with the lack of illumination and tree cover aiding foraging activity.

The residential area to the immediate east of Poppintree Park, along Sillogue Road was also noted to have “surprising levels of activity”, which while not particularly high, did reveal three species of bats; Common Pipistrelle, Soprano Pipistrelle and Leisler’s Bat. Other areas including the M50 lands, along Balbutcher Lane and Coultury Park revealed low levels of bat activity, with no activity noted at the Ballymun United FC grounds. These low levels of activity indicate there is not a strong linkage between the LAP area and Santry Demesne or Sillogue Golf Course to the north.

The land beside St. Joseph’s Church was also surveyed, with bat activity previously noted here in a 2012 survey commissioned by BRL. The survey detected both Common Pipistrelle and Leisler’s bat, although neither was confirmed to be roosting within the church building and activity was regarded as being of a low level.

No bat roosts were confirmed during the survey. Whilst a number of buildings were deemed potentially suitable for roosting bats, there was no evidence of roosts being present *i.e.* no bats seen either emerging or entering the structures surveyed. The survey did however conclude that due to the high levels of activity in Poppintree Park at dusk and dawn that it is likely there are bat roosts close by. According to the Bat Conservation Ireland Database, there are 47 known roosts within 10 km of the LAP area, with the nearest roost located in Finglas. Full details of the results can be found in the Bat Survey Report, included as Appendix 4.

**Map 3: Bat Activity Recorded during Survey, 2016 (See Appendix 4 for Bat Survey)**



### 3.3.5 Habitats of Interest in Adjacent Areas

The woodland in Santry Demesne pNHA ([www.npws.ie](http://www.npws.ie), site code 000178) is a very old planted type (c. 200 years old) of mainly broad leaved trees. Although many are non-native the woodland has the following natives: pedunculate oak, ash, hazel, alder, hawthorn, blackthorn, elder and holly. It has a good shrub layer, thus enhancing its value to birds. Rare species are present such as badger and the plant Hairy St John's Wort a plant species protected under the Floral Protection Order 1987. The value of the woodland habitat is increased by the presence of the Santry River and manmade lake and its management by Fingal County Council which allows for appropriate management and public access. Records show that grey heron and mallard are found at the lake. Other features of biodiversity interest include fox, pygmy shrew, and bat species: soprano pipistrelle, common pipistrelle, Leisler's Bat and brown long eared bat.

### 3.3.6 Invasive Species

The 'Dublin City Invasive Alien Species Action Plan 2016-2020' ([www.dublincity.ie](http://www.dublincity.ie)) has recently been published. It sets out legislative and environmental background to initiatives being undertaken to control the spread of Invasive Alien Species (IAS). This document (page 36) shows a recording of *Heracleum mantegazzianum* (Giant Hogweed) in the vicinity of Coultry Avenue.

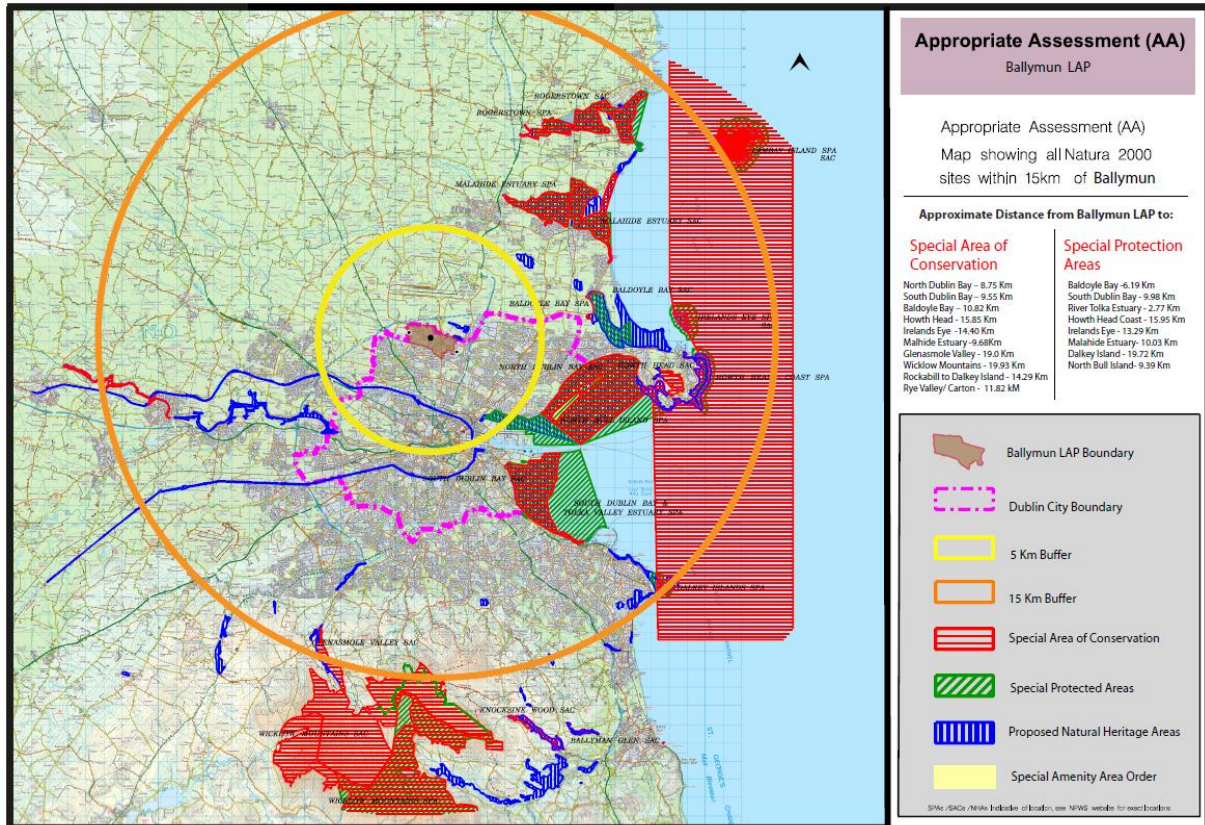
### 3.3.7 Appropriate Assessment

As part of the preparation of the LAP, an Appropriate Assessment of the Plan was undertaken under Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Fauna (commonly referred to as the Habitats Directive) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011). The purpose of Appropriate Assessment is to determine whether the LAP on its own, on in combination with other plans or projects, is likely to have any significant impacts on the conservation objectives or qualifying features of Designated European sites identified within its "zone of influence". These European Sites are referred to as Natura 2000 sites and within Ireland include Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including candidate SPAs). The "zone of Influence" applied was 15km from the LAP.

The LAP area does not contain any Natura 2000 sites within its defined boundary, however within its zone of Influence there are twenty-one Natura 2000 sites identified, see Map 4. The Appropriate Assessment screening exercise carried out concluded that due to existing mitigating measures in place, the LAP will **not** impact upon any Natura 2000 sites. The Appropriate Assessment Screening Report is available as a separate document which was prepared in conjunction with the Draft Local Area Plan.



**Map 4: Natura 2000 Sites within 15km of Ballymun**



### 3.3.8 Evolution of Biodiversity and Flora and Fauna in the absence of the LAP

In the absence of a Local Area Plan for Ballymun, applications for development would be considered under the Dublin City Development Plan in operation at the time. Most of the local biodiversity areas identified above are zoned 'Z9' with an objective 'to preserve, provide and improve recreational amenity and open space & green networks'.

The Dublin City Development Plan includes policies for the protection and enhancement of biodiversity, flora and fauna and it aims to strengthen the recognition of green corridors under the Habitats Directive. It will support measures for protection of important habitats and mitigation of impacts of construction and development.

The LAP includes specific proposals for the creation of new parks as part of the development of the available sites, and also for the creation of a new green link through the M50 lands to form a stronger link with the open spaces lands to the north of the M50. The LAP process has also provided useful updated information in relation to bat activity in the area.

### 3.3.9 Existing Environmental Issues relating to Biodiversity, Flora and Fauna

- Pressures on biodiversity potentially arise as a result of an increased commercial, residential and recreational use.

- The existing wastewater treatment plant at Ringsend is operating at its design capacity. This could potentially lead to deterioration in water quality and associated ecological impacts if no mitigation measures are put in place.
- Lack of mitigation on construction sites can lead to localised pollution of watercourses and negative impacts on existing flora and fauna.
- Need to control invasive species.
- Loss of connectivity of habitats for wildlife by development.
- Protection and enhancement of the biological diversity of surface water systems.

### 3.4 Air Quality & Noise

#### 3.4.1 Air Quality

Results from the EPA ([www.epa.ie](http://www.epa.ie)) report on *Air Quality in Ireland 2014*, provides an overview of air quality in Ireland for 2013 and is based on data 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 NO<sub>x</sub> (nitric oxide and nitrogen dioxide) 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 contribute to high levels of particulate matter and polycyclic aromatic hydrocarbons in villages, towns and cities.

For Dublin City, the Dublin City Council Air Quality Monitoring and Noise Control Unit Report for 2014 generally puts Dublin's air quality at good. Levels of sulphur dioxide (SO<sub>2</sub>) and carbon monoxide (CO) have been satisfactory while levels of nitrogen dioxide (No<sub>2</sub>) have stabilised and are within limit values. However these will require ongoing attention in the coming years, as they are primarily associated with traffic emissions. With regard to particulate matter (PM10 and PM2.5), levels have also stabilised and are within limit values.

Standards regarding air quality in Ireland are framed by the Air Quality Framework Directive 96/62/EC ([www.ec.europa.eu](http://www.ec.europa.eu)) which was transposed into Irish law by the Air Quality Standards Regulations 2002 and the Ozone Regulations 2004. The Air Quality Standards Regulations were subsequently 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 Clean Air Package announced by the European Commission in 2014 will involve a fundamental shift in tackling air emissions at source, with the possibility of introducing even tighter air quality standards from 2020 onwards.

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 table below sets out the sources of pollutants in Ireland and associated effects of such pollutants.

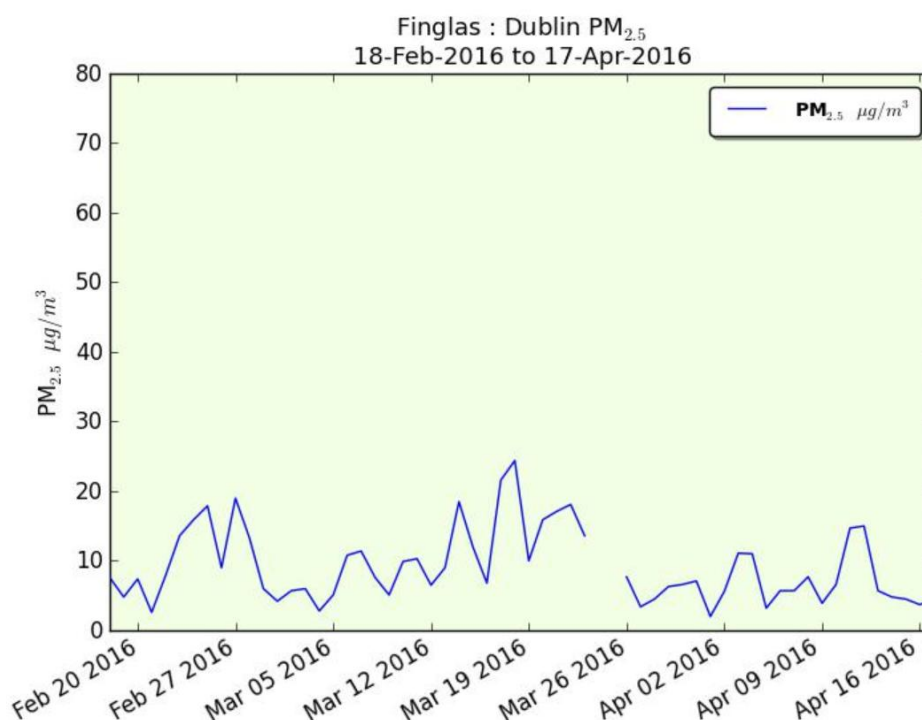
**Table 7: Main Pollutants affecting Dublin's Air Quality**

Pollutant	Main Sources in Dublin	Effects
Sulphur Dioxide (SO <sub>2</sub> )	Space heating from residential and industrial premises	Precursor of acid rain.  Health impacts - breathing problems, worsening of respiratory and cardiovascular disease.
Nitrogen Dioxide (NO <sub>2</sub> )	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 (PM <sub>2.5</sub> and PM <sub>10</sub> )	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.
Benzene (C <sub>6</sub> H <sub>6</sub> )	Vehicular traffic	Is a known carcinogen.
Lead (Pb)	Vehicular emissions  The introduction of unleaded petrol has dramatically reduced emissions.	In high concentrations can cause mental development issues in children and can, through long-term exposure affect the nervous system.
PAH (Poly Aromatic Hydrocarbons)	Vehicle emissions, burning of fossil fuels such as coal and turf.	Airborne, when inhaled, is believed to produce lung cancer.

### 3.4.2 3.4.2 Local Air Quality Results

The nearest air quality monitor to the Ballymun area is located at Finglas about a kilometre to the west of the LAP area. Recent monitoring provided by Dublin City Council for 2016 (18<sup>th</sup> Feb – 17<sup>th</sup> April) indicates compliance with the Air Quality Standards Regulations 2011 for all monitored pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM 2.5) and sulphur dioxide (SO<sub>2</sub>).

**Fig 1: Particulate Matter Measured in Finglas Monitoring Station**



The measurement units for particulate matter are in microgrammes per cubic meter. The Graph shows results for particulate matter (PM<sub>2.5</sub>). The annual target value for PM<sub>2.5</sub> is 25 ug m<sup>-3</sup>. There is no daily limit value for PM<sub>2.5</sub>.

**Note:** Particulate matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

### 3.4.3 Noise

Noise can be characterised as “unwanted sound” or “sound that is loud, unpleasant or unexpected”, (Future Noise Policy - European Commission Green Paper 1996) and that can eventually cause disturbance, impairment or damage to health. Sound levels are expressed in decibels (dB) on a logarithmic scale, where 0 dB is nominally the “threshold of hearing” and 120 dB is nominally the “threshold of pain”.

Environmental noise, commonly called noise pollution, is among the most frequent sources of complaint regarding environmental issues in Europe, especially in densely populated urban areas and residential areas near highways, railways and airports.

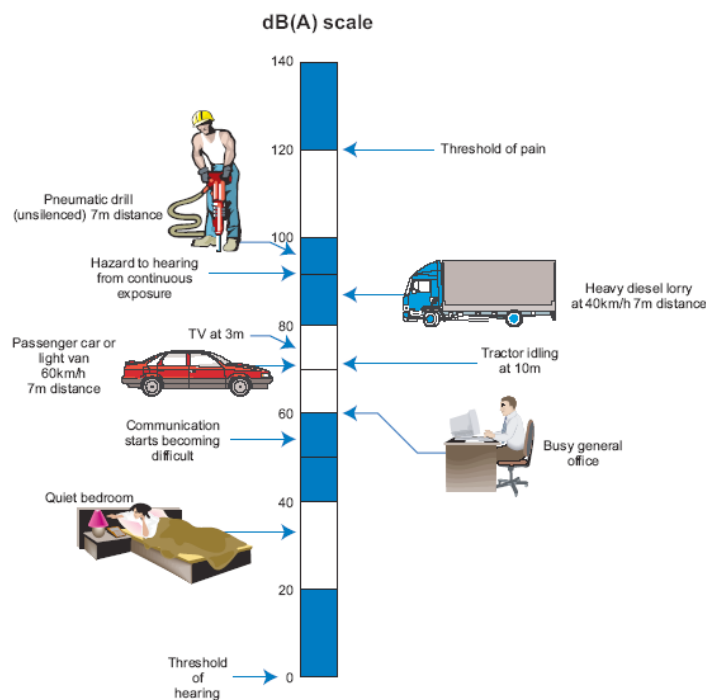
Noise contributes greatly to diminishing people’s quality of life. Unwanted sound (noise) of sufficient intensity and duration can cause temporary and/or permanent hearing loss. It can also interfere with speech communication, the transmission of other auditory signals, can disturb sleep and act as a general source of annoyance or disturbance and interfere with the performance of complicated tasks and the opportunity for privacy. In particular, exposure of people to daytime noise levels above 65 dB(A) can cause severe health problems. In general, sound levels in cities can range between 60-70 dB(A), with suburban levels between 50-60 dB(A). The World Health Organisation has set guideline

levels for annoyance at 55 dB(A) representing daytime levels below which a majority of the adult population will be protected from a moderate or serious annoyance.

In 2009, WHO European Regional Office published the 'Night Noise Guidelines for Europe'. It presented new evidence on the health damage of night time sound exposure and recommended threshold values that, if breached at night, would threaten health. An annual average night exposure not exceeding 40 dB(A) outdoors is recommended in the guidelines. It is recommended that this level should be the target for night noise guidelines to protect the public, including the most vulnerable groups such as children, the chronically ill and the elderly. A night time level of 55 dB(A) is recommended as an interim target for countries that cannot meet these night noise guidelines in the short term and where policy-makers choose to adopt a stepwise approach.

Figure 2 provides an overview of common sound levels on the dB (A) scale as outlined in the NRA Guidelines for the Treatment of Noise and Vibration in National Road Schemes, 2004. From this, we can see that the sound in a bedroom is about 35 dB(A) and the sound in a busy office is about 60 dB(A).

**Fig 2: Levels of Typical Common Sounds on the dB(A) Scale, (NRA, 2004)**



### 3.4.4 Noise Legislative Requirements – Noise Mapping

European Council Directive 2002/49/EC, commonly referred to as the Environmental Noise Directive (END), relates to the assessment and management of environmental noise. Directive 2002/49/EC has been transposed into Irish legislation through the Environmental Noise Regulations 2006 (S.I. No. 140 of 2006). In the context of the Regulations, environmental noise is defined as unwanted or harmful outdoor sound created by human activities, specifically noise emitted by means of transport (road, rail and air traffic) and from industry.

The aim of the Directive is “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”.



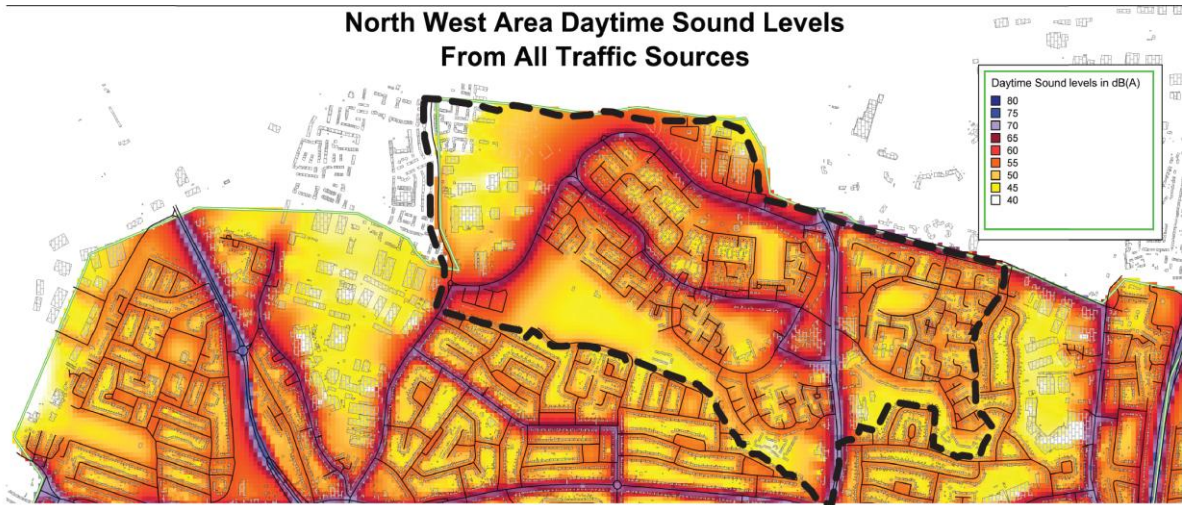
There are three action stages set out in the END for the assessment and management of environmental noise, which are: -

1. Undertake strategic noise mapping to determine the exposure to environmental noise using harmonised noise indicators Lden (day-evening-night equivalent level) and Lnight (night equivalent level). These maps are to be used to assess the number of people annoyed and sleep-disturbed respectively.
2. Ensure information on environmental noise and its effects is made available to the public.
3. Adopt action plans, based on the noise mapping results, with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserving environmental noise quality where it is good.

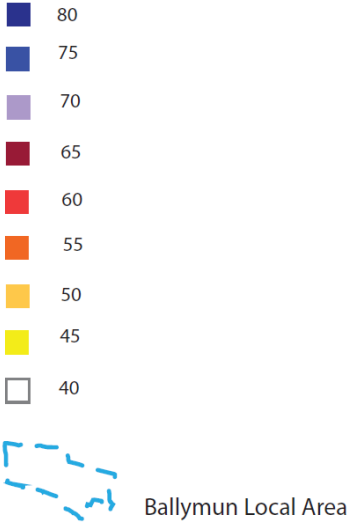
Noise maps were first produced for Dublin in 2007 and were updated by Dublin City Council for June 2012, dealing with noise emanating from Major Roads. The results from this review are available on the City Council website, ([www.dublincity.ie](http://www.dublincity.ie)) and form the basis for the baseline noise data used for this SEA. The key sources of noise within the LAP area are clearly the main thoroughfares, notably Ballymun Main Street, and Balbutcher Lane North and South.

While Ireland does not currently have any statutory noise limits, the current *Noise Action Plan for the Agglomeration of Dublin (2013-2018)*, which was revised in 2013, indicates that it is undesirable for the population to be exposed to 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 areas with a night time level less than 50 decibels and/or a daytime level less than 55 decibels.

Fig 3: Noise Mapping – Daytime 2012

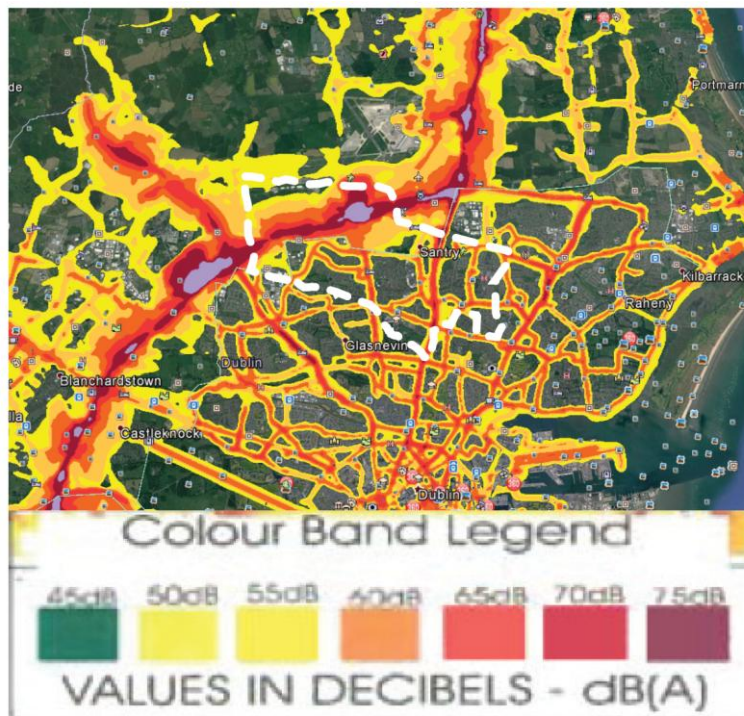


Daytime Sound Levels in dB(A) from all Traffic Sources



(Key for above map)

**Fig 4: Noise Mapping – Night-time 2012**



### 3.4.5 Noise Action Plan

As set out above there is a legislative requirement under the Environmental Noise Directive (END) to produce Noise Action Plans following on from the production of Noise Maps. The Dublin Agglomeration Noise Action Plan 2013-2018 was prepared jointly by the four Local Authorities in the Dublin Agglomeration. The key objective is to avoid, prevent and reduce, where necessary, on a prioritised basis the harmful effects, including annoyance, due to long term exposure to environmental noise from road traffic, rail and aircraft. This will be achieved by taking a strategic approach to managing environmental noise and undertaking a balanced approach in the context of sustainable development.

### 3.4.6 Evolution of Air & Noise in the absence of the LAP.

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 area. Development for the key sites would be assessed under the City Development Plan in operation at the time. The LAP provides protection to areas of open space and identifies the need for new areas of open space.

### 3.4.7 Existing Environmental Issues relating to Air Quality & 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 therefore a priority.

- The levels of Nitrogen Oxide (NO<sub>2</sub>) and Particulate Matter (PM<sub>2.5</sub> and PL<sub>10</sub>) within the City remain a concern and will require attention in the coming years
- Implementation of the 'Dublin Agglomeration Action Plan relating to the Assessment and Management of Environmental Noise' is on-going.

### **3.5 Climatic Factors**

#### **3.5.1 Introduction**

The Intergovernmental Panel on Climate Change has concluded that human actions and activities are influencing the climate leading to warming of the oceans and atmosphere. The effects of climate change can manifest through flooding, increased precipitation, water shortages, changes to species distributions and extreme weather events becoming more common. There is a need to both mitigate the impact of the city's activities on climate and to adapt to climate change. As there is no comprehensive data available at a local level for greenhouse gas emissions, climatic baseline data is provided at City level.

#### **3.5.2 International Targets to Reduce/Stop Climate Change**

Ireland is a signatory to the Kyoto Protocol (1997) and the later (2008) EU Climate and Energy Package, and under these, has committed to reduce carbon emissions from the domestic economy. Under the Kyoto Protocol, Ireland has agreed to limit the net growth of greenhouse gases (GHGs) to 13% above its 1990 levels, which was established and set at 55.61 Mt of CO<sub>2</sub>eq. The EPA has produced provisional estimates for the period 1990-2013 to meet legal reporting obligations and for submission to the European Commission in the first quarter of 2015. For 2013, Ireland's emissions were estimated at 5% above 1990 levels, or 57.81 Mt CO<sub>2</sub>eq.<sup>1</sup>

The year 2013 was also the first year of the second commitment period for the Kyoto Protocol, known as the Doha Amendment, for the period 2012-2020. The EU and its member states with Iceland decided to fulfil its commitments under this amendment; Ireland's compliance from 1990-2020 will be assessed at the end of the commitment period, based on its GHG submission in 2022.

Under the EU's 20-20-20 Agreement, for the period beyond 2012 the EU Councils of Ministers have agreed to an ambitious target of 20% reduction on 2005 GHG emission levels for sectors outside the Emissions Trading Scheme (ETS) under the European Union's Effort Sharing Decision (Decision 406/2009/EC). Ireland's target is to reduce non-ETS emissions by 20% by the year 2020. The two main directives which set about achieving this target are the Energy Efficiency Directive (2012/27/EC) and the Renewable Energy Resources (RES) Directive (2009/28/EC).

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<sup>1</sup> Ireland's Provisional Greenhouse Gas Emissions for 2013 (EPA, 2014)

### 3.5.3 National Policy on Climate Change

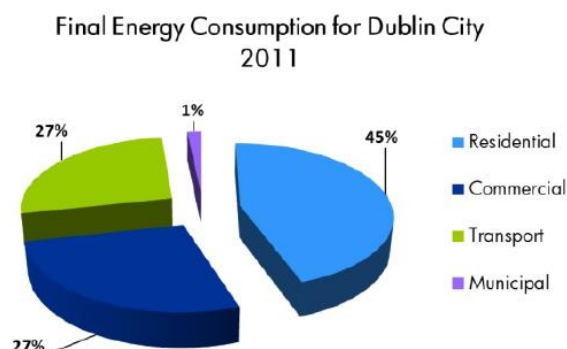
The *National Climate Change Strategy* incorporates Ireland's international commitments into a range of actions that take into account commitments from government papers such as the *White Paper on Delivering a Sustainable Energy Future* and the *National Bioenergy Action Plan*. There are numerous other directives that will have positive effects on climate change that form part of the government's national renewable energy strategy for 2012-2020 such as the *National Energy Efficiency Action Plan* and the *National Renewable Energy Efficiency Action Plan*, under which a target was set by the EU for 40% of electricity in Ireland to come from renewable sources by 2020. In April 2014 the Government also published a National Policy Position on Climate Action and Low-Carbon Development which set out, inter alia, a long-term vision of low-carbon transition including an aggregate reduction in CO<sub>2</sub> emissions.

### 3.5.4 Local Climate Change Issues for Dublin City

The National Climate Change Adaptation Framework, published in 2012 by the Department of the Environment, Community and Local Government (now referred to as the Department of Housing, Planning and Local Government), requires local authorities to prepare local adaptation plans as part of the Development Plan process. These plans are intended to reduce adverse impacts to climate by taking an interdisciplinary approach to influencing key factors at a local level e.g. through energy usage, transport and green infrastructure. In May 2008, Dublin City Council adopted a *Climate Change Strategy 2008-2012*, that set ambitious targets for the city toward 2020. In May 2009, the Lord Mayor of Dublin signed the EU *Covenant of Mayors* under which 500 European cities aim to go beyond the EU 2020 targets of a 20% reduction in GHGs. Codema as Dublin City's energy authority, and in association with Dublin City Council, produced a *Sustainable Energy Action Plan* (SEAP) for the period 2010-2020 and monitors sustainability indicators to track progress. The aim of the plan is to reduce the city's energy consumption by 33% and associated emissions by 20%, by 2020. Codema's Monitoring and Progress Report on the SEAP noted that Dublin City is on track to meeting the 33% energy reduction target according to the Sustainable Energy Authority of Ireland's benchmarking system.

As part of the process of preparing the SEAP 2010-2020 for Dublin City, it was necessary to estimate the energy consumption and associated CO<sub>2</sub> emissions for the Dublin City Council area. Codema's *Sustainability Action Plan – Monitoring and Progress Report 2014* which uses the 2011 census, detailed the proportion of energy usage between four sectors: Residential (45%), Commercial (27%), Transport (27%) and Municipal (1%). See Figure 5 below.

**Fig 5: Proportion of Energy Consumption per sector for Dublin City 2011**



Waste and agriculture are not big emitters within the city boundaries. In 2011, Dublin City (11.5% of the national population), released approximately 2.95 million tonnes of CO<sub>2</sub>. On average, a Dubliner released 5.6 tonnes of CO<sub>2</sub> per year, less than the national average of 12.6 tonnes in 2011 (CSO Environmental Indicators, 2014). Overall, CO<sub>2</sub> emissions dropped significantly by 43% over the period 2006-2011, mainly due to changes in fuel usage and decreases in emissions from the electricity grid. This puts Dublin more in line with other peer cities such as London (4.9t CO<sub>2</sub> per capita). Dublin City in 2011 consumed 10.14 TWh of primary energy per year (compared to 22.0 TWh in 2006), in the form of electricity, oil, natural gas and renewable energy. Codema have also estimated the city's energy usage (in terms of megawatts/hour/capita) decreased approximately 18% in the period 2006-2011.

### ***City Emergency Plan***

In 2013 Dublin City Council put in place a major emergency plan which sets out coordinated systems for responding to emergency situations caused by severe weather. This is intended to improve the city's resiliency to a changing climate and to help mitigate adverse effects.

### **3.5.5 Dublin City Development Plan 2016 – 2022**

The Dublin City Development Plan 2016-2022 is the first to include a dedicated 'Climate Change' chapter and is committed to implementing the following strategy during its lifetime: -

- Update the 'Climate Change Strategy for Dublin City 2008 – 2012'.
- To progress Local Authority requirements under the National Climate Change Adaptation Framework.
- To ensure policies and objectives of this Development Plan are informed by Strategic Flood Risk Assessment in accordance with statutory guidance.
- To implement flood-prevention adaptation works as set out in Appendix 11 of the Dublin City Development Plan 2016-2022.

- In conjunction with Codema (Dublin's Energy Agency), to continue to implement initiatives/projects relating to spatial energy planning, increasing energy awareness, energy use monitoring, increasing the share of renewables, and improving energy efficiency in the built environment. The outcome of a current spatial energy demand analyses will be key to determining the course of future actions for specific areas of the city.

### **3.5.6 Evolution of Climatic Factors in the Plan Area in the absence of the LAP**

In the absence of a Local Area Plan for Ballymun, land use planning decisions are based upon the Dublin City Development Plan.

As outlined in the Sustainable Energy Action Plan for Dublin City, a 'business-as-usual' approach to climate change is not realistic, even in the short term. Codema's projections under this scenario show a steady predicted rise in CO<sub>2</sub> levels if no further mitigation actions are implemented, which runs counter to climate change strategies. For this reason and for reasons of sustainable development the City Development Plan has policies and objectives to help counter climate change.

A priority of the 2016-2022 Development Plan's core strategy is the achievement of a socially inclusive city of urban neighbourhoods, all connected by an exemplary public transport, cycling and walking system and interwoven with a quality bio-diverse green space network. 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. The emphasis in the development plan on sustainable infrastructure will help to mitigate climate change.

The LAP states that all new developments must comply with the City Development Plan in terms of sustainable building and design standards. The LAP offers site specific guidance as to the proposed uses for key development sites, which aims to optimise land use and reduce opportunities for unsustainable travel patterns.

### **3.5.7 Existing Environmental Issues relating to Climatic Factors**

The following broad range of issues can be identified, which include Citywide and wider more strategic issues: -

- Best practice methods for energy efficiency, energy conservation and water conservation e.g. district heating network, combined heat and power systems, energy efficiency.
- Continued regard to the Sustainable Energy Action Plan.
- Feasibility of renewable energy sources throughout the city.
- Further reductions in CO<sub>2</sub> emissions required.
- Rising sea levels.
- Importance of city vegetation / landscape to act as a carbon sink.

- Pressure from transport-related emissions.
- Greater co-ordination with the other planning authorities in the Greater Dublin Region to respond to these shared regional issues set out.

## **3.6 Water (Including Flooding)**

### **3.6.1 Introduction**

The issue of water is addressed under the following three sub-headings: -

3.6.2 Water Framework Directive and Water Quality

3.6.3 Water Services (including supply and drainage)

3.6.4 Flooding

### **3.6.2 Water Framework Directive and Water Quality**

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) 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. Extended or lesser objectives have been granted under certain circumstances, including for the River Liffey and River Dodder which must reach good status by 2027.

The Water Framework Directive was transposed into Irish legislation through the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The Directive promotes integrated river basin management as the most efficient way to achieve its aims. For the purposes of implementing the Directive Ireland was divided into eight river basin districts and a River Basin Management Plan (RBMPs) was prepared for each. The Ballymun plan area is located in the Eastern River Basin District (ERBD).



**Map 5: Eastern River Basin District (SEA of DCC Development Plan)**



Source: Eastern River Basin District River Basin Management Plan 2009-2015

The first River Basin Management Plan 2009 – 2015 (RBMP), and accompanying environmental report, was published in 2009 setting out the objectives of improving and protecting water quality and ecology in the waters of each river basin district. 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

The draft second cycle River Basin Management Plan has recently been published and is out on public consultation. This draft plan provides an assessment of the pressures on the water environment in Ireland, and the proposed programme of measure to be implemented. This will cover the period from 2018 – 2021.

### 3.6.2.1 Monitoring Water Quality

#### ***Water Framework Directive (WFD) Protected Areas***

Article 6 (Annex IV) of the Water Framework Directive requires each Member State to establish a register of protected areas for water bodies or parts of water bodies that must have extra controls on their quality by virtue of how their waters are used by people and wildlife. This register is split into five categories as outlined by the EPA<sup>2</sup>:

- i. Areas designated for the abstraction of water intended for human consumption under Article 7;
- ii. Areas designated for the protection of economically significant aquatic species (i.e. shellfish);
- iii. Bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;
- iv. Nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and
- v. Areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant European Sites (Natura 2000) designated under Directive 92/43/EEC (1) and Directive 79/409/EEC (2).

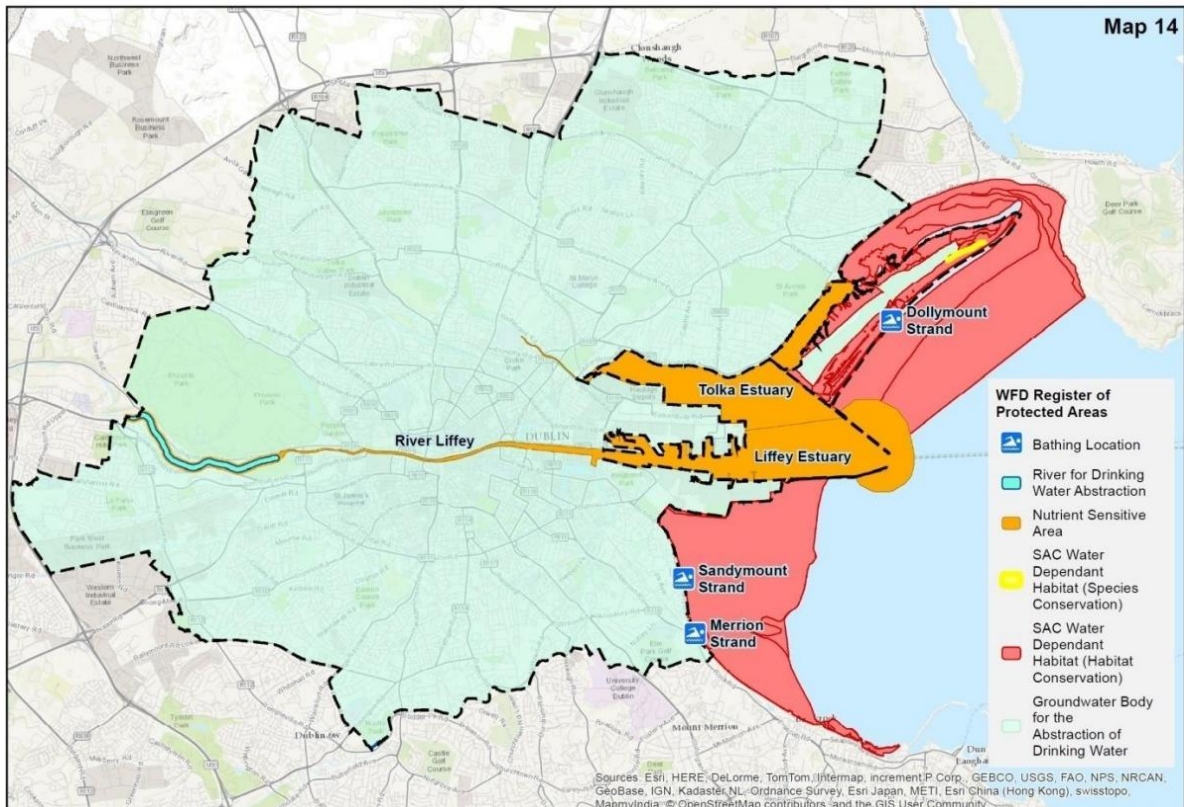
A number of these WFD protected areas are present within Dublin City Council administrative area, notably (see Map 6 for the locations and distribution of these areas): -

- Bathing locations (Dollymount, Merrion Strand and Sandymount);
- Nutrient Sensitive Areas (River Liffey, Liffey Estuary and Tolka Estuary);
- Special Areas of Conservation; Water Dependent Habitat and Species Conservation Objectives (various water dependant habitats such as terrestrial wetlands, mudflats and sandflats, saltmarsh habitats and marine community types associated with North Dublin Bay SAC and South Dublin Bay SAC);
- Rivers for the abstraction of drinking water (River Liffey); and
- The associated groundwater body for the abstraction of drinking water (Dublin Urban Groundwater body).

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<sup>2</sup> WFD Register of Protected Areas Guidance Document and GeoDatabase. EPA (2015)

**Map 6: Water Framework Directive, Protected Areas for Dublin City**



**Quality of Water in Dublin's Rivers**

Dublin City has river water bodies monitored under the Water Framework Directive, including the Liffey, Tolka, Santry, Dodder and Camac rivers. The closest river to the LAP area is the Santry River which is above the northern boundary of LAP. In the Water Framework Directive status reporting phase 2009-2012, the EPA gives the rivers in Dublin City the following biological quality ratings:

**Table 8: Water Quality in Rivers**

River	Biological Q Value
Camac	Q <sub>2-3</sub>
Dodder	Q <sub>3-4</sub>
Liffey	Q <sub>3-4</sub>
Santry	Q <sub>2-3</sub>
Tolka	Q <sub>2-4</sub>

*Note: Q<sub>5</sub> Good Quality; Q<sub>4</sub> Fair; Q<sub>3-4</sub> Transitional; Q<sub>3</sub> Doubtful; Q<sub>2</sub> Poor; Q<sub>1</sub> Bad Q<sub>2/0</sub> 0 indicates toxic conditions*

Currently in Dublin City, the water quality status of water bodies monitored under the Water Framework Directive are classified as *Moderate* (Liffey and Dodder) to *Poor* (Santry, Camac and Tolka Rivers), (see Table 8).

In addition, the Report prepared for the ERBD classified the rivers in the Dublin City Council area as either “at risk” or “probably at risk” of not reaching good status by 2015 unless improvement measures were implemented. It should be noted that the quality of river waters flowing into the Dublin City Council area are, to a large extent, determined by activities in the upstream catchments in adjoining local authorities. However, the management of water quality on a single national river basin district under the Water Framework Directive should lead to a more integrated approach to the management of the all river catchments. The main pressures to rivers in Dublin City are upstream pollution, combined sewer overflows, misconnections of wastewater from individual houses and urban runoff. It should be noted that groundwater bodies in Dublin City are currently at ‘good’ water body status.

Continued implementation of the Management Plan and Programme of Measures for the Eastern River Basin District forms a major element of ongoing protection and enhancement of the quality and status of the water environment, as too will as the next cycle of river basin management plans. The Dublin City Development Plan and the Local Area Plan have regard to the provisions of the Water Framework Directive and includes policies and objectives to promote and improve the ecological status of water services and bodies in the city.

### ***Quality of Water in the Liffey Estuary and Dublin Bay***

Monitoring of water quality in the Liffey Estuary and Dublin Bay is carried out by the EPA. In addition, in 2009 Dublin City Council began an intensive programme of monitoring of water quality in the estuary, Dublin Bay and freshwater inflows in relation to the expansion of the Ringsend Wastewater Treatment Plant.

The Liffey Estuary has been designated as a sensitive area under the Urban Waste Water Treatment Regulations, 2001 (S.I. 254 of 2001). In an assessment of water quality in the Liffey Estuary for the period 2010-2012, the trophic status has been assessed as moderate by the EPA, due to being a heavily modified water body. This represents no change from the previous assessment period in 2007-2009. Dublin Bay has been assessed as unpolluted in the 1999-2003, 2002-2006 and 2007-2009 periods. The Lower Liffey Estuary is currently at ‘good’ water status while the Tolka and North Bull Island Estuaries are at ‘moderate’ status. The Dublin Bay coastal water body is at ‘good’ status.

One potentially negative aspect of water quality trends in the Liffey Estuary and Dublin Bay has been the reoccurrence of opportunistic macroalgae in the Tolka Estuary and south Dublin seashore. The presence of these macroalgae can have an effect on marine benthic fauna by smothering the underlying sediment and contributing to eutrophication.

The reoccurrence of strands of macroalgae (*Ectocarpus*) along the south Dublin seashore is also of concern as they are unsightly and give rise to unpleasant odours during the decay process. The EPA has stated that the abundance and distribution of the opportunistic algal species within Dublin Bay will be assessed as part of the National Water Framework Directive monitoring programme.

### ***Poppintree Park Pond***

The pond in Poppintree Park, while it is a high amenity feature in the park, is a strategic element of the upgraded surface water drainage network for Ballymun. Over the last number of years, the pond has been subject to occasional pollution incidents as a result of unauthorised discharges of Fats, Oils and Grease (FOG) and other pollutants (2 in 2014, 4 in 2015 and 3 in 2016). On each occasion, Dublin City Council has restored the pond to its pre-incident condition. As part of Dublin City Council’s response to the incident,



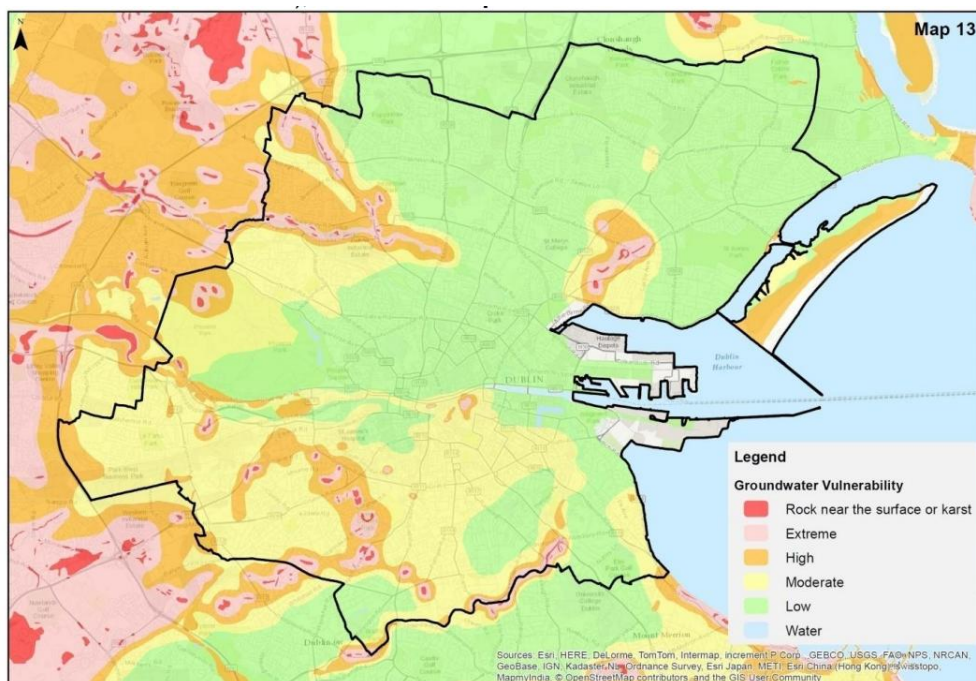
commercial and industrial premises in the area were inspected. There was no evidence of a direct discharge of the product from any commercial or industrial premises to the surface water drainage network, suggesting that the product may have been deliberately discharged into the surface water network. This is an offence under the Water Pollution Acts (1977 & 1990). The surface water drainage network in Ballymun drains to the River Tolka. Under Water Framework Directive assessment criteria, the River Tolka is classified as having 'Poor' status. Pressures impacting on water quality include urban runoff, misconnections, illegal dumping (e.g. in Poppintree Park), and combined sewer overflow activations.

### **Groundwater Vulnerability**

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water.

The Geological Survey of Ireland rates aquifers based on their hydrogeological characteristics as well as on the value of the groundwater resource. Ireland's entire land surface is divided into aquifer categories. The Dublin City aquifer is classified as 'locally important' i.e. an aquifer with bedrock that is moderately productive only in local zones. The GSI further rates aquifers according to their vulnerability to pollution. Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. The Ballymun area has "low" vulnerability rating, as shown in Map 7.

**Map 7: Groundwater Vulnerability (Geological Survey of Ireland)**



### **3.6.3 Water Services (including supply and drainage)**

#### **3.6.3.1 Introduction: Water Services Strategic Plan**

The Water Services Act 2014 provides that the water services authority makes a Water Services Strategic Plan (WSSP) with regard to the provision of water services. As such, Irish Water, as the national water service utility for Ireland, has developed a Draft Water Services Strategic Plan for the next 25 years. The plan covers a number of key themes, including: -

- Customer service;
- Provision of clean and safe drinking water;
- Protection of human health and the environment;
- Managing wastewater; and
- Support proper planning, sustainable development and economic growth.

The priorities for Irish Water under the WSSP are the delivery of improved and affordable water services, remediation of existing water quality problems (e.g. boil notices), complying with the Urban Wastewater Treatment Directive, reduction of leaks in the water system and the capture of water infrastructure information in databases. The WSSP's objectives also have regard to flood risk management.

#### **3.6.3.2 Drinking Water Services**

The vision for water supply services in the Dublin Region is “to supply adequate drinking water to meet present and future demand in a sustainable manner to appropriate quality standards to all customers within the region” based on the consideration of the three principal aspects of quality, quantity and sustainability.

The Dublin Region Water Supply Area is defined by the combined areas served by the Dublin Region Water Supply Schemes, operated by the local authorities on behalf of Irish Water, namely: -

- Liffey Water Treatment Plant at Ballymore Eustace (Dublin City Council);
- Liffey Water Treatment Plant at Leixlip (Fingal County Council);
- Vartry Plant at Roundwood (Dublin City Council);
- Dodder Plant at Ballyboden (Dublin City Council); and
- Bog of the Ring Groundwater (Fingal County Council).

The population in the Greater Dublin Area is projected to increase 1.64 million by 2021 (up from 1.52 million in the 2011 census). The existing water treatment plants at Ballymore Eustace, Ballyboden, Leixlip and Roundwood are working to their full capacity in order to supply the daily demands. While recent expansions at Ballymore Eustace and Leixlip has improved water treatment capacity to 623MI per day, bottlenecks still exist which can impede deployment of that water to the supply network. Irish Water is addressing these key network constraints as a priority. Over the past decade, demand requirements have regularly exceeded water supply by 1-2%, where 20% headroom is

considered best practice. While employing water conservation strategies and addressing leakages will have mitigating effects, increased population and economic growth will increasingly lead to a deficit of supply-demand. Currently, more than 84% of Dublin's water capacity relies on the River Liffey. The Bohernabreena reservoir and waterworks located in the Glenasmole Valley is managed by Dublin City Council. The reservoir supplies approximately 35,000 households in the southern central part of Dublin City. There are two reservoirs; the upper lake which is the larger of the two is used for holding drinking water. It supplies approximately 18.2 million litres of water a day to Dublin. This is only about 5% of Dublin's needs but it is still worthwhile.

In order to meet future demands, to help mitigate the risks of climate change and pollution, and to ensure system resiliency and security, Dublin City Council embarked on a study to determine a new major water source to meet projected demand in the long-term called the *Water Supply Project for the Dublin Region*. From January 2014, responsibility for this project was transferred from Dublin City Council to Irish Water and is now known as the Water Supply Project for the Eastern and Midlands Region. This project is studying the options including bringing water from the river Shannon via a new storage reservoir in the midlands. Irish Water is undertaking public consultation, specialist surveys and modelling to assess the range of water supply options.

It has been outlined to the local authorities that Irish Water will facilitate the provision of wastewater and water services and connections/infrastructure as new developments are approved and progressed.

### ***Drinking Water Conservation***

Dublin City Council has established a number of water supply by-laws to reduce waste and demand levels. These by-laws include the mandatory use of water saving devices in new buildings. The Dublin City Development Plan 2016-2022 places an emphasis on water conservation and seeks to ensure the efficient use of water services. It seeks to maximise the potential for beneficial reuse of water and to reduce leakage to the minimum level possible in the water supply system. Dublin City Council has also embarked on a major watermain rehabilitation project to reduce unaccounted for water lost through leakage in older watermains in Dublin.

### ***Drinking Water Quality***

From 1st January 2014 Irish Water is responsible for the monitoring of drinking water from over 962 public water supplies, serving 83% of the population. Irish Water is responsible for ensuring that drinking water in public supplies is wholesome and clean and meets the requirements of the Drinking Water Regulations.

The EPA is the drinking water quality regulator for public water supplies and works to ensure that drinking water supplied by Irish Water meets the standards of the European Union (Drinking Water) Regulations 2014. The Environmental Protection Agency produces annual reports based on monitoring by Irish Water, with the most recent results published in the "*Drinking Water report for Public Water Supplies 2015*". This report shows there were no boil notices or water restrictions in place for Dublin in 2015.

### **3.6.3.3 Drainage Services**

The vision for drainage services for the Dublin Region is to achieve and maintain good ecological status of all receiving waters by 2015. This is in line with the requirements of the Water Framework Directive which requires that the collection, transport, treatment and disposal of both foul sewage and stormwater are managed effectively to achieve this. Irish Water is nationally responsible for wastewater services.

## **Surface Water Management**

Significant investment in surface water infrastructure was carried out in this area under the Ballymun Regeneration Plan. A Masterplan for Surface Water (SW) was drawn up for the entire area and implemented over several years in tandem with the various redevelopment projects. This plan treated the entire area as a single catchment and produced an overall design that incorporated both hard and soft engineering solutions. The hard solutions entailed constructing a new SW pipe network throughout the entire Ballymun area while the soft solutions included landscaped ponds that acted as storage reservoirs and infiltration drains at the rear of houses. SW Attenuation is provided for by means of a throttle at the downstream end of the network. This means that only a limited flow is discharged out of the Ballymun area with flows above this level being directed to the pond in Poppintree Park. This pond can then rise in level and spill into different cells to cater for increases in rainfall. All surface water from this catchment discharges to the Wad river and then to the Tolka river. As these rivers have a history of flooding, the work carried out in Ballymun of restricting the outflow, has assisted in mitigating flood risk in downstream areas. The pond was designed as a surface water storage area where levels can rise and fall in accordance with rainfall levels. However, it has been successfully embedded as an attractive piece of landscaping within the overall Park. In addition to this engineering function, the pond also provides for biodiversity enhancements and leisure activities.

### **Current Situation**

There are some outstanding elements of work to be completed in the overall SW network within the area, including a SW storage area in Shangan, the upgrading of the surface water network within Sillogue Gardens and Coultry Gardens, and the completion of some pipe works. It is noted that some of the works depend on the completion of outstanding road links in the area, with the surface water network to be upgraded in tandem with the road realignments. These outstanding drainage works need to be completed in conjunction with new development. A commitment to providing the necessary funding would be essential to progress these works. In the overall context, the current SW Masterplan has been designed to allow for the necessary development in that area and it is not envisaged that any major additional work will be needed. Each individual planning application will be required to show compliance with the Ballymun Surface Water Masterplan.

**Table 9: Outstanding Infrastructure Deficits**

<b>Location</b>	<b>Requirements</b>
Balcurriss Road Extension	Service links remain incomplete, including watermains and drainage.
Sillogue Avenue / Main Street link road	Requirement to complete foul drainage linking to the new network at Sillogue Crèche. Currently discharging into severely damaged sewer, with potential for future blockages.
Balbutcher Lane South and Poppintree Park Lane West (Hampton Woods)	New service links for watermains and drainage remain incomplete.
Gateway Crescent Extension	Service links for watermains and drainage remain incomplete between Main Street and west Ballymun.
Balbutcher Lane North realignment	Service realignments carried out as part of a previous infrastructure contract remain out of alignment with the road at this location making them vulnerable



	to damage.
Shangan Green surface water attenuation	<p>The existing drainage network in this area is not capable of dealing with the current surface water discharge during storm events, notably;</p> <ul style="list-style-type: none"> <li>- Non compliance and non performance of the entire Surface Water Masterplan (SWMP).</li> <li>- Failure to meet the minimum surface water flow and discharge rates set out in the SWMP.</li> <li>- Increased potential for flooding both in the newly constructed housing areas and the surrounding existing developments.</li> </ul> <p>Any future development will be dependent on new SW storage facility.</p>
Silloque Gardens	<p>Essential Drainage Infrastructure upgrade required (as per Moylans Report 1996) which identified significant damage, blockages and other shortcomings related to the original drainage installation, notably;</p> <ul style="list-style-type: none"> <li>- The existing drainage network in this area is not capable of dealing with the current surface water discharge.</li> <li>- Non compliance and non performance of the entire Ballymun Surface Water Masterplan (SWMP).</li> <li>- Increased potential for flooding both in the newly constructed housing areas and the surrounding existing developments.</li> </ul>
Coultry Gardens	<p>Essential Drainage Infrastructure upgrade required (as per Moylans Report 1996) which identified significant damage, blockages and other shortcomings related to the original drainage installation, notably;</p> <p>Drainage - The existing drainage network in this area is not capable of dealing with the current surface water discharge</p> <p>Drainage - Non compliance and non performance of the Ballymun Surface Water Masterplan (SWMP).</p> <p>Drainage - Increased potential for flooding both in the newly constructed housing areas and the surrounding existing developments.</p>

### ***Sustainable Urban Drainage Systems***

Sustainable Drainage Systems (SUDs) have been successfully provided under the SW Masterplan. Examples of this are the pond in Poppintree Park and the filter drains installed in some housing projects. This approach will be further developed in the LAP and developments will be required to demonstrate compliance with DCC's requirements for SUDs.

Potential SUDs elements include infiltration devices, green roofs, ponds, rainwater harvesting and swales. Each has their own site requirements and development proposals must tailor a solution that addresses their own specific site.

### ***Foul Sewage Treatment***

The Ballymun LAP area ultimately discharges to the Regional Wastewater Treatment Plant at Ringsend; a Plant which is currently overloaded. The existing treatment works at this Plant has a capacity of 1.65 million population equivalent (PE) but is currently receiving and treating a daily load of approximately 1.9 million PE. All of the sludge products currently generated are either recycled as a useful fertiliser, or used as a green energy source. Sampling and analysis of Ringsend Wastewater Treatment Plant effluent is carried out daily in fulfilment of the requirements of the Urban Wastewater Treatment Regulations 2001 (S.I. 254 of 2001).

The latest EPA Report on urban wastewater discharges indicated that Ringsend WWTP in 2013 was failed on quality standards.<sup>33</sup> The annual environmental report for Ringsend for 2014 indicated that some parameters exceeded emission limits including chemical oxygen demand, biological oxygen demand, suspended solids, total nitrogen and total phosphorus. The final effluent from the primary discharge point was however compliant with emission limits for E. coli, toxicity and pH.

The capacity of this plant to treat the volume and loading of wastewater created by the growing population is inadequate and will continue to be problematic. In 2012 An Bord Pleanála approved permission for the upgrade and expansion of works at the Ringsend wastewater treatment plant in order to maximise its capacity. In January 2014, Irish Water assumed responsibility for the provision of public water services, which included the transfer of responsibility for the Ringsend Wastewater Treatment Plant from Dublin City Council. Since taking on this responsibility, Irish Water have carried out a series of reviews including a revision to the approved project which involves the use of the Aerobic Granular Sludge (AGS) technology treatment process and the exclusion of the originally planned 9km undersea tunnel. Their studies show that this treatment process will consistently produce high-quality treated wastewater which can be safely discharged into Dublin Bay. Any deviation from that original approved process will be subject to a separate planning application to An Bord Pleanála. Irish Water has stated their intention to apply to An Bord Pleanála in early 2018 for permission to implement the revised project along with other key waste infrastructure in the Dublin Region.

Under the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) wastewater discharges above a certain threshold have to be licensed by the Environmental Protection Agency. Dublin City Council currently has a licence application in respect of the discharge from Ringsend wastewater treatment plant with the EPA and has to adhere to the discharge emission limit values that are set by the EPA. Local authorities are expressly forbidden under these regulations from knowingly allowing further developments if these developments are likely to result in a deterioration in the status of any waterbodies.

### ***Foul Sewage Collection***

A new separated drainage network was constructed as part of the investment in public infrastructure completed for the Ballymun area. New pipe networks – both wastewater and storm water systems - were constructed to facilitate the re-development project. A new wastewater pumping station was constructed along Ballymun Road which collects all local flows and pumps northwards to the North Fringe Sewer, a main arterial pipeline designed to cater for development along the northern edges of the DCC area.

In accordance with best international practice, all new developments will be required to separate their drainage with storm water going to a separate pipe within the site. They will also be required to implement storm water attenuation and sustainable drainage features within development sites. This will mitigate the risk of flooding and result in decreased peak flows to the public system. Under the Eastern River Basement Management Plan approved by Dublin City Council in 2010, all waters are to achieve good status. This places statutory requirements on Dublin City Council to improve the status of the rivers within the city.

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<sup>33</sup> Focus on Urban Waste Water Treatment in 2013. EPA (2014)

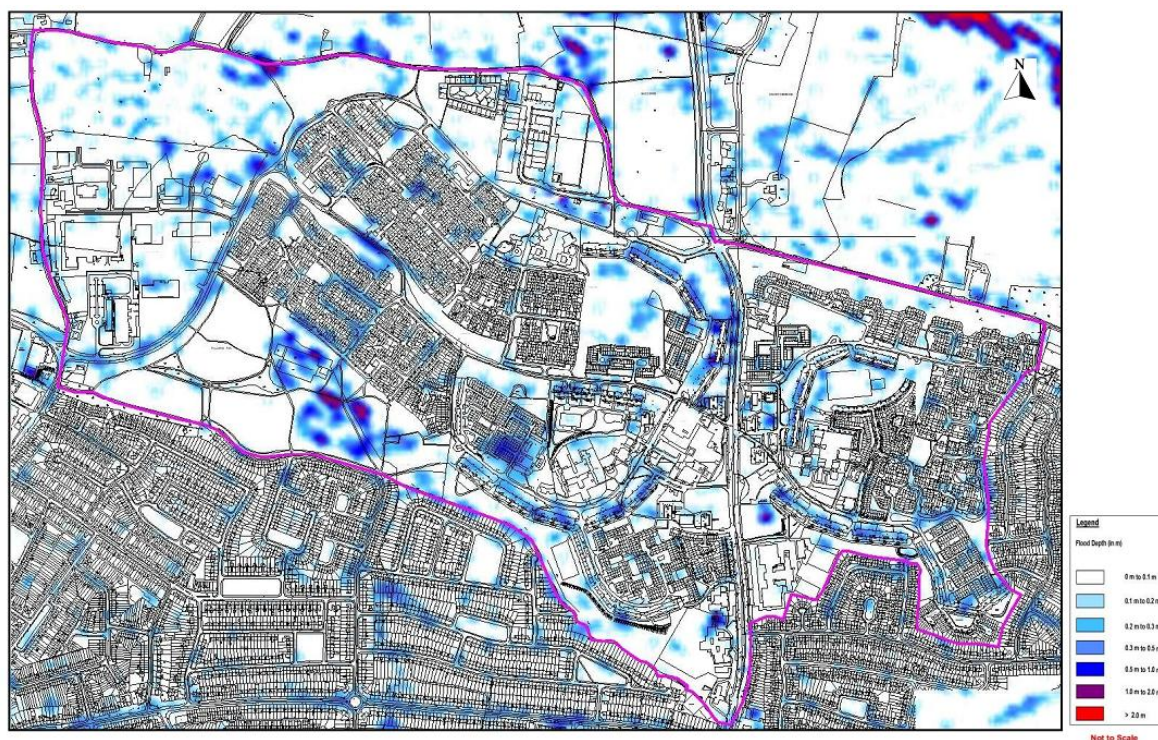
### 3.6.4 Flooding

Flooding is a natural process that can happen at any time and in a variety of locations. There are three principle types of flooding which can occur notably coastal flooding, fluvial flooding which arises from rivers or streams, and pluvial flooding which arises from extreme rainfall. Providing adequate stormwater, drainage retention and routing facilities are considered a necessary part of the urban infrastructure to accommodate surface water run-off. Although flooding cannot be wholly prevented, its impacts can be avoided and mitigated through good planning and management. It is the strategy of Dublin City Council to reduce the potential risks to people, property and the environment caused by flooding through a hierarchy of approaches. Firstly by avoiding development in areas at risk of flooding, secondly by substituting lower vulnerability uses in areas at risk, and finally, if avoidance and substitution are not possible, reduction and management of the risks through a variety of techniques including flood protection measures and flood resilience construction.

A Stage 1 flood risk assessment has been prepared as part of this local area plan and is included as a separate document. The Ballymun LAP area is located within “Zone C” as per the Department Guidelines, where the probability of flooding from rivers and sea is low. All development within this zone is appropriate from a flood risk perspective.

A pluvial flooding map was prepared a part of the Flood Risk Assessment (see Map 8), which highlights the 1% AEP (Annual Exceedance Probability) pluvial flood depth map.

**Map 8: Pluvial Flooding Map, Ballymun LAP (as per flood risk assessment)**



### 3.6.5 Evolution of Water in the Absence of LAP

In the absence of the LAP land use planning decisions and planning applications will be guided by the Dublin City Development Plan in operation at the time. The current Dublin

City Development Plan 2016 – 2022 contains numerous policies and objectives in relation to water management to help meet statutory criteria set down under the Water Framework Directive and to assist in the overall implementation of the Eastern River Basin Management Plan and associated “Programme of Measures” .

It is a requirement that any application for new development either with or without the LAP, demonstrates that the discharge of wastewater from a proposed development, in conjunction with existing discharges would not cause non-compliance with the Regulations.

### **3.6.6 Existing Environmental Issues relating to Water**

They include localised as well as more strategic issues: -

- Maintaining and/or improving the water quality of waterbodies in/traversing the plan area in 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 the LAP.
- Exploit opportunities to improve on water quality discharged and reduce opportunities for pluvial flooding by the implementation of SUDS in new developments.
- The need to conserve water.
- Outstanding drainage infrastructural works still to be completed following the wind down of BRL, in order to complete the Ballymun Surface Water Masterplan.

### **3.7 Material Assets (Transport & Waste Management)**

For the purposes of SEA, Material Assets are deemed to include transport and waste management. Materials assets in the form of waste water and drinking water infrastructure are dealt with under the heading of Water, covered above.

#### **3.7.1 Waste**

Waste Management is concerned with the generation, collection and disposal of waste. The Waste Framework Directive was transposed into Irish law by the European Communities (Waste Directive) Regulations 2011, which has led to the provision of new Waste Management Plans. A new Regional Waste Plan (2015-2021) for the Eastern-Midlands area (including Dublin City) was published in 2015. Dublin City Council is the lead authority for the Eastern-Midlands Region. The strategy of the Waste Plan is to promote the idea of a circular economy and to rethink the approach to managing waste by viewing waste streams as a valuable resource. Over the lifetime of the Eastern-Midlands Regional Waste Plan, the main objectives are: a 1% reduction per annum per capita in the amount of household waste generated; the elimination of direct disposal of unprocessed residual municipal waste to landfill; and a reuse/recycle target of 50% of municipal waste by 2020. In 2012, the total quantity of household waste generated in the Eastern-Midlands

Region (excluding unmanaged waste) was 694,441 tonnes, 1,190,887 tonnes of household and commercial waste was reported and for C&D waste 1,190,887 tonnes was reported. In 2012, approximately 626,692 tonnes of municipal waste was disposed to landfill in the Eastern-Midlands Region<sup>4</sup>. See Table 10 for the most recent breakdown of waste streams and tonnages for the Region<sup>5</sup>.

**Table 10: Waste Levels in the Eastern-Midlands Region, 2011-2012**

<b>Priority Waste Types</b>	<b>Total (tonnes) 2011 for the Eastern-Midlands Region</b>	<b>Total (tonnes) 2012 for the Eastern-Midlands Region</b>
Household (Excluding Unmanaged)	707,276	694,441
Construction and Demolition	2,048,344	1,910,887
Waste Electrical/ Electronic (Both Household and Non-household)	29,254	33,068
Batteries (Portable)	199	232
Batteries (Non-portable)	7,912	7,194
End of Life Vehicles	25,530	29,182
Waste Tyres	12,689	10,374
Healthcare	20,788	15,761
Waste Oils	34,445	37,363
Polychlorinated Biphenyls (PCBs)	195	152
<b>TOTAL</b>	<b>2,886,632</b>	<b>2,738,654</b>
<b>Other Waste Streams</b>	<b>Total (tonnes) 2011 for the Eastern-Midlands Region</b>	<b>Total (tonnes) 2012 for the Eastern-Midlands Region</b>
Contaminated soils	6,594	13,133
Mining and Quarry	33	113
Agricultural	28,461	11,331
Non-hazardous Industrial	78,342	105,980
Hazardous Industrial	17,414	30,499
Industrial Sludges	9,168	2,648

<sup>4</sup> National Waste Report. EPA (2014)

<sup>5</sup> Eastern-Midlands Regional Waste Management Plan 2015-2021

Ash and Incinerator Residues	5,435	44,348
Landfill Leachate	175,291	236,396
Water Treatment Sludge	30,080	43,933
Sewerage Sludge	226,433	227,998

The aim is for the region to become, as far as possible, self-reliant in terms of waste management and to this end the development of centralised biological treatment, materials sorting and waste-to-energy facilities are underway. There has been a significant shift away from land filling as a waste disposal option, in the Eastern-Midlands Region and nationally. As of 2014 there were only two active landfills in the region – Ballynagran and Drehid. In general, the quantity of municipal waste disposed nationally to landfill continues to fall and dropped 24% between 2011 and 2012.

Prevention and minimization, which aim to reduce waste at source, are at the top of the waste hierarchy and remain a priority with resources dedicated to awareness campaigns. After that recycling is the focus. Dublin City's waste collection is undertaken by both private operators and the local authority and includes the following kerbside services: residual, mixed/dry recyclable, organic waste and segregated glass collections. The provision of brown bins has allowed for the separate collection of organic waste (food waste and light garden waste). Collected organic waste is treated biologically by a third party contractor and a nutrient-based compost is produced which is used by landscapers and tillage farmers. The amount of household organic waste collected at kerbside or brought to civic amenity sites for Dublin City was 15,164t in 2012 representing a slight reduction when compared to 16,675t in 2011. The total amount of collected household waste and brought household waste reported for Dublin City Council was 142,889 tonnes in 2012. Waste collected at bring-banks accounted for 11,531t of this waste and civic amenity sites accounted for 3,036t.

The regional materials recycling facility (MRF) at Ballymount in Dublin 12, operated and managed by Dublin City Council, became operational in 2009 and processes green bin recyclables for the four Dublin local authorities. It is designed to cater for the processing of green materials in the Dublin area and the facility has a capacity of 100,000 tonnes per annum. There are two full Civic Amenity (Recycling centres) operating within Dublin City at North Strand and Ringsend. Closer to the LAP area there are Community Level Bring Centres located on Oscar Traynor Road and Collins Avenue, Dublin 9 (the City has 8 Community bring centres, 3 on the north side of the City).

Just north of the LAP, within the Ballymun M50, the City Council is proposing to locate a new civic amenity site, alongside a new operational depot for waste management, housing, public lighting, drainage etc. (See site no. 30 within Chapter 6 of the LAP). Located within Fingal County Council, the City Council will apply for planning permission for this use.

Most recycling materials in Ireland are currently exported to foreign markets for reprocessing and recycling, as the quantities generated in Ireland do not provide the necessary economies of scale for indigenous reprocessing. The preference under the new Regional Waste Management Plan is to support national and regional self-sufficiency through development of indigenous, competitive and energy-efficient treatment facilities in Ireland to ultimately minimise the export of residual waste for processing and recovery abroad.

As energy recovery is part of the management plan, the region will thermally treat residual municipal and industrial waste which cannot be recycled with a new waste to energy plant



(approximately 5.5 hectares) in Poolbeg. The facility will be able to handle up to 600,000 tonnes of municipal waste annually. The facility will produce energy to meet the needs of approximately 80,000 houses in the form of energy supplied to the national grid and will also have the capacity to provide district heating for up to 50,000 homes. A grid connection application was lodged with the ESB in June 2008. The project received planning approval from An Bord Pleanála in November 2007, was granted a waste license by the EPA in 2008 and received authorisations from the Commission for Energy Regulation in 2009.<sup>6</sup>

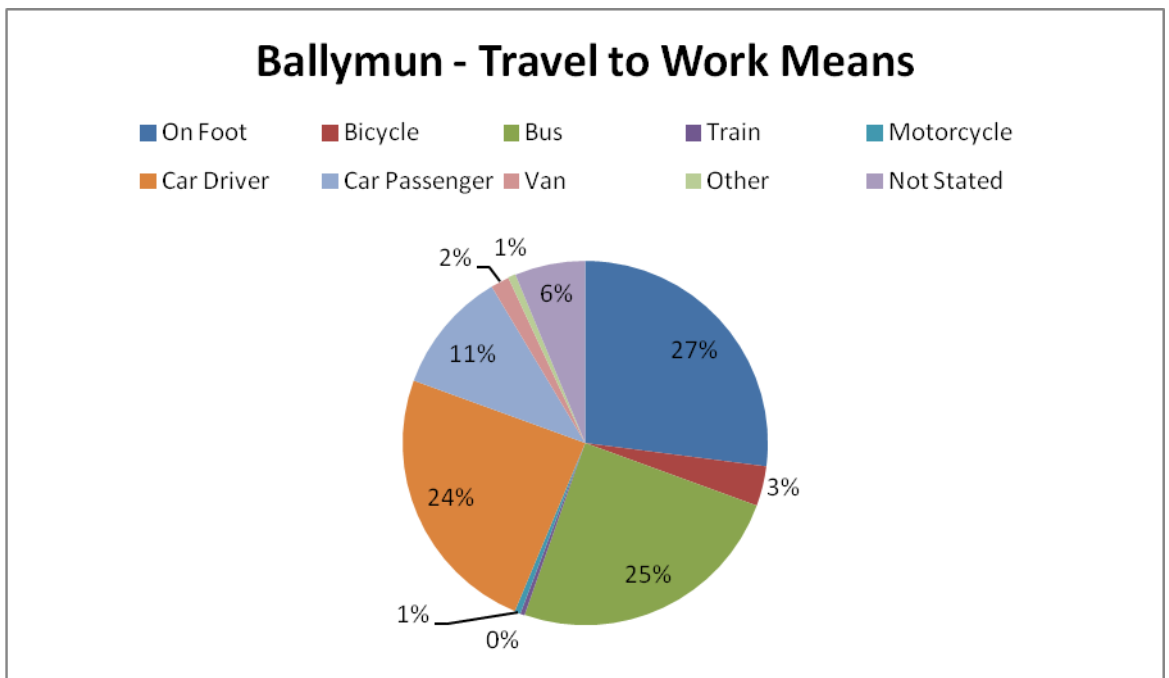
### 3.7.2 Transport

The Ballymun area is strategically located south of the M50 accessed from Junction 4. The R108 serves as an important connector from the city to Ballymun and onto the airport. Traffic levels are expected to increase as economic conditions improve and this is true of the wider area.

#### ***Commuting Patterns***

The 2011 Census shows the majority of the population aged 5 years and over travel to work, school or college by foot (27%). This is followed closely by bus, minibus or coach (24.8%) and car drivers (24.2%). These figures compare favourable to rest of City where travel to work by car is still the dominant mode accounting for 36% of all journeys.

**Fig 6: Ballymun Travel to Work Means, Census 2011**



<sup>6</sup> Dublin Waste-to-Energy project website: <http://dublinwastetoenergy.ie/>

### **Permeability**

A major objective of the plan is to encourage as much movement as possible by public transport, cycling and walking. This requires designing the area to provide for as much permeability as possible, improving the environment and crossing facilities along the existing road network and improving and/or providing new connections to public transport infrastructure. A key challenge that has been faced in Ballymun during the regeneration process has been achieving connections with the adjoining neighbourhoods in Finglas, Glasnevin and Santry. In some cases new connections were designed for pedestrian and cycle movement only, while allowing for future road connections in the future should demand dictate, e.g. at Oldtown Road. In other cases, e.g. at Pinewood Grove and Pinewood Drive opportunities for enhanced connections were lost as new developments were put in place. A key priority for the LAP is the delivery of new connections with priority projects including a connection into Hampton Woods to the west of the LAP area, enhanced connections between the Main Street and Sillogue and Shangan neighbourhoods, and a connection between Balcurris Road and Balbutcher Lane North. Road connections and improvements sought are set out within Section 5.4 of the LAP. These future connections are seen as important in aiding permeability.

### **Cycling**

The *Cycle Network Plan for the Greater Dublin Area* (2013) ([www.nationaltransport.ie](http://www.nationaltransport.ie)) identifies a number of strategic cycle networks in the LAP area. The development of the Cycle Network Plan has commenced with the ongoing mapping of the existing cycle network in the GDA. The study is a crucial element in ensuring the target of 25% modal share for cycling in Dublin by 2020.

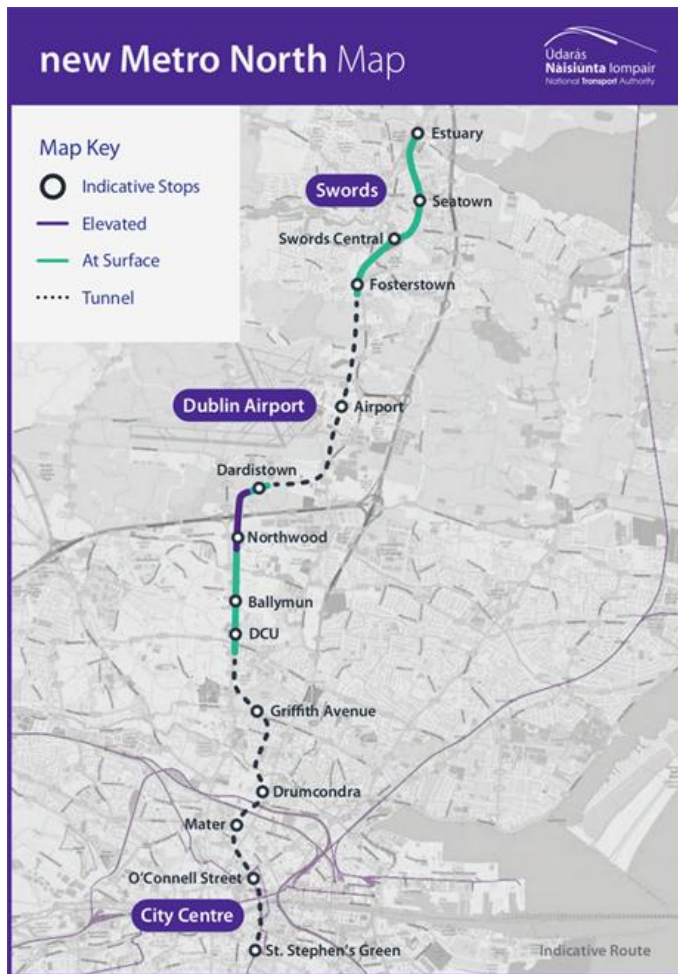
### **Public Transport**

The Ballymun area is well serviced by a number of Dublin Bus routes, with 5 bus routes running through the area; Nos 4,13,17A,140,220, and No. 104 passing along Shanliss Road to the immediate south of the LAP area. There is a designated Quality Bus Corridor (QBC) along Main Street. These services connect Ballymun with the city centre and the south of the city, and also with employment centres of west Dublin (No. 220 serves the industrial estates and Blanchardstown shopping centre).

The National Transport Authority's '*Transport Strategy for the Greater Dublin Area 2016 - 2035*' is committed to the provision of an efficient, effective and sustainable transport network for people and goods within the metropolitan area. The Strategy complements the public transport priorities and projects set out under the Capital Investment Programme 2016-2021, which includes the commencement of the new Metro North project, which is proposed to run through Ballymun. A key challenge for this project and for Ballymun will be the retention of the permeability along the Main Street. The previously permitted Metro North was to be delivered via a "cut-and-cover" mechanism, providing an underground metro service along the Main Street. If the line is run over-ground as per the initial proposals for the revised Metro North, issues of permeability from east to west Ballymun and the retention of a commercial Main Street will require detailed consideration.



**Map 9: Proposed Metro North – National Transport Authority**



### **3.7.3 Evolution of Material Assets (Transport & Waste Management) in the absence of the LAP**

Land use transport decisions for the area are largely determined at City / regional level, dictated by National Policy. A priority of the City Development Plan's core strategy is connecting the city through an integrated land-use 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 core strategy assists in having an overall beneficial impact on sustainable transport objectives.

Specific to the LAP is the objective to support sustainable transport forms of travel, with enhanced permeability and locating higher densities along key public transport routes.

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.

#### **3.7.4 Existing Environmental Issues relating to Material Assets**

- Need to reduce the amount of waste being generated within the LAP area, particularly in relation to reducing the reliance on landfill.
- Need to provide improved linkages within the area to enhance permeability, in particular at Hampton Woods and connecting Main Street with Sillogue and Shangan, and Balcurris Road to Balbutcher Lane.
- Need to facilitate Metro and ensure permeability along Main Street is retained.

### **3.8 Cultural Heritage (Archaeology & Architectural Heritage)**

Protecting an area's 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. Archaeological sites may have no visible surface features as they may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface. Such sites may remain invisible unless uncovered through ground disturbance.

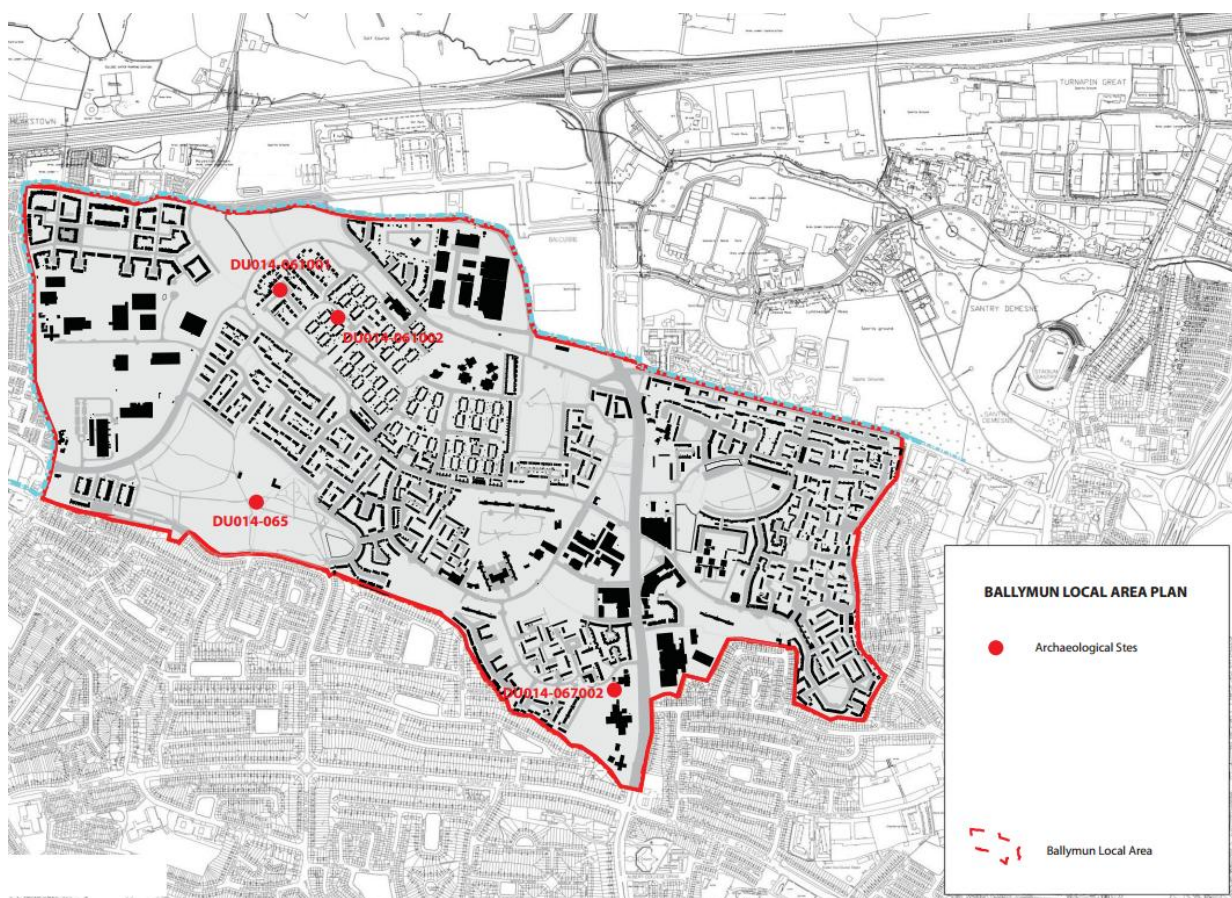
#### ***Archaeology***

Archaeology in Ireland is protected under the National Monuments Acts. 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](http://www.archaeology.ie) and available on the GIS based 'Historic Environment Viewer'. The RMP also documents known individual archaeological monuments and their original locations in the case of destroyed monuments.

With regard to Ballymun, three National Monument sites ([www.archaeology.ie](http://www.archaeology.ie)) have been identified in the area and are listed along with their Sites Monuments and Record Maps (SMR) number: -

1. DU014-065: Jamestown Well located in Poppintree Park.
2. DU014-067002: Stormanstown House (in ruins) located in Ballymun Road.
3. DU014-061001 & DU014-061002: Located in Balcurris and indicative of a ring fort for the first reference listed and of an enclosure for the latter.

**Map 10: National Monument Sites – Ballymun LAP Area**



### ***Protected Structures***

There are two built structures in Ballymun which predate the modern era. These are St Pappin's Church and the adjoining Domville House, both listed on the Record of Protected Structures (RPS references 481 & 482). The Church which was originally constructed c. 1797 has been extended in recent years and is now in use as a nursing home, while Domville House, which was once the priest's residence is now home to a community based health service and drug prevention/ treatment centre.

### ***St Pappins Church and Domville House Protected Structures***



### 3.8.1 Evolution of Cultural Heritage (Archaeology & Architectural Heritage) in the absence of the LAP

The LAP affords an opportunity to utilise heritage assets in line with Development Plan policy, to develop and identity a sense of place. Heritage assets can be used to frame future development and can become memorable focal points, 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. Buildings and structure of archaeological and architectural heritage are well protected under the City Development Plan.

The Local Area Plan includes a specific objective specific to provide a new civic space directly across from St. Pappin's Church to enhance the setting and view of the only historic element within the landscape.

### 3.8.2 Existing Environmental Issues relating to Cultural Heritage

- To protect and enhance the cultural heritage of the plan area including the built environment, settings and archaeological assets.
- To ensure any cultural heritage is not lost during the regeneration process.

## 3.9 Landscape & Soils/Geology

### 3.9.1 Landscape Character

Ballymun lies four miles to the north of the City Centre, on the northern fringe of Dublin's suburbs. The regeneration of Ballymun has meant that the landscape created in the 1960s and 1970s of 36 no. high rise blocks surrounded by swathes of prairie like spaces, has been replaced by a more coherent and definable urban area, with clear residential, neighbourhood and Main Street areas, within a legible scale of 2/3/4 storeys, parks and landscaped areas. There are still areas that require development and the economic difficulties of the last 8 years has forestalled development. The absence of development has meant that particularly along Main Street and at the northern boundary towards the M50 and IKEA there are abrupt changes between recent development and areas awaiting regeneration. Nonetheless it is intended that the original intention to create well defined residential areas around landscaped open space remains a priority, and is the focus of the LAP.

Significant elements in relation to Ballymun's strategic location vis-à-vis the City and the wider North Dublin area are: -

- **Road Connections:** Ballymun is c. 6.5 km north of Dublin City Centre. It is located within the Dublin-Belfast economic corridor, within easy reach of the M50 and M1 motorways and close to the proposed entrance to the Dublin Port Tunnel link.
- **Metro:** The proposed Metro route will link the city centre to the airport via Ballymun.
- **Potential Development Land to the North:** To the north of the City/County boundary and south of the M50 are the Ballymun 'M50 lands', which apart from IKEA and the sporting facilities to the west of such remain largely undeveloped.



These lands while located within Fingal County Council are parts of Ballymun's natural hinterland and are zoned for high density mixed-use development.

### 3.9.2 Soils/Geology

Soil performs a number of key environmental, social and economic functions that are vital for life. It has a socio-economic and environmental role as a habitat and gene pool, a platform for human activities (including food production), landscape and heritage and as a provider of raw materials. Soil also functions as a carbon sink, as has other important ecological functions such as storing, filtering and transforming nutrients, species and genes. This vital resource is non-renewable, and measures for soil conservation are required to sustain its functions.

Dublin City is underlain by the Dublin Basin, a geological region composed of poorly differentiated Lower Carboniferous basinal limestones and shale, known colloquially as Calp. Calp units typically consist of dark grey, fine grained, argillaceous (muddy) limestone inter-bedded with black shales.

Irish soils were formed over long timescales by weathering and glacial processes acting on the underlying bedrock. This bedrock shows great diversity – limestone, granite, shale, sandstone etc. across Ireland – and the derived soils reflect this variability in their mineralogical and chemical composition. The soil/geology in Ballymun is that topsoil overlaps a variety of clays, silts and sands which, in turn, rest on brown and black boulder clays (occurring generally at 1m to 3m depth), sometimes on shale but primarily on limestone bedrock. Surface disturbance has already occurred, primarily in construction of the multi-storey blocks, during which original levels have been reduced/increased by up to 2 metres.

While the EU adopted a Soil Thematic Strategy in 2012 which set out the proposal for a Soil Framework Directive, in May 2014 the European Commission decided to withdraw this directive. The Seventh Environment Action Program has asserted that degradation of soil is a serious problem, both for member states and globally. It is proposed that by 2020 all land in the EU should be managed sustainably and soils afforded protection, with remediation of contaminated sites also a priority.

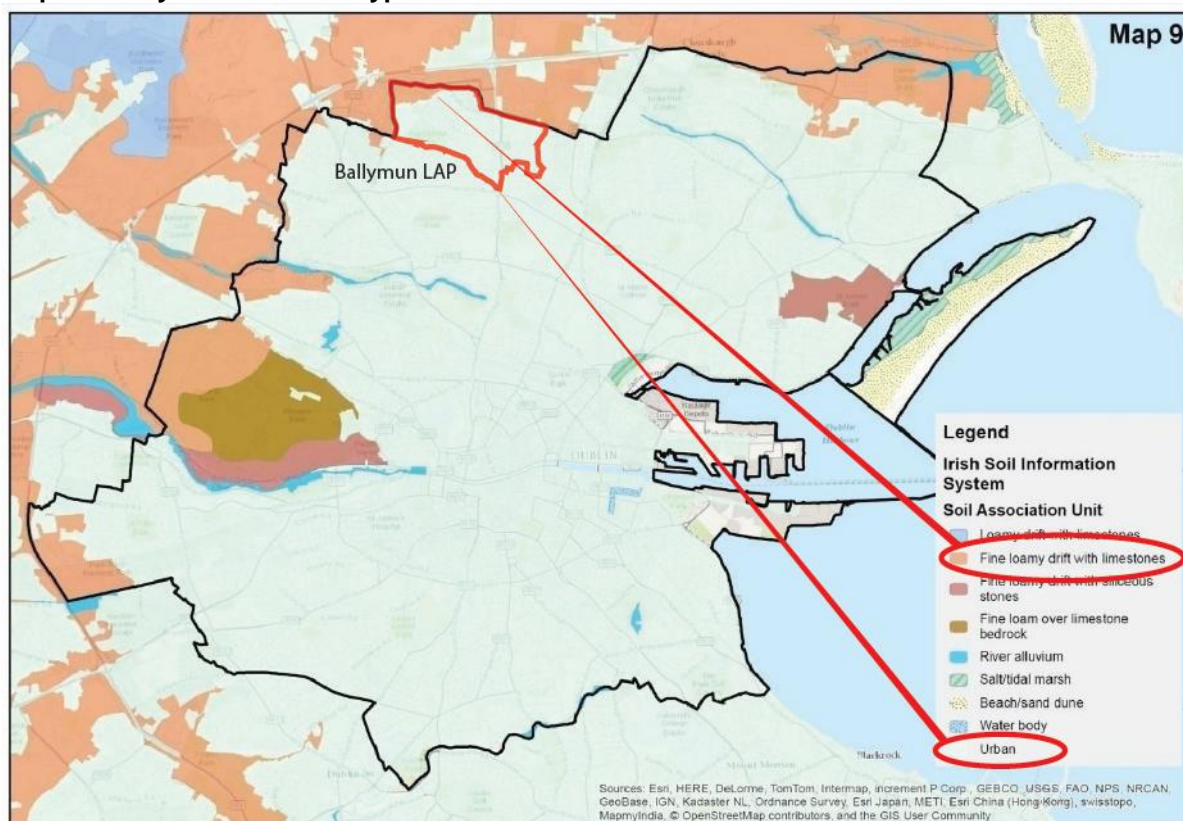
The existing baseline of data on soils in Dublin City is being developed by the Geological Survey of Ireland, in cooperation with Dublin City Council. Initial sampling work took place between 2009 and 2010 under the SURGE Project, ([www.gsi.ie/Surge](http://www.gsi.ie/Surge)), which sought to highlight the importance of urban soils to environmental health in European cities. Under this Europe-wide initiative of the Geological Surveys of Europe, the Geological Survey of Ireland, in partnership with the Geological Survey of Norway, undertook systematic geochemical mapping of soils in the greater Dublin area in order to compile a baseline dataset of heavy metals (such as Arsenic, Aluminium and Lead) and persistent organic pollutants in Dublin's soils. Over 1000 samples were taken across the greater Dublin area, including the sampling of 368 points within Dublin City's public parks and open spaces.

The majority of soils in Dublin City are characterised under the Soil Information System as 'urban' soils i.e. soils which have been disturbed, moved and manipulated by human activities. Urban soils are generally overlain by a non-agricultural, man-made layer formed from mixing, infilling or contamination by industrial uses. Urban soils have a combination of characteristics that differ from natural soils. These characteristics are due to alterations in both physical and chemical soil properties that cause long term deviation from the natural state. Natural soil profiles generally tend to gradually change from one horizon to the next; however, urban soils show abrupt changes from one horizon to another depending on the construction history of the soil. Layers may drastically differ in structure, pH, texture, and properties important to plant growth such as aeration, drainage and water

holding capacity. A soil's aeration and water drainage capabilities are negatively affected by compaction which occurs as a result of overlying conditions which include traffic and building. See Map 11 for the distribution and types of soils within the city.

Given the location of Ballymun and the lack of any major industrial processes there should be no serious issues arising from potential historic contamination.

**Map 11: Ballymun LAP Soil Types**



### 3.9.3 Evolution of Landscape and Soils/Geology in the absence of the LAP

The LAP identifies a large number of sites which are available for redevelopment. In the absence of the LAP these sites will be subject to compliance with the City Development Plan, and the need to integrate Sustainable Urban Drainage Systems in proposals. Developing these sites within an urban area such as Ballymun helps alleviate pressure on greenfield sites within the wider Dublin area.

The LAP seeks to provide greater guidance for each site, setting out appropriate heights, densities and uses. It also provides specific guidance as to the provision of additional green spaces.

### 3.9.4 Existing Environmental Issues Relating to Landscape and Soils/Geology

- Development on the remaining sites should synergise with the developments provided to-date as part of the regeneration, and provide the Main Street with an appropriate urban civic context.

- The development of Brownfield sites within Ballymun helps reduce the demand for “Greenfield” sites outside the City.

### 3.10 Interrelationship between Environmental Receptors

The majority of environmental receptors interact with one another to some degree however only those interrelationships of significance were considered. Table 11 identifies the main interrelationships arising in this SEA. In carrying out the environmental assessment these interrelationships have been taken into account during the assessment of the various alternatives, and also formed a central consideration during the assessment of the potential impacts that may result from the Plan. The interrelationships between environmental topics have been addressed in the Environmental Report as they arise between each environmental receptor.

**Table 11: Key Interrelationships Identified between Environmental Receptors.**

Environmental Receptor	PHH	BFF	AN	CF	W	MA	CH	L
Population and Human Health (PHH)		x	x	x	x	x	x	x
Biodiversity, Flora & Fauna (BFF)	x		x	x	x	/	x	x
Air Quality & Noise (AN)	x	x		x	/	x	/	x
Climatic Factors (CF)	x	x	x		x	x	/	x
Water (Including Flooding) (W)	x	x	/	x		x	x	x
Material Assets (Transport & Waste Management) (MA)	x	/	x	x	x		/	x
Cultural Heritage (Archaeology & Architectural Heritage) (CH)	x	x	/	/	x	/		x
Landscape & Soils/Geology (L)	x	x	x	x	x	x	x	
x - Significant Interrelationship								
/ - Insignificant Interrelationship								

### 3.11 Environmental Sensitivity Mapping

As part of the SEA for the Dublin City Development Plan environmental sensitivity mapping (ESM) was undertaken at a city-wide level (see Section 4.21.1 of the SEA for the Dublin City Development Plan 2016-2022). The environmental factors which were considered in compiling the ESM for Dublin City are summarised below and cover a range of categories from biodiversity and water to landscape and cultural heritage: -

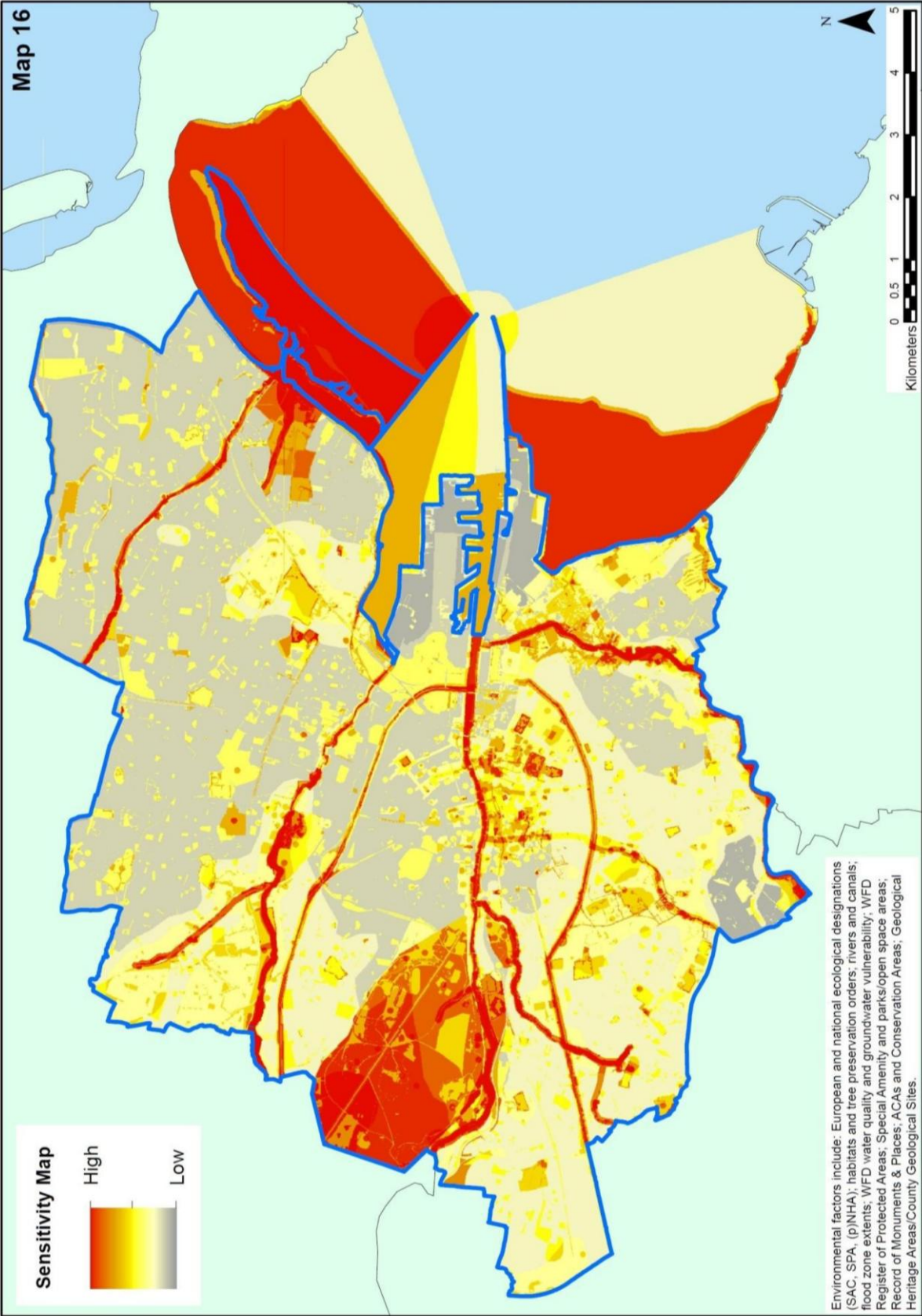
- European ecological designations including Special Areas of Conservation (SACs) Special Protection Areas (SPAs);
- National ecological designations such as proposed Natural Heritage Areas (pNHAs);

- Dublin City Parks Biodiversity Survey and habitat mapping;
- Tree preservation orders (TPOs);
- Rivers and canals;
- Flood zone ('A' and 'B') extents;
- Water quality and groundwater vulnerability;
- WFD Register of Protected Areas;
- Special Amenity areas and parks/open spaces;
- Record of Monuments and Places (RMP);
- Architectural Conservation Areas (ACAs); and
- Geological Heritage Areas (GHAs) and County Geological Sites (CGCs).

The environmental factors above were assigned to a weighting category of High, Medium or Low, and the weighted data was brought in to a geographic information system (GIS) to allow a spatial overlay and calculation of the overall sensitivity. The colour scheme gives an indication of the relative sensitivity of the environment with darker red indicating high sensitivity and greys representing areas better able to absorb change. While it is acknowledged that there are limitations and an element of subjectivity to ESM, where there is a concentration of sensitive areas or overlap it becomes readily apparent where increased development in such areas could cause deterioration of the environment without appropriate mitigation measures being taken. Map 12 below shows the ESM prepared for the City. Ballymun is shown to have a low to medium environmental sensitivity, with the medium category largely covering the existing park areas.



Map 12: Sensitivity Map for Dublin City (SEA of Development Plan 2016-2022)



## 4 Environmental Protection Objectives, Targets and Indicators

### 4.1 Environmental Protection Objectives (EPOs)

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. Objectives set have been adapted to the local circumstances and environmental issues of the Ballymun 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 during the compilation of the baseline environment. Table 12 below details the Environmental Protection Objectives set for the protection of each of the environmental receptors. All environmental protection objectives set are considered to impact on population and human health.

**Table 12: Environmental Protection Objectives**

<b>Environmental Receptor</b>	<b>Environmental Protection Objective</b>
<b>Population and Human Health</b>	<b>PHH</b> To create a sustainable compact city in which to live, work and/or visit. <i>(other EPOs relating to population and human health are covered under each of the environmental headings below)</i>
<b>Biodiversity, Flora &amp; Fauna</b>	<b>BFF</b> To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.
<b>Air Quality &amp; Noise</b>	<b>AN1</b> To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter).  <b>AN2</b> To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.
<b>Climatic Factors</b>	<b>CF</b> To minimise emissions of greenhouse gases.
<b>Water (Including Flooding)</b>	<b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.  <b>W2</b> To reduce and manage the risk of flooding.  <b>W3</b> To provide adequate wastewater treatment, water distribution networks and drainage networks.
<b>Material Assets &amp; (Transport)</b>	<b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public

<b>Waste Management)</b>	transport, walking & cycling.  <b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.
<b>Cultural Heritage (Archaeology &amp; Architectural Heritage)</b>	<b>CH</b> 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.
<b>Landscape &amp; Soils/Geology</b>	<b>LS</b> To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils

## 4.2 EPO Targets and Indicators

In addition to the Environmental Protection Objectives, associated targets and indicators were developed. The overall purpose of the indicators in the SEA process is to provide a way of measuring the environmental effect of implementing the LAP once it is adopted. Indicators are also used to track the progress in achieving the aspirational Targets set in the SEA as well as the Local Area Plan. The proposed Indicators were selected bearing in mind the availability of data and the feasibility of making direct links between any changes in the environment and the implementation of the Plan.

Targets were considered over the duration of the scoping phase, baseline data collection and assessment in order to ensure relevance to the Environmental Protection Objectives as well as the objectives of the Plan. The targets and indicators associated with each SEA Objective are outlined below.

**Table 13: Environmental Protection Objectives, Targets & Indicators**

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Population and Human Health	<b><i>PHH To create a sustainable compact city in which to live, work and/or visit.</i></b>	Sustainable densities achieved in new residential/mixed use schemes.	Average density of new residential development for LAP area.	Mid-LAP	Planning and Property, Development Department
		Increase in the number of residential properties.	Number of residential units commenced on site/completed within LAP.	Mid-LAP	Planning and Property, Development Department
		Increased population within the LAP area.	Percentage increase in population based on CSO.	Mid-LAP based on 2016 census results	Planning and Property, Development Department
Biodiversity, Flora & Fauna	<b><i>BFF To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.</i></b>	No losses of relevant habitats species or their sustaining resources as a result of implementing the LAP.	Survey and monitor bird population.	Mid-LAP	Parks & Landscape Services
			Survey and monitor distribution of bat populations.	Mid-LAP	Parks & Landscape Services
			Evidence of recorded Protected Species.	Mid-LAP	Parks & Landscape Services
			Survey and monitor extent and distribution of invasive species.	Mid-LAP	Parks & Landscape Services
		All streets to be tree-lined where possible to encourage biodiversity connectivity.	No. of new trees planted in the LAP area.	Mid-LAP	Parks & Landscape Services
		New local parks provided	No. of new parks provided	Mid-LAP	Parks & Landscape Services

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Air Quality and Noise	<b>AN1 To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</b>	Maintain air quality status and meet value targets for named pollutants in line with Air Quality Framework Directives.	Values of monitored pollutants in the air, including the levels of Nitrogen Oxides (NO <sub>x</sub> ) and Particulate matter (PM <sub>10</sub> ) not in breach of regulation limits.	Mid-LAP	Roads & Traffic – Noise & Air Section
		An increase in the population travelling to work or school by public transport or non-mechanical means.	% of population within the plan area travelling to work or school by public transport or non-mechanical means.	Mid LAP - To be based on 2016 Census results	Roads & Traffic Planning and Property, Development Department
	<b>AN2 To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</b>	Minimise noise pollution.	% of residents exposed to noise levels above undesirable levels.	Mid-LAP	Roads & Traffic – Noise & Air Section
Climate Factors	<b>CF To minimise emissions of greenhouse gases.</b>	Decrease greenhouse gas emissions in line with national targets.	Average energy consumption of new residential housing stock Tonnes of CO <sub>2</sub> /Capita/Year.	Mid-LAP	Environment and Engineering Department in association with Codema
Water (including flooding)	<b>W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</b>	All water bodies to meet targets set in River Basin Management Plan of the Eastern River Basin District.	Ecological status of water bodies.	Mid-LAP	Environment and Engineering Department – Water Division

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Water (contd)	<b>W2 To reduce and manage the risk of flooding.</b>	Compliance with the OPW's Guidelines for Planning Authorities – The Planning System and Flood Risk Management.	Percentage of planning applications incorporating flood risk assessment and conditions requiring appropriate flood resilient measures for new developments.	Mid-LAP	Environment and Engineering Department  (Planning and Property, Development Department)
		Provide Sustainable Urban Drainage Systems in all new developments.	Number of Sustainable Urban Drainage Systems implemented in new planning applications.	Mid-LAP	Environment and Engineering Department  (Planning and Property, Development Department)
		Implement the Ballymun Surface Water Masterplan.	Provision of attenuation storage within Shangan and upgrade status of pipework in Coultrey Gardens and Sillogue Gardens	Mid-LAP	Environment & Engineering – Water Division (in association with Irish Water)
	<b>W3 To provide adequate wastewater treatment, water distribution networks and drainage networks</b>	Provision of adequate water, wastewater treatment and drainage infrastructure.	Capacity of water supply and wastewater infrastructure versus demand.	Mid-LAP	Environment & Engineering – Water Division (in association with Irish Water)

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency Reporting	of	Department Responsible
Material Assets (transport and waste management)	<b>MA1 To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</b>	Extension and improvement of the cycling and walking network in the area.	Length of new cycling paths/lanes and walking routes developed and permeability linkages created.	Mid-LAP		Roads & Traffic Department
		Metro North to serve the area.	Metro North granted planning permission/ on site/ operational.	Mid-LAP		Roads & Traffic Department
	<b>MA2 To reduce the generation of waste and adopt a sustainable approach to waste management.</b>	Increased recycling.	% of waste recycled.	Mid-LAP		Environment & Engineering – Waste Division
Cultural Heritage	<b>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.</b>	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.	Mid-LAP		Planning and Property, Development Department
			Provision of new square/ civic space across from St. Pappin's Church			

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Landscape (including soil)	<b><i>LS To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.</i></b>	Develop brownfield lands and vacant sites	Total area of brownfield lands and vacant sites developed/ granted planning permission.	Mid-LAP	Planning and Property, Development Department
		Develop new areas of open space	Number of new parks/ open spaces, green link through the M50 lands.	Mid-LAP	Parks & Landscape Services  (Planning and Property, Development Department)



## 5 Context and Content of Ballymun Local Area Plan

### 5.1 Introduction

Ballymun is situated approximately 6.5 km north of Dublin City Centre and immediately to the south of the M50. While the “built-up” area of Ballymun (subject of the LAP) is located in the administrative area of Dublin City Council, it is noted that the City Council owns lands to the immediate north within Fingal County Council’s administrative area, referred to as the ‘M50’ lands within the LAP.

At a strategic level, the plan area is notably close to: -

- Dublin Airport and related businesses
- Dublin City University, main campus and Innovation Campus
- Botanic Gardens
- Northwood Business Campus
- The M50 motorway
- Port Tunnel entrance/ exit

At a local level, the area is influenced by: -

- Charlestown Shopping Centre, Finglas
- Omni Shopping Centre, Santry

In this regard, it is important to recognise both the wider and also the local context when assessing the potential issues and opportunities for the Ballymun area.

In 1997 a government decision was made to regenerate the area of Ballymun. Dublin City Council set up Ballymun Regeneration Limited (BRL) to oversee and implement the regeneration process. The Ballymun Masterplan was produced in 1998 following intense consultation with the local community, and the regeneration process has been carried out in line with the Masterplan aims and objectives seeking the “*the physical, social, environmental and economic regeneration of the area*”. The regeneration process thus focused not only on the physical elements of the demolition and rebuild, but also on the creation of a sustainable community. The four pillars (economic, social, environmental and physical) of the regeneration process are fundamentally inter-linked and dependant on one another. The landuses contained in the Masterplan have been incorporated in subsequent Dublin City Council and Fingal County Council Development Plans.

Ballymun Regeneration has acted as agent of Dublin City Council in respect of the City Council’s lands at Ballymun since 1998 as part of this major regeneration project. BRL is now wound down and all of the roles and responsibilities of the regeneration company have been transferred to Dublin City Council. The Local Area Plan seeks to safeguard the investment made in the area to date and to ensure the regeneration is brought to a successful conclusion.

The LAP reviews the progress made in implementing the aims and objectives of the Ballymun Masterplan, and provides an updated strategy in relation to the development and management of the area and how best to meet the needs of the existing community and proposed new community that was envisaged under the Masterplan, a new town of

30,000 no. inhabitants. The preparation of a Local Area Plan for the area was identified as an objective in the current Dublin City Development Plan 2016-2022.

In preparing the LAP, regard has been had to the hierarchy of statutory plans and guidance documents which exist, which inform and guide development in the area, in particular the Dublin City Development Plan, Regional Planning Guidelines and the National Spatial Strategy. The LAP had regard to each of the following plans: -

- National Spatial Strategy 2002-2020
- Capital Investment Programme 2016-2021
- Regional Planning Guidelines for the Greater Dublin Area 2010-2022
- Smarter Travel – A Sustainable Transport Future 2009-2020
- Greater Dublin Area Transport Strategy 2016-2035
- Retail Strategy for the Greater Dublin Area 2008-2016
- Dublin City Development Plan 2016-2022
- Fingal County Council Development Plan 2017-2023

A brief synopsis of each of the above plans is provided within the LAP (Ch 1). In summary the over-arching theme of national planning policy which informs this LAP is the consolidation and sustainable use of land in urban areas, particularly urban environments well served by public transport. Urban consolidation is a key component in the achievement of sustainable development, economic competitiveness, community well-being, environmental protection, and in order to achieve full economic value from investment in public infrastructure.

The LAP is being prepared to guide development over a wide range of sites identified within the Ballymun area for which development opportunities have been identified. It provides a guide to help consolidate this urban area in a sustainable and meaningful way.

## 5.2 Summary of LAP

The Ballymun Local Area Plan 2017 is divided into chapters, each briefly summarised below. The objectives which are outlined below are those which were chosen following the consideration of a number of alternatives which are outlined and evaluated in Sections 6 and 7 of this Report.

**Chapter 1: Introduction:** The Ballymun LAP is a statutory Plan under the Planning and Development Act 2000 (as amended) with a stated 6-year life-span. It updates and appraises the Ballymun Masterplan (1998) in order to provide a strategic guidance document for developing the remaining sites in the area.

**Chapter 2: History and Regeneration:** The development of Ballymun in the 1960s was a response to a chronic housing shortage in Dublin at the time. By the 1970's and 1980's problems associated with tenant mix, lack of ancillary services and transport links, poor management and national housing policies resulted in a spiral of decline within the area. The situation was exacerbated by the impact of drugs and high unemployment within the community. The decision was taken in 1997 to regenerate the area and to demolish the 1960's flat blocks. A specific regeneration team, Ballymun regeneration Limited (BRL) was set up to oversee the implementation of the regeneration guided by an overall Masterplan

seeking the social, economic and physical regeneration of the area. Since the adoption of the Masterplan in 1998 the area has undergone a enormous physical transformation with the flat blocks all demolished and replaced by new housing, a new Main Street is in place, new neighbourhood centres, parks and recreational and cultural facilities and new private and affordable housing have all being provided.

**Chapter 3: Site Context and Analysis:** In order to inform new objectives for the area, a site context and analysis was undertaken, examining factors such as population and housing profile, and examining roads and drainage infrastructure. A survey of the existing industrial estates was carried out and an independent retail study was commissioned. An audit of all existing recreational, sporting and cultural facilities was also carried out, which was further informed by the hosting of a Sports and Recreation Workshop in May 2016. A bat survey was also undertaken for the LAP lands.

**Chapter 4: Vision:** The vision for Ballymun is: -

***"to create a successful and sustainable new town; which provides for and supports a thriving local economy, which caters for people across all spectrums of their lifecycle in both their house type and tenure and where communities are supported by the appropriate social, sporting and cultural amenities.***

A series of ten over-riding principles to guide the LAP development strategy are set out under the headings of vacant sites; economic development and employment, urban form and design, movement, social and community infrastructure and supports, recreation and open space, green infrastructure and biodiversity and drainage and water.

**CHAPTER 5: LAP Development Strategy:** This Chapter sets out a series of local objectives to guide the development of the vacant sites within Ballymun, with the first being the overriding objective to "*develop the remaining vacant sites in Ballymun*" (LU1).

Economic objectives focus on the development opportunities available along the Main Street and the M50 lands; the need to attract additional retail facilities into the area, and the need to support recent successes in the areas of environmental initiatives and the arts and culture. The retention of the existing industrial estates is supported. These economic objectives relate closely to housing objectives seeking a greater tenure mix, new affordable housing and new models for senior citizen housing. Existing social and recreational amenities should be optimally utilised; in addition to the provision of a number of new neighbourhood parks, new changing facilities within Poppintree Park and the exploration of options for the provision of a new GAA facility for Ballymun Kickams. Movement objectives set out a series of priority and future road projects; the need for enhanced connectivity and permeability and support for Metro North through Ballymun. In addition, the creation of high quality urban spaces, a coherent Main Street and a landmark building on the M50 lands are detailed under the heading of Urban Form and Design Objectives.

**Chapter 6: Site Briefs:** The LAP identifies a total of 31 no. vacant sites available for development. These sites are each set out under three headings of: -

1. Main Street
2. Neighbourhood Sites
3. M50 Lands

Each site is described in terms of its overall site area, ownership and zoning, with guidance given as to appropriate uses, heights, estimated capacity and additional supporting information and/or site constraints detailed.

**Chapter 7: Phasing & Implementation:** The LAP aims to be a flexible working framework document which can respond to the evolving needs of the community and market forces. As such a specific phasing or sequencing programme is not considered necessary given the detail contained in the site briefs (Chapter 6). However within the first year of adoption it is a specific objective to (i) set up a tenure monitoring group (as per objective H07) and (ii) to undertake an economic analysis of the M50 and Z4 Main Street lands (as per objective E010).

## 6 Identification & Description of Alternative Plan Scenarios

### 6.1 Introduction to Alternative Scenarios

Article 5 of the SEA Directive requires the environmental report to consider '*reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*' and the significant effects of the alternatives selected. Alternatives must be realistic and capable of implementation and should present a range of different approaches within the statutory and operational requirements. The following section documents the process of considering alternatives relating to the LAP.

The consideration of LAP alternatives is a real-world exercise that recognises that the plan must work within an existing context of National and Regional Strategic Plans, climate change, and an Irish and European legislative framework that has sustainable development at its core. It is not an '*open-book*' exercise, where every conceivable option/alternative is examined.

The "Do Nothing" scenario was not considered a feasible alternative, as the members of Dublin City Council have voted to prepare a Local Area Plan for Ballymun, as a key component in implementing the policies and objectives of the Dublin City Development Plan 2016-2022. As part of the active land management policy approach of the City, it is Council policy to develop lands within the City to provide sustainable neighbourhoods and communities. A do-nothing approach would be contrary to this policy.

This following section of this Environmental Report sets out: -

- The legislative context for the consideration of alternatives;
- Parameters for selecting alternatives;
- Identification of alternatives.

Section 7 of this Environmental Report provides an environmental evaluation of the alternatives.

### 6.2 Legislative Context

The consideration of alternatives is a requirement of the SEA Directive (2001/42/EC). It states under Article 5(1) that: -

*"Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I".*

Annex 1 (h) of the Directive clarifies that the information to be provided on alternatives under Article 5(1), is *inter alia* an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.

Article 9 of the Directive requires that a statement shall be prepared providing information on the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with.

Annex 1 (f) details the environmental topics to be considered in the evaluation of the alternatives, which is the same as that addressed in the assessment of the plan itself: -

*“...biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors”.*

Therefore, the Directive emphasises that the SEA process must consider alternatives that are ‘reasonable’, and take into account ‘the objectives’ of the plan, and ‘the geographical scope of the plan’.

The term ‘reasonable’ is not defined in the legislation. Good practice points to the analysis of ‘alternatives’ as being a constructive and informative exercise for the policy makers, and that only ‘possible’ options for policy are examined. Plan scenarios that run counter to European environmental directives, the National Spatial Strategy (NSS), Ministerial Guidelines or Regional Planning Guidelines (RPG) would not be considered reasonable.

Alternatives are required to take into account the objectives of the plan. The alternatives study therefore must operate within the strategic objectives set out for the plan, and provide an examination of alternative means of implementing the plan.

Section 3.14 of the SEA DECLG Guidelines notes that the higher the level of the plan, the more strategic the options which are likely to be available such as that for a Development Plan. Conversely, lower tier plans, such as LAPs, will be framed in a policy context set by the level(s) above them, and strategic options may be limited.

### **6.3 Parameters for Selecting Alternatives**

The consideration of reasonable alternatives must take into account ‘the geographical scope of the plan’ area and the key strategic influences.

Ballymun is a well-established built-up suburb strategically located at an axial point between the City Centre of Dublin, M50 corridor and Dublin Airport. Future projects such as the Metro North will mean that the area is well served in terms of infrastructure and accessibility to public transport. The question therefore that arises is not whether or not the area is suitable for development, but rather what type of development is most suited to particular locations, and what is the appropriate level of development, density and/or height. The need to consolidate towns and cities and the metropolitan core of Dublin City is the primary context of national, regional and city planning, within which the local area plan must operate. Strategic objectives from higher order plans are summarised below.

#### ***National Spatial Strategy 2002–2020***

The National Spatial Strategy for Ireland (NSS) is a twenty year planning framework designed to promote balanced regional development, by seeking to optimise the use of scarce resources by setting the spatial development of Ireland on a more sustainable path in economic, social and environmental terms. The NSS recognises that Dublin, as the capital city, plays a vital national role and that the performance of its economy is essential to the success and competitiveness of the national economy.

In order to ensure that Dublin fulfils this role, the strategy clearly sets out that it is not economically, socially or environmentally sustainable for low-density suburban growth to

continue to spread throughout the Greater Dublin Area. It calls for the consolidation of the metropolitan core, including all lands within Dublin City Council administrative area, as a critical requirement to underpin increased investment in high quality public transport infrastructure. The NSS outlines measures to achieve a consolidated city; including effective integration of land use and transportation planning and the optimum use of all brownfield, vacant or underutilised lands; particularly where they are in proximity to public transport corridors.

The “**National Planning Framework: Ireland 2040-Our Plan**” will be the successor to the NSS and will provide a spatial and strategic expression of Government policy. The Department of Housing, Planning, and Local Government have issued the Draft National Planning Framework (NPF), with the final Plan expected by the end of 2017. This will be published alongside a ten year National Investment Plan, prepared by the Department of Public Expenditure and Reform, to establish a clear national policy framework in terms of both spatial development and capital investment.

### ***Regional Planning Guidelines, Greater Dublin Area 2010–2022***

The Regional Planning Guidelines for the Greater Dublin Area 2010–2022 (RPGs) provide a long term planning framework for the development of the Greater Dublin Area (the four Dublin Authorities, Meath, Kildare and Wicklow) by giving regional effect to national planning policy under the National Spatial Strategy. The Regional Planning Guidelines promote the consolidation of development within the metropolitan area, and the achievement of sustainable densities in tandem with a much enhanced multi-modal transport system.

The guidelines set out a strategic vision for the GDA, emphasising the role of Dublin as a major European city region, and as the driver of economic activity in the State. The settlement hierarchy seeks to prioritise and focus investment and growth in areas where integration in services, infrastructure, transport, economic activity and new housing can best be achieved. This approach reflects the prioritisation of public transport infrastructure, reducing the need to travel and a reduction in greenhouse gas emissions as set out in a number of government policy documents such as Transport 21, Smarter Travel, and the National Climate Change Strategy.

The redevelopment of underutilised sites within the Ballymun area, which is well served by public transport, within easy reach of the City Centre, and well served by public and community infrastructure is a prime example of the how such integration, can best be achieved.

### ***Smarter Travel – A Sustainable Transport Future 2009–2020***

The overarching aim of this document is that by 2020 future population and economic growth will occur predominantly in sustainable compact locations. It sets out how the government’s vision of sustainable travel and transport in Ireland by year 2020 can be achieved. A target of reducing car based commuting from 65% to 45% nationally by 2020 is set.

Five key goals of ‘Smarter Travel – A Sustainable Transport Future’ are to: -

1. Reduce dependency on car travel and long distance commuting
2. Increase public transport modal share and encourage cycling and walking
3. Improve quality of life and accessibility for all



4. Improve economic competitiveness through increased efficiency of the transport system, and
5. Reduce green house gas emissions and dependency on fossil fuels.

The document promotes the use of consolidation as a planning approach to deliver these key goals by making more sustainable modes of travel viable and available

### ***Greater Dublin Area Transport Strategy 2016-2035***

In April 2016, the Transport Strategy released by the National Transport Authority (NTA) was adopted by the Minister. The Strategy will guide decisions on transport throughout the region and will contribute to the economic, social and cultural progress of the Greater Dublin Area (GDA) by providing for the efficient, effective and sustainable movement of people and goods. For the Metropolitan Area, development will be consolidated to achieve a more compact urban form.

The Strategy complements the public transport funding priorities and projects set out under the Capital Investment Programme 2016-2021, which includes the commencement of the new Metro North project. The (NTA) will now prepare a statutory integrated implementation plan to outline the delivery of the Strategy's objectives over the coming 6 years.

### ***Dublin City Development Plan 2016-2022***

The Dublin City Development Plan 2016–2022 provides a clear spatial framework to guide the future growth and development of the city in a coherent, orderly and sustainable way, framed on a vision of sustainable city living and a core strategy seeking the creation of a socially inclusive city of urban neighbourhoods, all connected by an exemplary public transport, cycling and walking system and interwoven with a quality bio-diverse green space network.

The development plan strategy for the city has a strong policy emphasis on the need to gain maximum benefit from existing assets such as public transport and social infrastructure, through the continuation of consolidation and increasing densities within the existing built footprint of the city.

This is in line with the regional planning guidelines policy of consolidation of the metropolitan core. A further key aspect is that future expansion whether housing or mixed uses, occurs in tandem with high-quality rail based public transport and within the context of local area plans.

The key designations regarding the Ballymun LAP area include: -

Ballymun is designated a Key District Centre (KDC); these are the top tier of urban centres outside of the city centre. These centres will be strong spatial hubs providing for a comprehensive range of commercial and community services.

Ballymun Strategic Development Regeneration Area (SDRA); the guiding principles for the development of Ballymun encompass: -

- To maximise the employment and economic potential of Ballymun along its Main Street in accordance with its strategic location and its designation as a Key District Centre (KDC).
- To promote the delivery of a high-quality public transport system linking the airport and the City, via Ballymun.

- To enhance existing and establish new and appropriate land-uses that support a growing mixed-use community, and seek innovative planning responses for the key sites in the area, that respond to the environmental, social, cultural and economic issues and demands facing the area.
- To improve permeability both within Ballymun and to the surrounding areas.
- To provide a choice of tenure options and house types, promoting social inclusion and integration.
- To promote and enhance Ballymun and the wider area's reputation as a sustainable urban environment.
- To promote Ballymun as a leading arts and cultural hub serving the city and wider region.
- To provide an appropriate urban Main Street context with buildings of 4-6 storeys in height along the Main Street, with potential for limited increases in the vicinity of a public rail station. Key gateway landmark buildings already exist framing the 1km long Main Street.

## 6.4 Identification of Alternatives

Dublin City Council, as the plan-making authority, is obliged to consider alternative ways of achieving the objectives of the local area plan for Ballymun. The alternatives considered must be reasonable, realistic and capable of implementation while operating within the planning hierarchy. The alternatives considered for the Ballymun Local Area Plan are focused upon four sites and the scope of opportunities which they offer. These have been selected as they offer a variety of development alternatives.

As stated earlier the alternatives are required to consider the objectives/vision of the LAP which in turn is contingent on and restrained by the objectives of higher tier strategic plans. As such the number of alternatives reflects this. The major consideration for Ballymun is the provision of high quality housing, sufficient ancillary services and creating employment opportunities.

### 6.4.1 Alternative No. 1: Coultrey, Main Street

**Location:** Site 6, Main Street (Site to the north of the Boiler House), (see Chapter 6 of the LAP)

**Site Description:** 1.5ha site located to the east of Ballymun Main Street, to the north of the boiler house and to the south of Domville House.

**Zoning:** Z4 – To provide for and improve mixed service facilities.

**Context:** This site comprises an area of land under DCC ownership, in addition to a terrace of 8 no. houses (of which 2 no. are in DCC ownership). Development options considered as part of the LAP process included (1) retaining the existing terrace of 8-houses and building around them, or (2) demolishing the houses to make way for a more comprehensive redevelopment option. The LAP supports the second option, i.e. demolition of the 8 no. houses, on the basis of maximising the development potential along a public transport route.



*(Taken from Chapter 6 of LAP)*

**Alternative 1A: To develop the site while retaining Nos. 18-25 Coultry Gardens in situ.**

This option would require new Main Street development to step-down significantly and integrate with the 2-storey terrace. Nos. 18-25 Coultry Gardens are of radburn-style development thus requiring access arrangements to be retained to both the front and rear of the houses. The existing off-set nature of the access road from Coultry Road creates a difficult junction with Coultry Link Road, unsuitable to serve the entire site. Without the option for demolition, new development would be arranged on a more constrained site. Not only would the building area be limited but considerations such as loss of light, overlooking and set-backs/ separation distances would have to be factored in and this in turn would reduce overall density on the site.

**Alternative 1B: Acquire and Demolish No. 18-25 Coultry Gardens**

In order to maximise the development potential of the site, it is proposed to acquire and demolish Nos. 18-25 Coultry Gardens. This creates a large site capable of delivering development at a quantum and density suitable for a site adjoining Main Street, a QBC and the future Metro route (located within 200m of the stop for the previously permitted Metro North scheme). The site could be developed in line with the Z4 District Centre zoning and SDRA designation for mixed uses that will cater for extensive commercial, community and residential services. As an unencumbered site, a more coherent, direct and appropriate access can also be put in place to serve the entire site. It is noted that

BRL previously acquired Nos. 62-65 Country Gardens to facilitate a comprehensive redevelopment of the adjoining site to the east.

**Alternative Chosen:** Given the location of the site along the Main Street and along a future Metro route, the complexity of the layout of the existing houses and road network serving them; together with the need to optimise best use of available land within the city, and in particular along public transport routes, the LAP favours the demolition of the 8 no. houses in order to optimise development potential of the site.

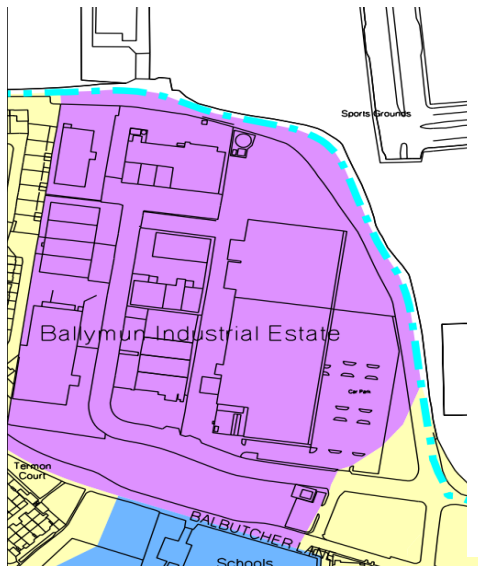
#### 6.4.2 Alternative No. 2: Industrial Estates

**Location:** Ballymun and Poppintree Industrial Estates

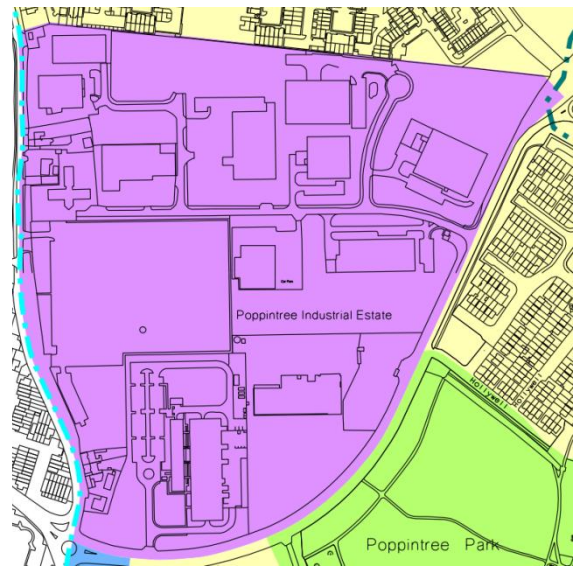
**Site Description:** The Ballymun Industrial Estate (8.65ha) and Poppintree Industrial Estate (24.88 ha) are located to the north and west of the Ballymun LAP area respectively.

**Zoning:** Both sites are zoned Z6 under the Dublin City Development Plan 2016-2022 with the land use objective to “provide for the creation and protection of enterprise and facilitate opportunities for employment creation”.

**Context:** Objective CEE04 of the Dublin City Development Plan 2016-2022 seeks to review lands currently zoned ‘Z6’ within the city to determine if they have potential for rezoning. In this context the LAP considered the appropriate zoning for these sites.



*Ballymun Industrial Estate*



*Poppintree Industrial Estate*

### **Alternative 2A: Maintain the industrial uses of these lands**

This alternative seeks to maintain these industrial estates for the stated zoning purpose of enterprise and employment creation. These Z6 lands are key employment locations within the city and strategically located close to Dublin Airport, M50/M1 network and proposed Metro.

In surveying the estates as part of the LAP preparation process (Q3 2016), the estates are deemed to operate at roughly 75-80% occupancy rate, and provide a considerable level of local employment.

### **Alternative 2B: Propose a re-zoning away from Z6**

This alternative considered a rezoning of these lands as part of the City Development Plan review, under objective CEE04. Located within close proximity to schools, parks and a wide variety of community facilities, consideration was given to the suitability of these sites for residential purposes.

**Alternative Chosen:** Taking account of the existing employment basis within these estates, the need to create additional local employment, Ballymun's classification as a disadvantaged area (Pobal index), and the availability of land for housing in the LAP area, it is considered that these two industrial estates should remain employment centres for Ballymun and retain their Z6 zoning status. The LAP supports the growth and consolidation of these industrial estates.

### **6.4.3 Alternative No. 3: Balbutcher Lane Road network**

**Location:** Road network alterations along Balbutcher Lane North in Poppintree, for the road network adjoining Poppintree Community and Sports Centre.

**Context:** The Ballymun Masterplan, as updated through the regeneration process, proposed changes to the road network in Poppintree, entailing the creation of cul-de-sacs along Balbutcher Lane to create a large area of open space (sports park) linking into the Poppintree Community and Sports Complex, and the redirection of traffic through Hampton Woods to St. Margaret's Road and via an extension of Carrig Road linking Balbutcher Lane North and South. This road proposal was in part linked to a large way-leave that existed through the open space and a desire to direct through traffic onto the realigned St. Margaret's Road. In preparing the LAP this specific road proposal was reviewed.

### **Alternative 3A: Extinguish section of Balbutcher Lane North**

One alternative considered was to retain the Masterplan objective to extinguish a section of Balbutcher Lane North creating a cul-de-sac to the immediate north-east of No. 228 Balbutcher Lane, and with Balbutcher Lane north terminating at the 5-side of Poppintree Community and Sports Complex. Traffic would be redirected north through Hampton Wood to St. Margaret's Road; north along Carton Terrace, and with a new north-south link at Carrig Road. This alternative allows for the creation of a large area of open space (zoned Z9) to link directly with the Poppintree Community and Sports Centre.



- Road to be extinguished as per the Ballymun Masterplan

*Extract from Dublin City Development Plan showing existing road network at Balbutcher Lane and Z9 lands either side*

### **Alternative 3B: Retain Balbutcher Lane in its current format**

The alternative is to retain the existing Balbutcher Lane in its current format. This scenario will require some modification to the intersection between Balbutcher Lane and Carton Terrace. It also divides the area of open space, zoned Z9 into two parts.

**Alternative Chosen:** During the SEA and LAP preparation process all outstanding road and infrastructure projects required to serve the area and individual sites were reviewed. The sporting provision was also reviewed in consultation with local clubs and providers. No clear sporting use was identified for the adjoining Z9 lands. It was further noted that the wayleave through this area has been substantially diverted north to St. Margaret's Road, thus potentially allowing future development on the adjoining lands. In the absence of any clear sporting requirement it is not considered necessary to alter the road network at this location.

Following publication of the Draft LAP requests were made to provide a skate and bike park and / or allotments and a community farm in Ballymun. It is an objective of the adopted plan (SRO9) to review the use of the site to the north of this road for such uses or residential development (the latter would involve a variation to the Development Plan and subject to its own SEA and AA process). Pending these land-use examinations, there is no immediate rationale to adjust the road network.

#### **6.4.4 Alternative No. 4: Shangan Road Housing Site**

**Location:** Site No. 10, Shangan Road (see Chapter 6 of LAP)

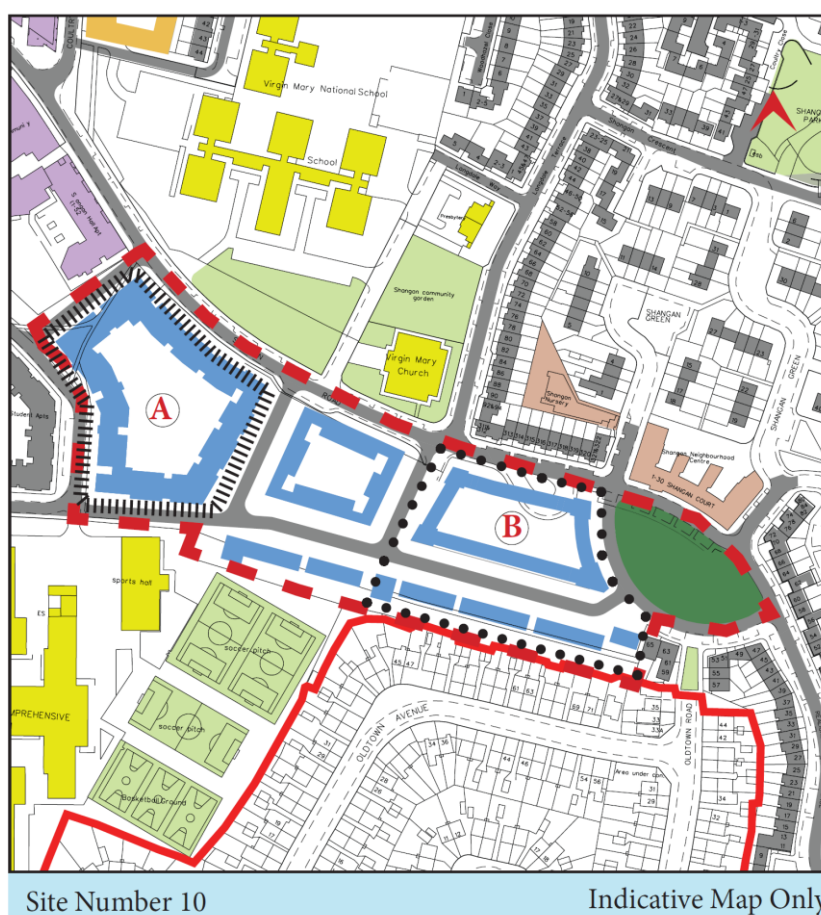
**Site Description:** 3.2 Ha site south of Shangan Road between the (rear of) Ballymun Civic Centre and Shangan Neighbourhood Centre and north of Oldtown Avenue.

**Zoning:** This site is zoned Z1 with the Dublin City Development Plan 2016-2022 with a stated objective to protect, provide and improve residential amenities.



**Context:** In the context of preparing the Local Area Plan a workshop was held on the 18th May 2016 with all of the sporting organisations within Ballymun, sporting governing bodies, the education providers including adjoining third level institutions and DCC staff. The needs of the sporting community were expressed and a list of priority projects identified. The number one project identified at this workshop was the creation of an enlarged astro-turf pitch to the rear of the Trinity Sports Complex that could be used by the school during the day and the community at evenings and weekends.

Both alternatives accommodate a new access road from Main Street linking to Shangan Road.



*(Taken from Chapter 6 of Draft LAP)*

#### **Alternative 1: Develop the site for residential uses only**

This alternative would see residential development across the entirety of the site at various densities to integrate with existing development. It is estimated that the site could accommodate c. 150-180 residential units, with buildings of 4/5 storey development adjacent to the Civic Centre and 2/3 storeys adjoining Oldtown Avenue and Shangan Road/Avenue. The development would align with objectives of the LAP and City Development Plan core strategy to provide sustainable residential densities in the city, within proximity to public transport, services and amenities.

#### **Alternative 2: Provide sporting uses alongside residential development**

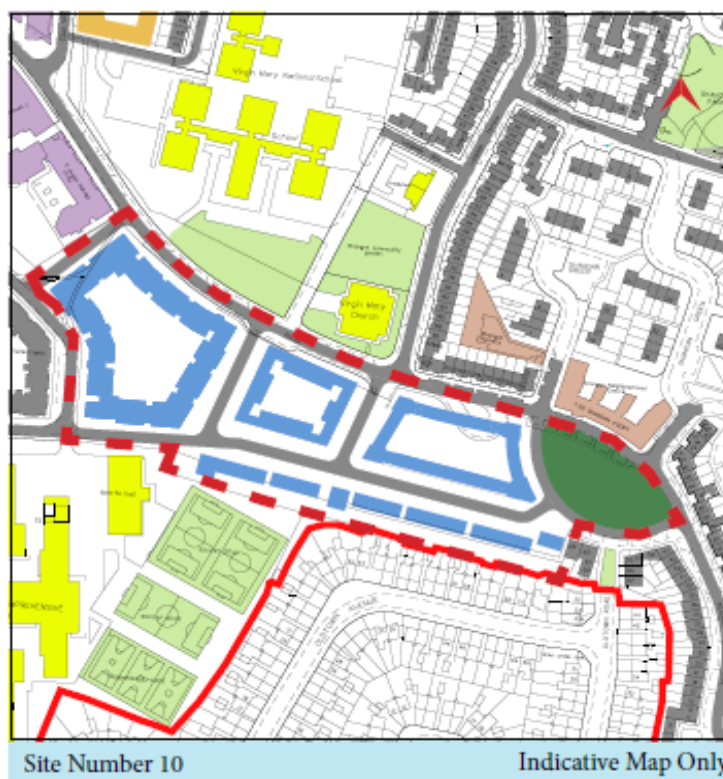
This alternative would see a mix of residential and sporting uses for this site. The no. 1 priority project identified at the sporting consultation workshop was for the provision of an enlarged all-weather pitch to the rear of the Trinity Comprehensive School. In order to



accommodate this option it would be necessary to reduce the amount of land allocated for residential purposes thus reducing the density of the overall site. This alternative allows for the creation of a sporting hub when viewed alongside the existing gym, Futsal Dome and tennis courts.

**Alternative Chosen:** Both of these alternatives were considered during the SEA and LAP preparation process, and both are considered to have significant benefits for the local population and a positive / negligible impact on the environment. At the Draft LAP stage, it was considered that a final decision on the use of the lands was best made following the review of the GAA facilities (objective SR08 of the Draft Plan; SRO8 deleted and replaced with SRO12 in adopted Plan) and the review of the Z9 lands (objective SRO7 of the Draft Plan; SRO7 amended and renumbered SRO9), to avoid an over provision of open space viewed against the need to provide housing within the City.

Following the public consultation phase of the Draft LAP requests were received to provide a site for Ballymun Kickhams / enhanced GAA facilities. Site no. 31 (Balcurris) was identified as a potential location for such uses to be explored as per objective SRO12. Subsequently the alternative proposal to provide sporting uses alongside residential development has since been excluded and the site brief for site no. 10 Shangan amended, see below. The selection of Alternative no.4B in the adopted Plan still accords with the overriding vision and ethos of the Draft Plan which is for the consolidation of development, maximising resources and reducing travel patterns.



*(Taken from Chapter 6 of adopted LAP, pg 49)*

## 7 Evaluation of Alternative Plan Scenarios

### 7.1 Introduction

Article 5 of the SEA Directive requires the Environmental Report to evaluate the alternatives identified.

The alternatives identified in **Section 6** have each been assessed against the Environmental Protection Objectives previously identified and outlined in **Section 4** above and set out again below.

Environmental Protection Objectives	
ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
Population and Human Health	<b>PHH</b> To create a sustainable compact city in which to live, work and/or visit. <i>(other EPOs relating to population and human health are covered under each of the environmental headings below)</i>
Biodiversity/Flora & Fauna	<b>BFF</b> To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.
Air Quality & Noise	<b>AN1</b> To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter).  <b>AN2</b> To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.
Climatic Factors	<b>CF</b> To minimise emissions of greenhouse gases.
Water	<b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.  <b>W2</b> To reduce and manage the risk of flooding.  <b>W3</b> To provide adequate wastewater treatment, water distribution and drainage networks.
Material Assets	<b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling.  <b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.
Cultural Heritage	<b>CH</b> 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.
Landscape & Soils	<b>LS</b> To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.

The impact of each alternative is assessed against the Environmental Protection Objectives, using the following assessment key: -

<b>SYMBOL</b>	<b>IMPACT ON THE ENVIRONMENTAL PROTECTION OBJECTIVE</b>
+	Significant Beneficial Impact
?	Uncertain impact
x	Significant Adverse Impact
0	No Relationship, or Insignificant Impact

Tables 14 – 17 below evaluate the alternatives considered against each of environmental protection objectives.

## 7.2 Evaluation of Alternatives

**Table 14: Alternative No.1 Coultry, Main Street**

*Location: Site 6, Main Street (north of the Boiler House)*

<b>EPO</b>	<b>Alternative 1A</b>	<b>Alternative 1B</b>
	<b>Retain nos. 18-25 Coultry Gardens and develop vacant lands around them.</b>	<b>Acquire and demolish Nos. 18-25 Coultry Gardens to make way for a comprehensive redevelopment option.</b>
<b>PHH</b>  To create a sustainable compact city in which to live, work and/or visit.	x  This alternative allows for development of a key Main Street site, though at a reduced scale, thus undermining the ability to create a compact city.	+  With an unencumbered site opportunities are available to maximise development potential, along the Main Street, within a KDC, in proximity to the town services and amenities.
<b>BFF</b>  To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.	x  The gardens of the 8 no. houses offer little biodiversity protection – the rear gardens are mostly used for car parking (radburn style housing) and the front gardens have limited landscaping.	+  Maximising development of this Main Street site would reduce the requirement for greenfield development elsewhere in the wider city area.  A comprehensive redevelopment proposal will be required to produce a landscaping plan/ biodiversity protection as part of the redevelopment.
<b>AN1</b>  To protect good air quality status and	x  Retaining the 8 no. houses reduces the development potential of the site,	+/ x  The ability to maximise development along a key public transport route

<p>minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</p>	<p>thereby reducing users along a key public transport route (and potential Metro route).</p>	<p>(and potential Metro route) will lessen the need for car base travel.</p> <p>The demolition of the 8 no. houses has the potential to cause short term air pollution (procedures to be put in place to mitigate).</p>
<p><b>AN2</b></p> <p>To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</p>	<p>x</p> <p>By retaining the 8 no. units, constructed in the 1960's, the residents in these houses will be in relative close proximity to noise associated with Main Street, and to the adjoining mixed-use site.</p>	<p>+</p> <p>Redevelopment of the entire site allows for the new development to form a noise barrier between the Main Street and nearby residential houses.</p>
<p><b>CF</b></p> <p>To minimise emissions of greenhouse gases.</p>	<p>x</p> <p>The existing 8 no. houses were built in the 1960s, with poor insulation and poor energy ratings. DCC is currently in the process of retro-fitting all of its housing in Ballymun – including 2 of the 8 no. houses.</p>	<p>+ / x</p> <p>The construction period will result in increased CO2 emissions for a temporary (short-term) duration. All new developments (buildings) regardless of use will have much greater energy efficiency than the existing 8 no. houses, thus contributing towards a reduction in green-house gas emissions.</p>
<p><b>W1</b></p> <p>To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</p>	<p>x</p> <p>The existing surface network at Coultury Gardens is in need of upgrading to prevent flooding and contamination of surface water.</p>	<p>+ / x</p> <p>Redevelopment offers the opportunity to introduce SuDS measures into the site. Development will require sufficient additional capacity at the Ringsend Wastewater Treatment Plant.</p>
<p><b>W2</b></p> <p>To reduce and manage the risk of flooding.</p>	<p>x</p> <p>The existing surface water network at Coultury Gardens is in need of upgrading.</p>	<p>+</p> <p>New development must comply with the 'Ballymun Surface Water Masterplan'. Opportunities for SuDS should be identified. Comprehensive redevelopment allows for surface water upgrades for Coultury Gardens to be carried out in tandem with the development.</p>
<p><b>W3</b></p> <p>To provide adequate wastewater treatment, water distribution networks and drainage networks</p>	<p>x / 0</p> <p>The existing surface network at Coultury Gardens is identified as in need of upgrading. The existing houses are catered for within the existing Ringsend Wastewater</p>	<p>+ / x</p> <p>Redevelopment offers the opportunity to introduce SuDS measures into the site and to comply with the Ballymun Surface Water Masterplan. All new development must be capable of being met by</p>

	treatment plant.	adequate capacity at the Ringsend Wastewater treatment plant.
<p><b>MA1</b></p> <p>To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</p>	<p>x</p> <p>Maximising densities along public transport routes is one of the most effective ways of encouraging modal split. Retaining the 8 no. houses still allows for redevelopment of the adjoining site, but the overall densities achieved will be far lower and configuration/ design will not maximise the sites potential.</p>	<p>+</p> <p>Comprehensive redevelopment allows for greater densities to be achieved along the Ballymun Main Street, which currently has a QBC and is identified as the route for the future Metro North. It also allows for the provision of a new link to Main Street, providing more direct pedestrian and cycle routes to the Coultry neighbourhood.</p>
<p><b>MA2</b></p> <p>To reduce the generation of waste and adopt a sustainable approach to waste management.</p>	<p>0</p> <p>The existing houses all have access to a wheelie bin collection service.</p>	<p>x / 0</p> <p>The demolition of the 8 no. houses will generate waste.</p> <p>All new developments, be they residential, commercial or industrial will be required to meet Development Plan Standards for waste management and recycling within new schemes.</p>
<p><b>CH</b></p> <p>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.</p>	<p>0</p> <p>Ballymun has two protected structures located to the immediate north of the site.</p>	<p>0 / +</p> <p>Ballymun has two protected structures located to the immediate north of the site. New development will be required to take the setting and these buildings into account in future redevelopment.</p>
<p><b>LS1</b></p> <p>To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.</p>	<p>x</p> <p>Retaining the 8 no. houses reduces the capacity of the site to deliver sustainable densities along a public transport route, in turn requiring development elsewhere and potentially on greenfield areas.</p>	<p>+</p> <p>Developing the site to its optimum helps to consolidate the city and safeguard greenfield areas that otherwise may be developed.</p>

**Table 15: Alternative No. 2: Industrial Estates**

*Location: Ballymun and Poppintree Industrial Estates*

<b>EPO</b>	<b>Alternative 2A</b>	<b>Alternative 2B</b>
<p><b>PHH</b></p> <p>To create a sustainable compact city in which to live, work and/or visit.</p>	<p>+</p> <p>Industrial Estates provide local employment within walking/ cycling distance of a significant population base.</p>	<p>+</p> <p>Rezoning to residential would allow for sustainable density developments being built within proximity of a host of social and community facilities.</p>
<p><b>BFF</b></p> <p>To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.</p>	<p>0 / +</p> <p>Landscaping within the Ballymun Industrial estate is minimal / poor. Retaining it in its current state offers little opportunity to enhance biodiversity.</p> <p>The Poppintree Industrial estate has good street tree planting / landscaping and some hedgerow planting. Maintaining it in its current form provides good habitat protection.</p>	<p>+ / x</p> <p>Redevelopment of the estates would allow for enhanced biodiversity habitat at Ballymun Industrial Estate, but would likely result in a reduction in habitat at the Poppintree Industrial Estate, based on current layouts.</p>
<p><b>AN1</b></p> <p>To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</p>	<p>0 / x</p> <p>Changes of use within the estate / expansion would be subject to planning permission. The nature of the industrial use has the potential to affect air quality.</p>	<p>+</p> <p>Residential development built to modern building standards, and ancillary green spaces would minimise air pollution.</p>
<p><b>AN2</b></p> <p>To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</p>	<p>0/x</p> <p>Retaining existing uses will result in acoustic quality remaining at its current level. The noise maps shown in Section 3 show the roads and not the industrial estates as the main generators of noise locally.</p> <p>Expansions/changes in industrial use have the potential to alter noise quality.</p>	<p>+</p> <p>The noise maps shown in Section 3 show the roads and not the industrial estates as the main generators of noise locally.</p>

<p><b>CF</b></p> <p>To minimise emissions of greenhouse gases.</p>	<p>0 / x</p> <p>Greenhouse gas emissions would remain at existing levels. Changes in use/ expansion within the industrial estates have the potential to alter greenhouse gasses.</p>	<p>x / +</p> <p>The demolition and construction period would result in increased CO2 emissions for a temporary (short term) duration.</p> <p>All new developments (buildings) regardless of use will be required to have good energy efficiency, thus contributing towards a reduction in green-house gas emissions. An amenity area would help to counter balance any greenhouse gas emissions.</p>
<p><b>W1</b></p> <p>To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</p>	<p>0 / x</p> <p>There is one small pond within the IDA Industrial Estate (Poppintree Industrial Estate). The IDA philosophy of retaining land to allow for expansion also means that there are a number of large green areas existing which allow for natural soakage. Expansion into these areas would be required to provide adequate SuDs measures.</p>	<p>+</p> <p>Redevelopment offers the opportunity to introduce new SuDS measures into the sites, which would be of particular benefit at the Ballymun Industrial Estate. Development will require sufficient capacity at the Ringsend Wastewater Treatment Plant.</p>
<p><b>W2</b></p> <p>To reduce and manage the risk of flooding.</p>	<p>0 / +</p> <p>The site is located within Flood Zone C within which all development is acceptable. Expansion within the Poppintree Industrial Estate is capable on the existing green spaces within the IDA Estate and on the former Mouldpro brownfield site. New developments will be required to introduce SuDS.</p>	<p>+</p> <p>The site is located within Flood Zone C within which all development is acceptable. Redevelopment for residential and parkland offers the opportunity to introduce SuDS measures into the site.</p>
<p><b>W3</b></p> <p>To provide adequate wastewater treatment, water distribution networks and drainage networks.</p>	<p>0 / x</p> <p>Retaining the current uses within the estates would result in no change in the waste water status. Changes in use/ expansion / development within the estates poses potential changes to the waste discharge which would need to be catered for at the Ringsend Wastewater Treatment Plant.</p>	<p>+</p> <p>Redevelopment offers the opportunity to introduce SuDS measures into the site. New development would need to be catered for by the Ringsend Wastewater Treatment Plant.</p>



<p><b>MA1</b></p> <p>To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</p>	<p>0</p> <p>Providing local employment offers opportunities to walk/ cycle to work. Both estates are served by Dublin Bus.</p> <p>Permeability through the Poppintree Industrial Estate is limited/ poor.</p>	<p>+</p> <p>Providing new residential development in areas well served by Dublin Bus offers opportunities to commute sustainably.</p> <p>Redevelopment also offers the potential to create enhanced permeability.</p>
<p><b>MA2</b></p> <p>To reduce the generation of waste and adopt a sustainable approach to waste management.</p>	<p>0 / x</p> <p>Retaining current uses would result in no change in waste management matters. Opportunities for change of use/ expansion/ new development could alter the generation of waste from these estates.</p>	<p>x / +</p> <p>The demolition of both industrial estates will generate significant levels of waste during the redevelopment stage.</p> <p>All new developments will be required to meet Development Plan Standards for waste management and recycling within new schemes.</p>
<p><b>CH</b></p> <p>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.</p>	<p>0</p> <p>There are no recorded features of notable heritage value.</p>	<p>0</p> <p>There are no recorded features of notable heritage value.</p>
<p><b>LS</b></p> <p>To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.</p>	<p>0</p> <p>There will be no change in the landscape and soil status.</p>	<p>+</p> <p>The development of the site will help consolidate the city and reduces the need for developing greenfield sites while also providing an area suitable for biodiversity enhancement.</p>

**Table 16: Alternative No. 3: Balbutcher Lane Road network**

*Location: Road network alterations along Balbutcher Lane North in Poppintree, for the road network adjoining Poppintree Community and Sports Centre.*

<b>EPO</b>	<b>Alternative 3A</b>	<b>Alternative 3B</b>
<p><b>PHH</b></p> <p>To create a sustainable compact city in which to live, work and/or visit.</p>	<p>0 / +</p> <p>While vehicular traffic would be redirected in this area, permeability for pedestrians and cyclists would be retained. The removal of the road would allow greater scope/opportunities for the Z9 area. The existing No. 13 bus route would be required to be redirected.</p>	<p>0</p> <p>The existing road network serves the area well.</p>
<p><b>BFF</b></p> <p>To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.</p>	<p>+</p> <p>Removing the road creates the potential to create a contiguous green area and presents an opportunity to encourage bio-diversity and layout habitats conducive to species variety.</p>	<p>x</p> <p>The road bisects the green area in two, reducing opportunities for habitats.</p>
<p><b>AN1</b></p> <p>To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</p>	<p>0</p> <p>While vehicular traffic would be redirected in this area, permeability for pedestrians and cyclists would be retained. The diverted traffic would not be required to drive any significant extra distances.</p>	<p>0</p> <p>There would be no appreciable change in air quality status.</p>
<p><b>AN2</b></p> <p>To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</p>	<p>0</p> <p>The rearrangement of road layouts will divert traffic away from adjoining residential areas thus improving their amenity; but would conversely direct additional traffic in other residential areas.</p>	<p>0 / +</p> <p>The LAP proposes to retain the existing road network at Balbutcher Lane, while also providing new connections in the Poppintree area, in particular with Hampton Woods and at Carrig Road, which will facilitate some reduction of traffic along Balbutcher Lane, and a reduction in overall noise levels.</p>

<b>CF</b> To minimise emissions of greenhouse gases.	0 There will be no significant impact.	0 There will be no significant impact.
<b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.	0 There will be no significant impact.	0 There will be no significant impact.
<b>W2</b> To reduce and manage the risk of flooding.	+	0 No change to the current road network, therefore no additional risk of flooding; no opportunity for new SuDs.
<b>W3</b> To provide adequate wastewater treatment, water distribution networks and drainage networks.	+	0 There will be no significant impact.
<b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling.	0 / + While vehicular traffic would be redirected in this area, permeability for pedestrians and cyclists would be retained. The existing No. 13 Dublin Bus would require re-routing.	+
<b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.	x Removal of the existing road will generate some levels of waste.	0 No waste generated by retaining existing road network.

<p><b>CH</b></p> <p>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.</p>	<p>0</p> <p>There will be no significant impact.</p>	<p>0</p> <p>There will be no significant impact.</p>
<p><b>LS</b></p> <p>To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils</p>	<p>0</p> <p>There will be no significant impact.</p>	<p>0</p> <p>There will be no significant impact.</p>

**Table 17: Alternative No. 4: Shangan Road housing site**

*Location: Shangan (Site No 10 in Chapter 6 of LAP)*

<b>EPO</b>	<b>Alternative 4A</b>  To provide residential development across the entire site.	<b>Alternative 4B</b>  To provide residential development and an extension of the sporting facilities to the rear of the Trinity Comprehensive school (all weather pitch).
<b>PHH</b>  To create a sustainable compact city in which to live, work and/or visit.	+  New housing will be provided in close proximity to schools, sports facilities, retail and cultural attractions and a key public transport route.	+  New and existing residents will benefit from enhanced sporting facilities.
<b>BFF</b>  To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.	+  There are opportunities for integrating biodiversity measures in the new-build – gardens, street trees, landscaping etc.	+ / x  There are opportunities for integrating biodiversity measures in the new housing areas– gardens, street trees, landscaping etc. The all-weather pitch will not enhance biodiversity.
<b>AN1</b>  To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter).	+  The provision of residential development in an already urban setting would lessen the need for development in a Greenfield setting.	+ / x  The provision of a sports pitch will reduce the number of housing units provided and with that local pollution sources. However it may force new housing developments to Greenfield sites, requiring greater travel distances.
<b>AN2</b>  To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.	0  A development such as this is not likely to generate significant noise levels.	x  The use of an all-weather pitch will generate some levels of noise within a residential setting.
<b>CF</b>  To minimise emissions of greenhouse gases.	+ / x  The construction period will result in increased CO2 emissions for a temporary duration.  All new developments (buildings) will be required to have high levels of energy efficiency.	+ / x  The construction period will result in increased CO2 emissions for a temporary duration.  All new developments (buildings) will be required to have high levels of energy efficiency.

<p><b>W1</b></p> <p>To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</p>	<p>+</p> <p>Development at this site must be accompanied by surface water attenuation (proposed opposite the Shangan Neighbourhood Centre); which will reduce risk of flooding and opportunities for surface water contamination.</p> <p>Redevelopment also offers the opportunity to introduce SuDS measures into the site.</p>	<p>+</p> <p>Development at this site must be accompanied by surface water attenuation (proposed opposite the Shangan Neighbourhood Centre); which will reduce risk of flooding and opportunities for surface water contamination.</p> <p>Redevelopment also offers the opportunity to introduce SuDS measures into the site.</p>
<p><b>W2</b></p> <p>To reduce and manage the risk of flooding.</p>	<p>+</p> <p>The site is located within Flood Zone C within which all development is acceptable. Development at this site must be accompanied by surface water attenuation (proposed opposite the Shangan Neighbourhood Centre); which will reduce risk of flooding and opportunities for surface water contamination.</p> <p>Redevelopment also offers the opportunity to introduce SuDS measures into the site.</p>	<p>+</p> <p>The site is located within Flood Zone C within which all development is acceptable. Development at this site must be accompanied by surface water attenuation (proposed opposite the Shangan Neighbourhood Centre); which will reduce risk of flooding and opportunities for surface water contamination.</p> <p>Redevelopment also offers the opportunity to introduce SuDS measures into the site.</p>
<p><b>W3</b></p> <p>To provide adequate wastewater treatment, water distribution networks and drainage networks.</p>	<p>+ / x</p> <p>Redevelopment offers the opportunity to introduce SuDS measures into the site. Waste from new development must be capable of being treated by the Ringsend Wastewater Treatment Plan.</p>	<p>+ / x</p> <p>Redevelopment offers the opportunity to introduce SuDS measures into the site. Providing the pitch will lessen the number of residential units achievable and with that the impact on the Ringsend Wastewater Treatment Plan.</p>
<p><b>MA1</b></p> <p>To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</p>	<p>+</p> <p>Maximising residential development in close proximity to the Ballymun Main Street (QBC and future Metro line), allows potential to maximise commuting by sustainable means.</p>	<p>+</p> <p>While this alternative reduces the levels of residential units, it also allows for enhanced recreational sporting facilities in proximity to new residents, thus allowing access to recreational facilities by sustainable means.</p>
<p><b>MA2</b></p> <p>To reduce the generation of waste and adopt a sustainable approach to waste management</p>	<p>0</p> <p>All new developments will be required to meet Development Plan Standards for waste management and recycling within new schemes.</p>	<p>0</p> <p>All new developments will be required to meet Development Plan Standards for waste management and recycling within new schemes.</p>

<p><b>CH</b></p> <p>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</p>	<p>0</p> <p>There are no recorded features of notable heritage value.</p>	<p>0</p> <p>There are no recorded features of notable heritage value.</p>
<p><b>LS</b></p> <p>To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils</p>	<p>+</p> <p>The development of the site will help consolidate the city while also providing opportunities to develop areas suitable for biodiversity enhancement.</p>	<p>+</p> <p>The development of the site will help consolidate the city while also providing opportunities to develop areas suitable for biodiversity enhancement.</p>

### 7.3 Preferred Alternative Scenarios

#### 7.3.1 Alternative No. 1: Coultrey, Main Street

Table 18 below summarises the environmental assessment of the alternatives considered for Site 6, Main Street (north of the Boiler House).

**Table 18: No. 1 Alternative Summation**

EPO	Alternative 1A Retain nos. 18-25 Coultrey Gardens and develop vacant lands around them.	Alternative 1B Acquire and demolish Nos. 18-25 Coultrey Gardens to make way for a comprehensive redevelopment option.
PHH	x	+
BFF	x	+
AN1	x	+ / x
AN2	x	+
CF	x	+ / x
W1	x	+ / x
W2	x	+
W3	x / 0	+ / x



MA1	x	+
MA2	0	x / 0
CH	0	0 / +
LS	x	+

**Alternative Chosen 1B:** Given the location of the site along the Main Street and along a future Metro route, the complexity of the layout of the existing houses and road network serving them; together with the need to optimise best use of available land within the city, and in particular along public transport routes, the LAP favours the demolition of the 8 no. houses in order to optimise development potential of the site.

### 7.3.2 Alternative No. 2: Industrial Estates

Table 19 below summarises the environmental assessment of the alternatives considered for the Ballymun and Poppintree Industrial Estates.

**Table 19: No. 2 Alternative Summation**

EPO	Alternative 2A To maintain these industrial estates for the stated zoning purpose of enterprise and employment creation.	Alternative 2B To favour a rezoning of these lands to residential as part of the City Development Plan review, under objective CEE04.
PHH	+	+
BFF	0 / +	+ / x
AN1	0 / x	+
AN2	0 / x	+
CF	0 / x	+ / x
W1	0 / x	+
W2	0 / +	+
W3	0 / x	+
MA1	0	+
MA2	0 / x	+ / x
CH	0	0
LS	0	+

**Alternative Chosen 2A:** Taking account of the existing employment basis within these estates, the need to create additional local employment, and the availability of land for housing in the LAP area, it is considered that these two industrial estates should remain employment centres for Ballymun and retain their Z6 zoning status. The LAP supports the growth and consolidation of these industrial estates.

### 7.3.3 Alternative No. 3: Balbutcher Lane Road Network

Table 20 below summarises the environmental assessment of the alternatives considered for the road network in Poppintree.

**Table 20: No. 3 Alternative Summation**

EPO	Alternative 3A	Alternative 3B
	Retain Ballymun Masterplan objective to remove a section of Balbutcher Lane creating a cul-de-sac to the immediate north-east of No. 228 Blabutcher Lane, and with Balbutcher Lane north terminating at the 5-side of Poppintree Community and Sports Complex.	Retain the existing Balbutcher Lane road network in its current format. This scenario will require some modification to the intersection between Balbutcher Lane and Carton Terrace. It also divides the area of open space, zoned Z9 into two parts.
PHH	0 / +	0
BFF	+	x
AN1	0	0
AN2	0	0 / +
CF	0	0
W1	0	0
W2	+	0
W3	+	0
MA1	0 / +	+
MA2	x	0
CH	0	0
LS	0	0

**Alternative Chosen 3B:** During the LAP preparation process all outstanding road and infrastructure projects required to serve the area and individual sites were reviewed. The sporting provision was also reviewed in consultation with local clubs and providers. No clear sporting use was identified for the adjoining Z9 lands. It was further noted that the wayleave through this area has been substantially diverted north to St. Margaret's Road, thus potentially allowing future development on the adjoining lands. In the absence of any clear sporting requirement it is not considered necessary to alter the road network at this location.

Following publication of the Draft LAP requests were made to provide a skate and bike park and / or allotments and a community farm in Ballymun. It is an objective of the adopted plan (SRO9) to review the use of the site to the north of this road for such uses or residential development (the latter would involve a variation to the Development Plan and subject to its own SEA and AA process). Pending these land-use examinations, there is no immediate rationale to adjust the road network. Furthermore it is noted that both alternatives have a negligible / positive impact on the local population / environment.

#### 7.3.4 Alternative No. 4: Shangan Road Housing Site

Table 21 below summarises the environmental assessment of the alternatives considered for Shangan (Site No 10 in Chapter 6 of LAP).

**Table 21: No. 4 Alternative Summation**

EPO	Alternative 4A To provide residential development across the entire site.	Alternative 4B To provide residential development and an extension of the sporting facilities to the rear of the Trinity Comprehensive school (all weather pitch).
PHH	+	+
BFF	+	+ / x
AN1	+	+ / x
AN2	0	x
CF	+ / x	+ / x
W1	+	+
W2	+	+
W3	+ / x	+ / x
MA1	+	+
MA2	0	0
CH	0	0
LS	+	+

**Alternative Chosen 4A & 4B:** Both of these alternatives were considered during the LAP preparation process, and both are considered to have significant benefits for the local population. It is considered that a final decision on the use of these lands is best made following the review of GAA facilities for the area (objective SR08 of the LAP; SRO8 deleted and replaced with SRO12 in adopted Plan) and the review of the Z9 lands to the west of Carton Terrace (objective SR07 of the Draft Plan; SRO7 amended and renumbered SRO9), to avoid an over provision of open space viewed against the need to provide housing within the City.

Following the public consultation phase of the Draft LAP requests were received to provide a site for Ballymun Kickhams / enhanced GAA facilities. Site no. 31 (Balcurris) was identified as a potential location for such uses to be explored as per objective SRO12. Subsequently the alternative proposal to provide sporting uses alongside residential development has since been excluded and the site brief for site no. 10 Shangan amended. The selection of Alternative no.4B in the adopted Plan still accords with the overriding vision and ethos of the Draft Plan which is for the consolidation of development, maximising resources and reducing travel patterns. Furthermore it is noted that both alternatives have a negligible / positive impact on the local population / environment.

## 8 Evaluation of LAP Objectives

### 8.1 Introduction

This section of the Environmental Report evaluates the objectives of the Local Area Plan and should be read in conjunction with the Evaluation Matrix set out in 8.3. 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 Ballymun 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. It should be noted that the Local Area Plan is a land use plan for the Ballymun area that sits within the Dublin City Development Plan. It does not replace the policies and objectives of the Development Plan but rather compliments them.

### 8.2 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 (detailed below in 8.3). The objectives of the local area plan were tested against the Environmental Protection Objectives developed earlier in the SEA process (Chapter 4 and detailed below). Such a process details potential beneficial/adverse impacts that have been identified in line with the requirements of the SEA Directive. Potential effects have been categorised as having the 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'

**Table 22: Environmental Protection Objectives**

ENVIRONMENTAL RECEPTOR	ENVIRONMENTAL PROTECTION OBJECTIVE
<b>Population and Human Health</b>	<b>PHH</b> To create a sustainable compact city in which to live, work and/or visit.  <i>(other EPOs relating to population and human health are covered under each of the environmental headings below)</i>
<b>Biodiversity/Flora &amp; Fauna</b>	<b>BFF</b> To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.
<b>Air Quality &amp; Noise</b>	<b>AN1</b> To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides & Particulate Matter).  <b>AN2</b> To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.

<b>Climatic Factors</b>	<b>CF</b> To minimise emissions of greenhouse gases.
<b>Water</b>	<b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area. <b>W2</b> To reduce and manage the risk of flooding. <b>W3</b> To provide adequate wastewater treatment, water distribution and drainage networks.
<b>Material Assets</b>	<b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking & cycling. <b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.
<b>Cultural Heritage</b>	<b>CH</b> 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.
<b>Landscape &amp; Soils</b>	<b>LS</b> To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.

**Table 23: Environmental Protection Objectives Evaluation Criteria**

Will the implementation of the alternative serve to have: -	
A significant beneficial impact on the Environmental Receptor	+
A significant adverse impact on the Environmental Receptor	-
An uncertain impact on the Environmental Receptor	?
An insignificant impact or no relationship with the Environmental Receptor	0

### 8.3 Ballymun LAP Objectives & Evaluation Matrix

#### **Key Principles (Chapter 4)**

**KP1:** To develop the remaining vacant sites in a sustainable manner.

**KP2:** To develop the remaining residential sites for a mix of house types and tenures to increase the population and support the existing services and businesses in the area.

**KP3:** To attract economic activity and stimulate new employment generating uses within the three key areas of employment; (i) M50 lands, (ii) Main Street and (iii) Industrial Estates, alongside the local level provision operating within the neighbourhood centres.

**KP4:** To create distinctive urban places through the use of intelligent urban design and good quality materials having regard to the existing palette of materials and finishes in the area.

**KP5:** To complete outstanding infrastructure to enhance connectivity both within Ballymun and to the surrounding area, and to service the remaining development sites.

**KP6:** To consolidate existing social and community facilities to maximise their use by the whole community.

**KP7:** To support the local community through the implementation of the Social Regeneration Plan and maintain the level of funding.

**KP8:** To consolidate existing sports and recreation facilities and open space areas to maximise their use by the whole community.

**KP9:** To provide and maintain landscaped parks, greens and tree lined streets respecting the established public realm principles.

**KP10:** To continue to implement the Surface Water Masterplan for Ballymun facilitating development of the vacant sites.

### ***LAP Objectives***

#### Land Use Strategy

**LU1:** Develop the remaining vacant sites in Ballymun in accordance with this LAP.

#### Economic Development & Employment

**EO1:** Complete the redevelopment of the Ballymun Main Street, including the shopping centre site, and attract new employment generating uses.

**EO2:** Demolish the existing shopping centre to make way for a new high density, mixed use development.

**EO3:** Minimise vacancy in the LAP area.

**EO4:** Provide for additional office space along the Main Street.

**EO5:** Provide for additional retail along Main Street.

**EO6:** Support the provision of local retail needs within the neighbourhood centres

**EO7:** Seek the reconfiguration of Cearnóg an tSeachtar Laoch to provide a high quality civic space within the heart of Ballymun

**EO8:** Improve the housing tenure mix in the area.

**EO9:** Develop the M50 lands with a priority given to high density employment generating uses in accordance with Fingal County Council's Development Plan.

**EO10:** Carry out an Economic Analysis of the M50 lands and the mixed use Main Street sites to assist the development of the vacant sites.

**EO11:** Support the delivery of Metro North and the provision of a station in the heart of Ballymun Main Street (in the vicinity of Cearnóg an tSeachtar Laoch) and also in the vicinity of/ linking to the M50 lands.

**EO12:** Support the implementation of the 'Economic Strategy for Ballymun, 2015'.

**EO13:** Support the continued development expansion and intensification of the Poppintree and Ballymun Industrial Estates as employment hubs, and where feasible seek to create defined urban edges to their perimeters to create streetscapes and to work with the IDA where necessary to achieve this objective.



**EO14:** Improve permeability through the Poppintree Industrial Estate. Seek the provision of pedestrian and cycle access from Jamestown Road, either directly to the west of the existing IDA estate or via redevelopment of the former 'Mouldpro' site to the south, in consultation with the IDA.

**EO15:** Ensure that all landowners on the northern fringe maintain their property in a manner which protects the public domain.

**EO16:** Support the branding of Ballymun as a hub for arts and culture, centred round axis Ballymun.

**EO17:** Support environmental initiatives which seek to enhance the local environment and promote the Rediscovery Centre as a flagship resource recovery and education enterprise centre.

**EO18:** Liaise with agencies and organisations working in the Ballymun area to maximise educational opportunities and support access to employment for local residents of Ballymun and the surrounding area.

### Movement

**MO1:** Complete the outstanding pieces of road infrastructure required to enhance connectivity and to service the remaining development sites. All new road schemes will be delivered in accordance with the Principles of Road Development set out in the NTA's 'Transport Strategy for the Greater Dublin Area 2016-2035' (reference Section 5.8.3 of NTA Strategy).

**MO2:** Work with Fingal County Council and the NTA to ensure the provision of a high quality rail transport system (Metro North) is delivered through Ballymun. In order to protect the character of the merging Main Street the LAP is seeking that the future Metro line respects the desire for enhanced permeability, with the line ideally run underground until the junction with Santry Avenue. Future realignment of the Main Street should also provide for enhanced and segregated cycle facilities.

**MO3:** Facilitate the delivery of a core bus corridor through Ballymun as proposed in the NTA transport strategy.

**MO4:** Work with the NTA to ensure that the recommendations of the bus network review are implemented in Ballymun, in particular seeking a new connection between Ballymun and Dublin Airport.

**MO5:** Ensure all new developments are designed with permeability in mind.

**MO6:** Explore the potential for a new access point at Santry Demesne with Fingal County Council and Trinity College Dublin.

**MO7:** Explore the provision of a cycle lane on Santry Avenue in tandem with the NTA 'Bus Network Review'.

**MO8:** Explore the potential of a multi-storey car park near Main Street as part of a sustainable travel strategy.

### Urban Form & Design

**UD1:** Create high quality urban spaces through the use of quality urban design.

**UD2:** Implement the urban form and design objectives set out in detail within Section 5.5.2 of the LAP.

**UD3:** Complete the Main Street creating an attractive space within which to live, shop, do business, and socialise.

**UD4:** Provide a landmark building within the M50 lands.

**UD5:** Carry out an audit of materials within the public realm in Ballymun, and prepare a schedule of appropriate materials in order to ensure consistency and quality in future design responses.

#### Housing & Tenure

**HO1:** Develop the remaining housing sites within Ballymun see Figure 11 in Chapter 6.

**HO2:** Ensure future housing development helps to create a good tenure mix locally and provide various housing types and typologies to meet the needs of all sectors of society.

**HO3:** Seek to improve the income mix in all housing developments in the area to address the issues raised in the Retail Study.

**HO4:** Provide for new social/ voluntary housing via the Part V requirement under the Planning and Development Acts.

**HO5:** Explore options for and provide new affordable housing in the area.

**HO6:** Explore options for and provide new senior citizen housing in the area (step down model preferable).

**HO7:** Establish a monitoring group to review the tenure mix in Ballymun.

**HO8:** Promote self-build housing in the form of terraced homes or housing blocks built by residents or housing co-operatives by making available low-cost housing sites and providing technical assistance to those who wish to house themselves.

#### Social & Community Infrastructure & Supports

**SC1:** Ensure that all community facilities are optimally utilised.

**SC2:** Seek funding for and continue to implement the social regeneration programme: 'Sustaining Regeneration – A social plan for Ballymun'.

**SC3:** Work with the Department of Education and Skills to determine the need for a second level Irish school in the area.

**SC4:** Liaise with the City of Dublin Education and Training Board to ascertain the requirements for further educational services in Ballymun.

**SC5:** In the event that a second level Irish school is deemed to be required, the Council through the social regeneration sub-committee will work with the Department of Culture, Heritage and the Gaeltacht to establish Baile Munna as a "network Gaeltacht" as identified in the 20 year strategy for the Irish Language 2010-2030.

**SC6:** Explore options for the creation of further education hub/life-long learning centre with DCU in the community, Youth Reach/CDET, and Ballymun Job Centre under the remit of the Social Regeneration sub-committee in partnership with the City Council.

#### Sports Recreation & Open Space

**SRO1:** Work with Trinity Comprehensive School to develop a sporting hub for the school and community and explore options to provide a synthetic pitch.

**SRO2:** Support the continued use of the lands at the back of the old Trinity Comprehensive for recreational purposes.

**SRO3:** Provide changing facilities and a new depot within Poppintree Park.

**SRO4:** Maximise the use of the sporting lands to the immediate west of IKEA for use by the whole community.

**SRO5:** Improve use of the pitch at Balcurris Park (including the provision of new ball catching nets).

**SRO6:** Improve and upgrade Belclare Green in tandem with the build out of the adjoining sites (i.e. site brief nos. 20-23).

**SRO7:** Support the provision of new sporting activities / clubs in the area.

**SRO8:** Provide new neighbourhood parks at Shangan Road, Sillogue Road (x2), Balbutcher Lane and Main Street as per the Site Briefs set out in Chapter 6. These spaces should be appropriately designed and landscaped in consultation with the Parks Department. Development sites not required to provide open space shall provide a development contribution to support the delivery and maintenance of open space.

**SRO9:** Review the use of the Z9 lands to the west of Carton Terrace and south of St. Margaret's Road.

**SRO9:** Review the use of the Z9 lands to the west of Carton Terrace and south of St. Margaret's Road, to provide for residential development, which can include co-operative housing, on the western half of the site and to explore the provision of a skate and bike park, and / or allotments and a community farm. An alternative suitable location for these uses may be Site No. 14: Balbutcher Lane. (This may involve a variation to the City Development Plan).

**SRO10:** Explore the provision of a skate and bike park within Ballymun within the Z9 lands to the northwest of Poppintree Community Sports Centre or Site No. 14 (beside the Reco).

**SRO11:** Explore the use of the 'left-over' open space to the south of the Virgin Mary NS in tandem with the development of the housing site to the south (site no. 10).

**SRO12:** Explore options for the provision of a new GAA facility that will provide a new home for Ballymun Kickhams.

**SRO13:** Explore the future use of the DCC lands to the immediate west of Ballymun United, for amenity or housing in collaboration with Fingal County Council and following the outcome of South Fingal Fringe road study.

**SRO14:** Work closely with other bodies and local groups, for example Ballymun Tidy Towns, Global Action Plan etc to enhance amenity value of open spaces in the areas.

#### Green Infrastructure

**G11:** Continue to support and implement the recommendations of the Ballymun Biodiversity Action Plan (2008, 2014) and also the Ballymun Bat Survey 2016.

**G12:** Ensure all new streets are appropriately landscaped and tree lined.

**G13:** Provide a green link connecting Balcurris Park to the M50 via the M50 Lands - Balcurris site (see Chapter 6).

**G14:** Protect existing hedgerows and tree-lines through appropriate landscaping and architectural layouts.

Drainage and Water

**DW1:** Continue to implement the Ballymun Surface Water Masterplan including the provision of necessary upgrading works to the surface water network within the 1960's housing areas of Sillogue Gardens and Coulogy Gardens.

**DW2:** Continue to monitor the quality of water in the Poppintree Pond.

**DW3:** Ensure adequate provision of SuDs in all new developments.

**8.4 LAP Principles & Objectives - Evaluation Matrix**

Key Principles	PHH	BFF	AN1	AN2	CF	W1	W2	W3	MA1	MA2	CH	L
KP1	+	+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0/+/-	+
KP2	+	0	0	0	0	0	0	0	0	0	0	0
KP3	+	+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0	+
KP4	+	0	0	0/+	0	0	0	0	+	0	+	+
KP5	+	-	+	+/-	+	+	+	+	+	0	0	+
KP6	+	0	+	+/-	+	0	0	0	+	0	0	0
KP7	+	0/+	0	0	0	0	0	0	0	0/+	0	0
KP8	+	0	+	+/-	+	0	0	0	+	0	0	0
KP9	+	+	+	+	+	+	+	0/+	+	0	+	+
KP10	+	+	0	0	0	+	+	+	0	0	0	+
LAP Objectives	PHH	BFF	AN1	AN2	CF	W1	W2	W3	MA1	MA2	CH	L
LU1	+	+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0/+/-	+
EO1	+	-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0/+/-	+
EO2	+	0	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	+/-	0	0
EO3	0	0	0	0	0	0	0	0	0	0	0	0
EO4	0	0	0	0	0	0	0	0	0	0	0	0
EO5	+	-	0/+/-	0/+/-	0/+/-	0	0	0	+	0/+/-	0	0/+/-
EO6	+	0	0/+	0	0/+	0	0	0	+	0	0	0
EO7	+	+	0/+	0	0	0	0/+	0	+	0	+	+

LAP Objectives	PHH	BFF	AN1	AN2	CF	W1	W2	W3	MA1	MA2	CH	L
EO8	+	0	0	0	0	0	0	0	0	0	0	0
EO9	+	-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/-	+	0/+/-	0	+
EO10	0	0	0	0	0	0	0	0	0	0	0	0
EO11	+	-	+	+/-	+	0	0	0	+	0	0	-
EO12	+	0	0/+	0/+	0/+	0	0	0	0	0	0	0
EO13	+	0/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0	0
EO14	+	0	+	+	+	0	0	0	+	0	0	0
EO15	0	0	0	0	0	0	0	0	0	0	0	0
EO16	0	0	0	0	0	0	0	0	0	0	+	0
EO17	+	+	+	0	+	+	+	0	+	+	0	+
EO18	+	0	0	0	0	0	0	0	0	0	0	0
MO1	+	-	+	+/-	+	+	+	+	+	0	0	0/+/-
MO2	+	-	+	+/-	+	0	0	0	+	0	0	-
MO3	+	0	+	0/+/-	+	0	0	0	+	0	0	0
MO4	+	0	+	0/+	+	0	0	0	+	0	0	0
MO5	+	0	+	+	+	0	0	0	+	0	0	0
MO6	+	0	+	+	+	0	0	0	+	0	0	0
MO7	+	0	+	0/+	+	0	0	0	+	0	0	0
MO8	-	+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+/-	+/-	0/+/-	+
UD1	+	+	0	0/+	0	0	0/+	0	+	0	+	+
UD2	+	0	0	0/+	0	0	0	0	+	0	+	+
UD3	+	0	0	0	0	0	0	0	+	0	0/+/-	+
UD4	0	0	0	0	0	0	0	0	0	0	0	+
UD5	0	0	0	0/+	0	0	0	0	+	0	+	0
HO1	+	+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	0/+/-	+	0/+/-	0/+/-	+
HO2	+	0	0	0	0	0	0	0	0	0	0	0
HO3	+	0	0	0	0	0	0	0	0	0	0	0
HO4	+	0	0	0	0	0	0	0	0	0	0	0

LAP Objectives	PHH	BFF	AN1	AN2	CF	W1	W2	W3	MA1	MA2	CH	L
HO5	+	0	0	0	0	0	0	0	0	0	0	0
HO6	+	0	0	0	0	0	0	0	0	0	0	0
HO7	+	0	0	0	0	0	0	0	0	0	0	0
HO8	+	0	0	0	0	0	0	0	0	0	0	0
SC1	+	0	0/+	+/-	0/+	0	0	0	+	+	0	0
SC2	+	0	0	0	0	0	0	0	0	+	+	+
SC3	+	0	0	0	0	0	0	0	0	0	0	0
SC4	+	0	0	0	0	0	0	0	0	0	0	0
SC5	+	0	0	0	0	0	0	0	0	0	0	0
SC6	+	0	0	0	0	0	0	0	0	0	0	0
SRO1	+	+/-	0/+	+/-	0/+	0	0	0	+	+	0	0
SRO2	+	0	+	+/-	+	0	0	0	+	0	0	0
SRO3	+	-	0	0	0	0	0	0/-	0	0	0	0
SRO4	+	0	+	0	+	0	0	0	+	0	0	0
SRO5	+	0	+	+/-	+	0	0	0	+	0	0	0
SRO6	+	+	+	+	+	+	+	0	+	0	0	+
SRO7	+	0	0	0	0	0	0	0	+	0	0	0
SRO8	+	+	+	+	+	+	+	0	+	0	0	+
SRO9	+	+	+	+/-	+	+	+	0	+	0	0	+
SRO10	+/0	0	0	+/-	0	0	0	0	0	0	0	+
SRO11	+	+/0	+	+	+	0	0	0	+	0	0	+
SRO12	0	0	0	0	0	0	0	0	0	0	0	0
SRO13	+/0	0	0	0	0	0	0	0	0	0	0	+
SRO14	+	+	+	+	+	+	+	0	+	0	0	+
GI1	+	+	+	+	+	+	+	0	+	0	0	+
GI2	+	+	+	+	+	+	+	0/+	+	0	0	+
GI3	+	+	+	+	+	+	+	0	+	0	0	+
GI4	+	+	+	+	+	+	+	0	0	0	0	+

LAP Objectives	PHH	BFF	AN1	AN2	CF	W1	W2	W3	MA1	MA2	CH	L
DW1	+	+	0	0	0	+	+	+	0	0	0	+
DW2	+	+	0	0	0	+	+	+	0	0	0	+
DW3	+	+	0	0	0	+	+	+	0	0	0	+

**Table 24: Potential LAP Objectives Effects on Environmental Protection Objectives**

Environmental Receptor	Environmental Protection Objective
<b>Population and Human Health</b>	<b>PHH</b> To create a sustainable compact city in which to live, work and/or visit. <i>(other EPOs relating to population and human health are covered under each of the environmental headings below)</i>
<b>Ballymun LAP Objectives Impacts</b>	<p>The over-riding objective to develop the remaining sites in Ballymun will help to fulfil this EPO. Providing new employment opportunities along the Main Street / public transport route and the provision of sustainable residential densities, will help to ensure Ballymun is a compact city neighbourhood within which to live, work and visit. There is a wealth of recreational, sporting and social amenities already available for new residents to avail of.</p> <p>Development in the LAP area will also alleviate the need to develop in areas that may not have existing suitable infrastructure or where the provision of such infrastructure would have adverse impacts on the environment.</p>
<b>Biodiversity, Flora &amp; Fauna</b>	<b>BFF</b> To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of key principles and objectives (KP9, EO17, SRO8, GI1-GI4) in support of this EPO. The LAP outlines the strategy to integrate green infrastructure in new development through the provision of a number of new pocket parks, the provision of tree-lined and landscaped streets and the creation of a green route through the M50 lands and the protection of hedgerows where feasible.</p> <p>Also the LAP promotes the achievement of a more compact city with the reuse of brownfield sites, thus helping to avoid development sprawl to the urban fringes and onto greenfield sites. Such an approach concentrates new development largely into built-up, well-connected urban areas whilst avoiding more environmentally sensitive and vulnerable sites.</p>
<b>Air Quality &amp; Noise</b>	<p><b>AN1</b> To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</p> <p><b>AN2</b> To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</p>
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of key principles and objectives (KP9, EO11, EO17, MO2, SRO8, GI1-GI4) in support of this EPO. The delivery of new homes and employment along a key public transport route and the proposed Metro North route has the potential to encourage high levels of sustainable travel patterns and thus help protect good air quality status and reduce city noise levels.</p>



<b>Climatic Factors</b>	<b>CF</b> To minimise emissions of greenhouse gases.
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of key principles and objectives (KP1, KP5, EO11, EO17, EO18, MO2, GI1-GI4), in support of this EPO.</p> <p>Climatic conditions will be improved with the development of a more compact, consolidated locality in a mixed-use format with retail, commercial, employment, residential and recreational uses all within easy reach of one another either on foot, by bicycle or on public transport. Good public transport linkages, both existing and significant improvements in the future, underpin the sustainable planning approach of the plan. Such an approach will significantly reduce the need to travel by private car, which in turn will result in less waste of energy, reduced emissions of greenhouse gases and reduces the risk of flooding as a result of climate change.</p> <p>There may be short term impacts with regards to emissions related to construction and infrastructure provision. However this will be alleviated over the long term by the reduction in emissions through sustainable development.</p>
<b>Water (Including Flooding)</b>	<p><b>W1</b> To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</p> <p><b>W2</b> To reduce and manage the risk of flooding.</p> <p><b>W3</b> To provide adequate wastewater treatment, water distribution networks and drainage networks.</p>
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of key principles and objectives (KP10, LU1, SRO8, GI2, DW1- DW3) in support of this EPO.</p> <p>There will be intensification of population and of economic activity within the plan area. The expansion and upgrading of the Ringsend Wastewater Treatment Plan is an urgent priority for Irish Water. In 2012 An Bord Pleanála approved permission for the upgrade and expansion of works at the Ringsend wastewater treatment plant in order to maximise its capacity. Irish Water have subsequently carried out a series of reviews including a revision to the approved project which involves the use of the Aerobic Granular Sludge (AGS) technology treatment process and the exclusion of the originally planned 9km undersea tunnel. Their studies show that this treatment process will consistently produce high-quality treated wastewater which can be safely discharged into Dublin Bay. Any deviation from that original approved process will be subject to a separate planning application to An Bord Pleanála. Irish Water has stated their intention to apply to An Bord Pleanála in early 2018 for permission to implement the revised project along with other key waste infrastructure in the Dublin Region.</p> <p>The LAP seeks to complete the Ballymun Surface Waster Masterplan, together with the provision of additional surface water attenuation in Shangan and upgrades to the existing surface water network in Coultrey Gardens and Sillogue Gardens, which seek to reduce and manage the risk of flooding and contamination of</p>

	waters.
<b>Material Assets (Transport &amp; Waste Management)</b>	<p><b>MA1</b> To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</p> <p><b>MA2</b> To reduce the generation of waste and adopt a sustainable approach to waste management.</p>
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of objectives (LU1, EO1 – EO16, MO1 – MO7) in support of this EPO.</p> <p>The LAP supports the provision of suitably high density uses along the Ballymun Main Street which in turn supports public transport along this route and supports the rationale for Metro North.</p> <p>The road network links sought within Chapter 5 and Chapter 6 will provide for greatly enhanced permeability.</p> <p>The new civic amenity centre sought for the Ballymun M50 lands will facilitate access to recycling facilities locally.</p>
<b>Cultural Heritage (Archaeology &amp; Architectural Heritage)</b>	<b>CH</b> 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.
<b>Ballymun LAP Objectives Impacts</b>	<p>The LAP contains a number of key principles and objectives (KP4, KP9, EO16, UD2) in support of this EPO.</p> <p>Overall the plan will have a positive impact in securing the cultural heritage of the area and to ensure there is no loss or adverse impact on structures recorded on the National Inventory of Architectural Heritage or the designation of structures as being protected as per the Planning and Development Acts.</p> <p>The LAP seeks the provision of a new civic amenity space across from St. Pappin's Church to enhance the setting of this historic building.</p>
<b>Landscape &amp; Soils/Geology</b>	<b>LS</b> To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.
<b>Ballymun LAP Objectives Impacts</b>	The LAP contains a number of objectives (GI1 – GI4,) in support of this EPO. The plan is devised on a strategy of integration of land-use and transport integration with the objective of achieving an integrated and connected city allowing for the protection of greenfield sites on the fringes of the urban area. This strategy actively encourages the reuse of brownfield sites in less environmentally sensitive urban areas and significantly lessens pressure for development on greenfield lands.

## **9 Mitigation Measures**

### **9.1 Introduction**

This section describes measures to prevent, reduce and as fully as possible offset any potential environmental effects of implementing the Ballymun Local Area Plan.

As described and detailed in Section 8, potential significant adverse impacts of implementing the Ballymun Local Area Plan arise as a result of objectives to facilitate additional population and economic growth and development, increasing densities and generally facilitating intensification of the city, promoting increased access to recreational areas and promoting taller buildings in some locations. While these objectives are fully in line with national and regional 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 adverse environmental effects as a result of implementing the plan.

Within the LAP, objectives have been included to specifically mitigate against potential adverse environmental impacts, which could arise from implementing the LAP.

### **9.2 Mitigation**

#### **9.2.1 Mitigation through consideration of alternatives**

A number of alternatives were considered at an early stage in the process and evaluated for their likely significant environmental effects (see section 6 and 7 of the Environmental Report). Options considered were based round the use of specific key sites for varying purposes: -

1. Main Street (Site no. 6 to the north of the Boiler House, see Ch 6 of LAP)
2. Ballymun and Poppintree Industrial Estates
3. Road network alterations in Poppintree
4. Shangan (Site no. 10, see Ch 6 of LAP)

By evaluating each of these alternatives against the EPO's, the options chosen for the LAP were based upon informed environmental as well as planning considerations.

#### **9.2.2 Mitigation for Water Issues**

The Ballymun Surface Water Masterplan, which has formed the basis for providing new and improved surface water connections, identifies a number of outstanding pieces of infrastructure necessary to facilitate additional development and to improve two existing areas of housing. In order to facilitate additional new development within the Shangan area, there is a need to provide a new surface water attenuation facility. This is addressed in the site brief for Site No. 10 of Chapter 6 of the LAP and objective DW1 of Chapter 5.

Objective DW1 also specifies the need to upgrade the surface water connections of Sillogue Gardens (Site 11 of Ch. 6) and Coultry Gardens (site nos. 6 & 8 of Ch.6); with this work ideally happening in conjunction with adjoining site development works.

### **9.2.3 Mitigation for Traffic Impacts**

The LAP proposes a number of new road connections considered necessary to serve the area which will enhance permeability and thus reduce (i) the need to travel by car; (ii) the distance undertaken for car trips and (iii) queuing of cars/congestion. These connections detailed under Section 5.4 of the LAP are provided for in the site briefs (chapter 6), will positively impact on noise and air impacts.

### **9.2.4 Mitigation for Air and Noise Impacts**

The single biggest generator of air and noise pollution within the LAP stems from traffic on the road network. The LAP is ideally placed to help reduce traffic on the road network, providing new residential and employment opportunities along a core bus route and a future Metro route, in an area well served by community and social infrastructure. The build out of Ballymun has the ability to consolidate the city, reducing commuter traffic, which in turn will have a positive impact on noise and air pollution.

As required under the Dublin City Development Plan all new proposals will also have to demonstrate sustainable design and construction measures to reduce emissions.

The LAP's settlement strategy will also help to mitigate the impacts of noise pollution, providing new residential units within the "quieter" residential areas, and where appropriate to provide new parks alongside them. Mixed-use and commercial activity will be focused along the Main Street. Where new residential development is proposed along the Main Street, applicants will be required to have regard to the development standards set out within the Dublin City Development Plan, and in particular Section 16.10.3 Residential Quality Standards for Apartments and Houses, which provides recommendations for minimising disruption from noise in dwellings. The Development Plan also states that proposals close to noisy places, such as busy streets may need a noise impact assessment and mitigation plan. Furthermore, where it is considered that a proposed development is likely to create disturbance due to noise, a condition can be imposed by the planning authority on any planning permission limiting the hours of operation and level of noise generation.

## **9.3 Conclusion**

In conclusion it is apparent from the above assessment that the local area plan includes mitigatory measures to offset any potential impacts on the environmental receptors. No additional mitigation measures were considered necessary in relation to any of the environmental receptors. Key principles and objectives have sustainability at their core allowing them to act as mitigation measures to offset potential adverse impacts, and serve to formalise the mitigation measures by fully integrating them into the local area plan process.

## **10 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. Monitoring of the indicators is essential in order to track the impacts of the local area plan on the environment. See Table 25 below for Monitoring Programme including the detail of targets, indicators and department responsible for carrying out the monitoring.

### **Table 25: Monitoring Programme**

**Table 25: Environmental Protection Objectives, Targets & Indicators**

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Population and Human Health	<b><i>PHH To create a sustainable compact city in which to live, work and/or visit.</i></b>	Sustainable densities achieved in new residential/mixed use schemes.	Average density of new residential development for LAP area.	Mid-LAP	Planning and Property, Development Department
		Increase in the number of residential properties.	Number of residential units commenced on site/completed within LAP.	Mid-LAP	Planning and Property, Development Department
		Increased population within the LAP area.	Percentage increase in population based on CSO.	Mid-LAP based on 2016 census results	Planning and Property, Development Department
Biodiversity, Flora & Fauna	<b><i>BFF To protect and where appropriate enhance the diversity and range of habitats, species and their resources within the LAP area.</i></b>	No losses of relevant habitats species or their sustaining resources as a result of implementing the LAP.	Survey and monitor bird population.	Mid-LAP	Parks & Landscape Services
			Survey and monitor distribution of bat populations.	Mid-LAP	Parks & Landscape Services
			Evidence of recorded Protected Species.	Mid-LAP	Parks & Landscape Services
			Survey and monitor extent and distribution of invasive species.	Mid-LAP	Parks & Landscape Services
		All streets to be tree-lined where possible to encourage biodiversity connectivity.	No. of new trees planted in the LAP area.	Mid-LAP	Parks & Landscape Services
		New local parks provided	No. of new parks provided	Mid-LAP	Parks & Landscape Services

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency Reporting	of	Department Responsible
Air Quality and Noise	<b>AN1 To protect good air quality status and minimise all forms of air pollution (i.e. Nitrogen oxides &amp; Particulate Matter).</b>	Maintain air quality status and meet value targets for named pollutants in line with Air Quality Framework Directives.	Values of monitored pollutants in the air, including the levels of Nitrogen Oxides (NO <sub>x</sub> ) and Particulate matter (PM <sub>10</sub> ) not in breach of regulation limits.	Mid-LAP		Roads & Traffic – Noise & Air Section
		An increase in the population travelling to work or school by public transport or non-mechanical means.	% of population within the plan area travelling to work or school by public transport or non-mechanical means.	Mid LAP - To be based on 2016 Census results		Roads & Traffic Planning and Property, Development Department
	<b>AN2 To maintain and, where possible, improve the good acoustical quality for the current and future residents of the plan area.</b>	Minimise noise pollution.	% of residents exposed to noise levels above undesirable levels.	Mid-LAP		Roads & Traffic – Noise & Air Section
Climate Factors	<b>CF To minimise emissions of greenhouse gases.</b>	Decrease greenhouse gas emissions in line with national targets.	Average energy consumption of new residential housing stock Tonnes of CO2/Capita/Year.	Mid-LAP		Environment and Engineering Department in association with Codema
Water (including flooding)	<b>W1 To comply with EU Water Framework Directive to ensure and maintain good ecological status of all receiving water in the LAP area.</b>	All water bodies to meet targets set in River Basin Management Plan of the Eastern River Basin District.	Ecological status of water bodies.	Mid-LAP		Environment and Engineering Department – Water Division

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Water (contd)	<b>W2 To reduce and manage the risk of flooding.</b>	Compliance with the OPW's Guidelines for Planning Authorities – The Planning System and Flood Risk Management.	Percentage of planning applications incorporating flood risk assessment and conditions requiring appropriate flood resilient measures for new developments.	Mid-LAP	Environment and Engineering Department  (Planning and Property, Development Department)
		Provide Sustainable Urban Drainage Systems in all new developments.	Number of Sustainable Urban Drainage Systems implemented in new planning applications.	Mid-LAP	Environment and Engineering Department  (Planning and Property, Development Department)
		Implement the Ballymun Surface Water Masterplan.	Provision of attenuation storage within Shangan and upgrade status of pipework in Coultrey Gardens and Sillogue Gardens	Mid-LAP	Environment & Engineering – Water Division (in association with Irish Water)
	<b>W3 To provide adequate wastewater treatment, water distribution networks and drainage networks</b>	Provision of adequate water, wastewater treatment and drainage infrastructure.	Capacity of water supply and wastewater infrastructure versus demand.	Mid-LAP	Environment & Engineering – Water Division (in association with Irish Water)



Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency Reporting	of	Department Responsible
Material Assets (transport and waste management)	<b>MA1 To reduce traffic levels by encouraging modal change from car to more sustainable modes of transport such as public transport, walking &amp; cycling.</b>	Extension and improvement of the cycling and walking network in the area.	Length of new cycling paths/lanes and walking routes developed and permeability linkages created.	Mid-LAP		Roads & Traffic Department
		Metro North to serve the area.	Metro North granted planning permission/ on site/ operational.	Mid-LAP		Roads & Traffic Department
	<b>MA2 To reduce the generation of waste and adopt a sustainable approach to waste management.</b>	Increased recycling.	% of waste recycled.	Mid-LAP		Environment & Engineering – Waste Division
Cultural Heritage	<b>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.</b>	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.	Mid-LAP		Planning and Property, Development Department
			Provision of new square/ civic space across from St. Pappin's Church			

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Landscape (including soil)	<b><i>LS To protect and where appropriate enhance the character, diversity and special qualities of Ballymun's landscapes and soils.</i></b>	Develop brownfield lands and vacant sites	Total area of brownfield lands and vacant sites developed/ granted planning permission.	Mid-LAP	Planning and Property, Development Department
		Develop new areas of open space	Number of new parks/ open spaces, green link through the M50 lands.	Mid-LAP	Parks & Landscape Services  (Planning and Property, Development Department)

## Appendix 1: List of Abbreviations

<b>AA</b>	Appropriate Assessment
<b>BAP</b>	Biodiversity Action Plan
<b>BOD</b>	Biological Oxygen Demand
<b>CFRAMS</b>	Catchment Flood Risk Area Management Studies
<b>CSO</b>	Central Statistics Office
<b>CSOs</b>	Combined Sewer Overflows
<b>DHPLG</b>	Department of Housing, Planning and Local Government
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>EIA</b>	Environmental Impact Assessment
<b>EPA</b>	Environmental Protection Agency
<b>EPO</b>	Environmental Protection Objective
<b>ER</b>	Environmental Report
<b>ERBD</b>	Eastern River Basin District
<b>ESB</b>	Electricity Supply Board
<b>EU</b>	European Union
<b>GDA</b>	Greater Dublin Area
<b>GHGs</b>	Green House Gases
<b>GIS</b>	Geographical Information Systems
<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>NPWS</b>	National Parks and Wildlife Services
<b>OPW</b>	Office of Public Works
<b>pNHA</b>	Proposed Natural Heritage Area
<b>PM<sub>10</sub></b>	Particulate Matter
<b>POM</b>	Programme of Measures
<b>QBC</b>	Quality Bus Corridor
<b>RPS</b>	Record of Protected Structures
<b>SEA</b>	Strategic Environmental Assessment
<b>SuDS</b>	Sustainable Urban Drainage Systems

<b>WFD</b>	Water Framework Directive
<b>WSA</b>	Water Services Supply Area
<b>WSSP</b>	Water Services Strategic Plan

## Appendix 2: 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.

**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 different uses, services and public transportation. A city like Barcelona is a good case study.

**Core Strategy:** Means the strategy contained in a Development Plan in accordance with the Planning and Development Act, 2000 (as amended).

**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 (EPOs):** 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.

**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 natural areas.

**Green Infrastructure:** A broad range of design measures, techniques and materials that have a sustainable character and have a beneficial environmental impact such as solar panels 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 or 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 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.

**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. 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).

**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 (SEA):** 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:** 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”.

**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.

**Traffic/Transport Assessment:** 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.

**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.

**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

## **Appendix 3: Maps, Tables and Figures**

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Fig 6: Ballymun Travel to Work Means, Census 2011

## **Appendix 4: Ballymun Bat Survey**