

# BALLYMUN

DRAFT LOCAL AREA PLAN 2017

## Strategic Flood Risk Assessment

Planning & Property Development Department  
Dublin City Council

 Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council



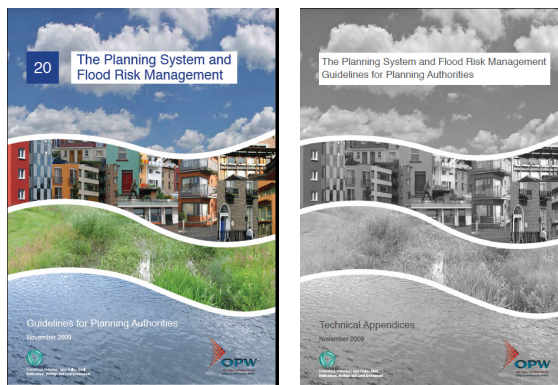
<b>1</b>	<b>POLICY CONTEXT.....</b>	<b>2</b>
1.1	INTRODUCTION.....	2
1.2	DISCLAIMER.....	2
1.3	FLOOD RISK MANAGEMENT POLICY.....	3
1.4	THE PLANNING SYSTEM AND FLOOD RISK MANAGEMENT GUIDELINES FOR PLANNING AUTHORITIES, 2009.....	3
1.5	FLOOD RISK.....	4
1.6	DEFINITION OF FLOOD ZONES AND FLOOD RISK.....	4
1.7	CONSEQUENCES OF FLOOD RISK.....	5
1.8	CLIMATE CHANGE.....	7
1.9	STRUCTURE OF A FLOOD RISK ASSESSMENT (FRA).....	7
1.10	GEOGRAPHICAL SCALES OF A FLOOD RISK ASSESSMENT.....	8
1.11	SEQUENTIAL APPROACH TO FLOOD RISK MANAGEMENT & JUSTIFICATION TEST.....	8
<b>2</b>	<b>STAGE 1 - FLOOD RISK IDENTIFICATION.....</b>	<b>11</b>
2.1	INTRODUCTION.....	11
2.2	SITE DESCRIPTION.....	11
2.3	DRAINAGE & WATER.....	13
2.4	FLOOD RISK INDICATORS.....	14
2.4.1	<i>Historical Flood Risk Indicators</i> .....	14
2.4.2	<i>Fluvial (River) Flooding</i> .....	15
2.5	LAP LOCAL DRAINAGE IMPROVEMENTS SOUGHT.....	16
2.6	CONCLUSION OF STAGE 1 SFRA.....	17

# 1 Policy Context

## 1.1 Introduction

Dublin City Council has prepared a draft Local Area Plan for Ballymun. The preparation of the Local Area Plan has undergone an appropriate level of Strategic Flood Risk Assessment (SFRA) and this document sets out the findings.

The SFRA was prepared by Dublin City Council and was informed by the DEHLG Guidelines for Planning Authorities (DEHLG & OPW, 2009) on 'The Planning System and Flood Risk Management' and Technical Appendices, *see Figure 1*. These Guidelines were issued under Section 28 of the Planning and Development Act 2000 as amended, and require Planning Authorities to introduce flood risk assessment as an integral and leading element of their development planning functions. It sets out that development plans and local area plans, must establish the flood risk assessment requirements for their functional area.



**Fig 1: The Planning System and Flood Risk Management Guidelines for Planning Authorities & Technical Appendices, 2009**

## 1.2 Disclaimer

It is important to note that, although prepared in compliance with the requirements of *The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009*, the SFRA is a work in progress and is based on emerging and best available data at the time of preparing the assessment. In particular, the assessment and mapping of areas of flood risk is based on the draft (rather than finalised) outputs from the Eastern Catchment Flood Risk Assessment and Management Plan (ECFRAM).

Accordingly, all information in relation to flood risk is provided for general policy guidance only, and may be updated in light of future data and analysis, or future flood events. As a result, all landowners and developers are advised that Dublin City Council and their agents can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. Owners, users and developers are advised to take all reasonable measures to assess the vulnerability to flooding of lands and buildings (including basements) in which they have an interest prior to making planning or development decisions.



### 1.3 Flood Risk Management Policy

As part of the Dublin City Development Plan 2016-2022, Dublin City Council undertook a Strategic Flood Risk Assessment (SFRA) which informed the Development Plan (see volume 7). The preparation of the Ballymun LAP has been informed by the City SFRA.

European Directive 2007/60/EC on the assessment and management of flood risk aims to reduce and manage the risks that flooding poses on human health, the environment, cultural heritage and economic activity. The Directive applies to inland waters as well as all coastal waters across the whole territory of the EU. The Directive requires Member States to carry out preliminary assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding. Flood risk maps are required to be drawn up for such zones by 2013. Flood risk management plans focused on prevention, protection and preparedness must be established by 2015.

Under the EU 'Floods' Directive, the national Catchment Flood Risk Assessment and Management (CFRAM) programme is being rolled out to review flood risk across the country and produce flood hazard mapping and flood risk management plans for tidal and main rivers. Dublin City is covered by the ongoing Eastern CFRAM study, which includes the Rivers Liffey, Santry, Poddle, Camac as well as the City coastal zones. Earlier pilot studies were carried out for the River Tolka, Mayne and Dodder catchments. Minor streams and rivers may require new studies.

The OPW is the lead agency for flood risk management in Ireland. The coordination and implementation of Government policy on the management of flood risk in Ireland is part of its responsibility. The European Communities (Assessment and Management of Flood Risks) Regulations 2010 (S.I. No. 122) identifies the Commissioners of Public Works as the 'competent authority' with overall responsibility for implementation of the Floods Directive 2007/60/EC. The Office of Public Works is the principal agency involved in the preparation of Flood Risk Assessment and Management studies (FRAMs).

### 1.4 The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

*The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009*, were issued under Section 28 of the Planning and Development Act 2000 as amended, and require Planning Authorities to introduce flood risk assessment as an integral and leading element of their development planning functions. It sets out that development plans and local area plans, must establish the flood risk assessment requirements for their functional area.

The formulation of policies and objectives for flood risk management in areas at risk of flooding must have been developed with regard to *'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices* both dated November 2009.

The Guidelines require the planning system at national, regional and local levels to: -

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

## 1.5 Flood Risk

Flooding is a natural process which cannot be prevented entirely but it can generally be managed to reduce its social and economic consequences and to safeguard the continued functioning of services and infrastructure. Climate change is likely to worsen the situation in areas susceptible to intermittent flooding.

Flood Risk is the likelihood of a particular flood happening (probability), e.g. the 1% annual exceedence probability (AEP) flood has a roughly 1 in 100 year chance of occurring. This does not mean that they only happen every 100 years, in betting terms the odds of such an event happening would be 100/1 in any year.

Flood risk can be expressed in terms of the following: -

$$\text{Flood risk} = \text{Probability of Flooding} \times \text{Consequences of Flooding}$$

## 1.6 Definition of Flood Zones and Flood Risk

Within Dublin City, five main sources of flood risk have been identified. The natural causes are: -

- Coastal & estuarine flooding of areas adjacent to the coast or tidal estuaries.
- Fluvial or riverine flooding due to the river banks overtopping and / or flood defence collapse.
- Pluvial flooding resulting from water run-off and ponding in low spots following intense rainfall.

In addition, flooding can occur from human activities including: -

- Dam break & extreme operation flooding associated with dam failure, either actual failure or high discharge release when in danger of over topping.
- Drainage flooding due to failure or inadequacies of the sewerage system.

Flood zones are geographical areas within which the likelihood of flooding is in a particular risk range and they are a key tool in flood risk management within the planning process as well as in flood warning and emergency planning. There are three types or levels of flood zones defined in 'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009':

- **Zone A:** High probability of flooding – Where the estimated average probability of flooding from rivers and sea is highest (greater than 1% annually or more frequent than 1 in 100 years for river flooding or greater than 0.5% annually or more frequently than 1 in 200 years respectively for coastal flooding). Most forms of development are deemed to be inappropriate here, only water compatible development would normally be allowed.
- **Zone B:** Moderate probability of flooding – Flood risk is between 0.1% (or 1 in 1000 years) and 1 % (or 1 in 100 years) annually for river flooding, and between 0.1% (or 1 in a 1000 years) and 0.5% (or 1 in 200 years) annually for coastal flooding. Highly vulnerable development including hospitals, residential care homes, Garda buildings, car parks, fire and ambulance stations, dwelling houses and primary strategic transport and utilities infrastructure would generally be considered inappropriate unless the requirements of the justification test are met. Less vulnerable development such as retail, commercial and industrial uses should only be considered in this zone if adequate lands or sites are not available in Zone C

and subject to a flood risk assessment to the appropriate level of detail to demonstrate that flood risk to and from the development can or will be adequately managed.

- **Zone C:** Low probability of flooding – Areas where the risk of flooding is less than 0.1% annually (or 1 in 1000 years) for both rivers and coastal flooding. Development is appropriate from a flood risk perspective (subject to flood hazard from sources other than rivers and coast meeting normal proper planning considerations).

It is important to note that *'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009'* ignore the presence of flood defences when defining flood zones; this is due to the fact that even areas that benefit from an existing flood defence can still be vulnerable due to the speed when overtopping or a breach or other failure takes place. Therefore this residual risk of flooding where appropriate should be assessed as part of the application of the justification test and, if the site is zoned for development, through the site specific flood risk assessment.<sup>1</sup> Proposed developments in defended areas will depend on the quality of the flood defences.

## 1.7 Consequences of Flood Risk

The consequences of flooding depends on the hazards associated with the event, including depth of water, speed of flow, rate of onset, duration, wave action effects and water quality. The consequences are also determined by the vulnerability of people, property and the environment potentially affected by a flood. The recovery time following flooding is also important.

*'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009'* provide three vulnerability categories based on the type of development which are detailed below: -

- Highly vulnerable
- Less vulnerable
- Water compatible

Tables 1 and 2 taken from *'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009'* illustrate the types of development that would be appropriate to each flood zone and those that would be required to meet the justification test. Inappropriate development that does not meet the criteria of the justification test should not be considered at the plan-making stage or approved within the development management process.

---

<sup>1</sup> The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009 Section 3.4

**Table 1: Classification of vulnerability of different types of development.<sup>2</sup>**

Vulnerability Class	Lane uses and types of development which include*:
Highly vulnerable development (including essential infrastructure)	<p>Garda, ambulance and fire stations and command centres required to be operational during flooding;</p> <p>Hospitals;</p> <p>Emergency access and egress points;</p> <p>Schools;</p> <p>Dwelling houses, student halls of residence and hostels;</p> <p>Residential institutions such as residential care homes, children’s homes and social services homes;</p> <p>Caravans and mobile home parks;</p> <p>Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility; and</p> <p>Essential Infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, water and sewage treatment, and potential significant sources of pollution (SEVESO sites, IPPC sites, etc) in the event of flooding.</p>
Less vulnerable development	<p>Buildings used for; retail, leisure, warehousing, commercial, industrial and non-residential institutions;</p> <p>Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans;</p> <p>Land and buildings used for agriculture and forestry;</p> <p>Water treatment (except landfill and hazardous waste);</p> <p>Mineral working and processing; and</p> <p>Local Transport Infrastructure</p>
Water compatible development	<p>Flood control infrastructure;</p> <p>Docks, marinas and wharves;</p> <p>Navigation facilities;</p> <p>Ship building, repairing and dismantling , dockside fish processing and refrigeration and compatible activities requiring a waterside location;</p> <p>Water-based recreation and tourism (excluding sleeping accommodation);</p> <p>Lifeguard and coastguard stations;</p> <p>Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and</p> <p>Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).</p>
<p>*Uses not listed here should be considered on their own merits</p>	

<sup>2</sup> Source: The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

**Table 2: Matrix of vulnerability versus flood zone to illustrate appropriate development and that required to meet the Justification Test.<sup>3</sup>**

	FLOOD ZONE A	FLOOD ZONE B	FLOOD ZONE C
Highly vulnerable development	JUSTIFICATION TEST	JUSTIFICATION TEST	APPROPRIATE
Less vulnerable development	JUSTIFICATION TEST	APPROPRIATE	APPROPRIATE
Water compatible development	APPROPRIATE	APPROPRIATE	APPROPRIATE

## 1.8 Climate Change

Climate change is one of the biggest potential risks over the lifetime of flood defences. The flood zones do not take the impact of climate change into account directly, although an indication of the scale of likely changes is gained from a comparison of the extents of flood zone A and B, with flood zone B being an indication of the future extent of flood zone A. For this reason, it is important that the standard of protection provided by the defences is reviewed over time, and if necessary, increased to ensure the 1 in 100-year standard of protection is maintained. The CFRAM study, when completed, will include recommendations for the likely impact of two climate change scenarios.

## 1.9 Structure of a Flood Risk Assessment (FRA)

'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009' recommend that a staged approach is adopted when undertaking a Flood Risk Assessment (FRA), which include: -

**Stage 1 - Flood Risk Identification:** To identify whether there may be any flooding or surface water management issues that will require further investigation. This stage mainly comprises a comprehensive desk study of available information to establish whether a flood risk issue exists or whether one is reasonably likely to exist in the future.

**Stage 2 - Initial Flood Risk Assessment:** If a flood risk issue is deemed to exist arising from the stage 1 Flood Risk Identification process, the assessment proceeds to stage 2 which confirms the sources of flooding, appraises the adequacy of existing information and determines the extent of additional surveys and the degree of modelling that will be required. Stage 2 must be sufficiently detailed to allow the application of the sequential approach within the flood risk zone.

**Stage 3 - Detailed Flood Risk Assessment:** A detailed FRA is carried out where necessary to assess flood risk issues in sufficient detail and to provide a quantitative appraisal of potential flood risk to a proposed or existing development or land to be zoned,

---

<sup>3</sup> Source: The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

of its potential impact on flood risk elsewhere and the effectiveness of any proposed mitigation measures.<sup>4</sup>

For the purposes of the Dublin City Development Plan 2016-2022, the Strategic Flood Risk Assessment covers stages 1 and 2, i.e. Flood Risk Identification and Initial Flood Risk Assessment. Due to the nature of flood risk in the city, there were no sites identified that required Detailed (stage 3) assessment through the SFRA. The SFRA has also identified situations, and some specific locations, where stage 3 flood risk assessments will be required to support site specific planning decisions.

## 1.10 Geographical Scales of a Flood Risk Assessment

Flood risk assessments are undertaken at different scales for the purposes of decision making, and may be at Regional, Development Plan or Local Area Plan level, and also at site specific level.

**Regional Flood Risk Assessment (RFRA):** provides for a broad overview of the source and significance of all types of flood risk across a region and highlights areas where more detailed study will be required. These appraisals are undertaken by regional authorities. At Regional Level the focus of a FRA will be at stage 1 (Flood Risk Identification), where, in general the need for more detailed flood risk assessment is flagged for city/county and local area plans.

**Strategic Flood Risk Assessment (SFRA):** The SFRA provides a broad basis (area-wide or county wide) assessment of all types of known flood risk to inform strategic land use planning decisions. The SFRA allows the Planning Authority to undertake the sequential approach (described below) and identify how flood risk can be reduced as part of the plan process. Where development is planned in flood risk areas, a detailed flood risk assessment may have to be carried out within the SFRA so that the potential for development of the lands and their environmental impact can be assessed. The SFRA will provide more detailed information on the spatial distribution of flood risk to enable adoption of the sequential approach and to identify where it will be necessary to apply the justification test.<sup>5</sup>

**Site Specific Flood Risk Assessment (site FRA):** A site specific FRA is undertaken to assess all types of flood risk for a new development. This requires identification of the sources of flood risk, the effects of climate change on the flood risk, the impact of the proposed development, the effectiveness of flood mitigation and management measures and the residual risks that then remain.

## 1.11 Sequential Approach to Flood Risk Management & Justification Test

The sequential approach is the key tool in ensuring that development, particularly new development, first and foremost is directed towards land that is at low risk.<sup>6</sup>

---

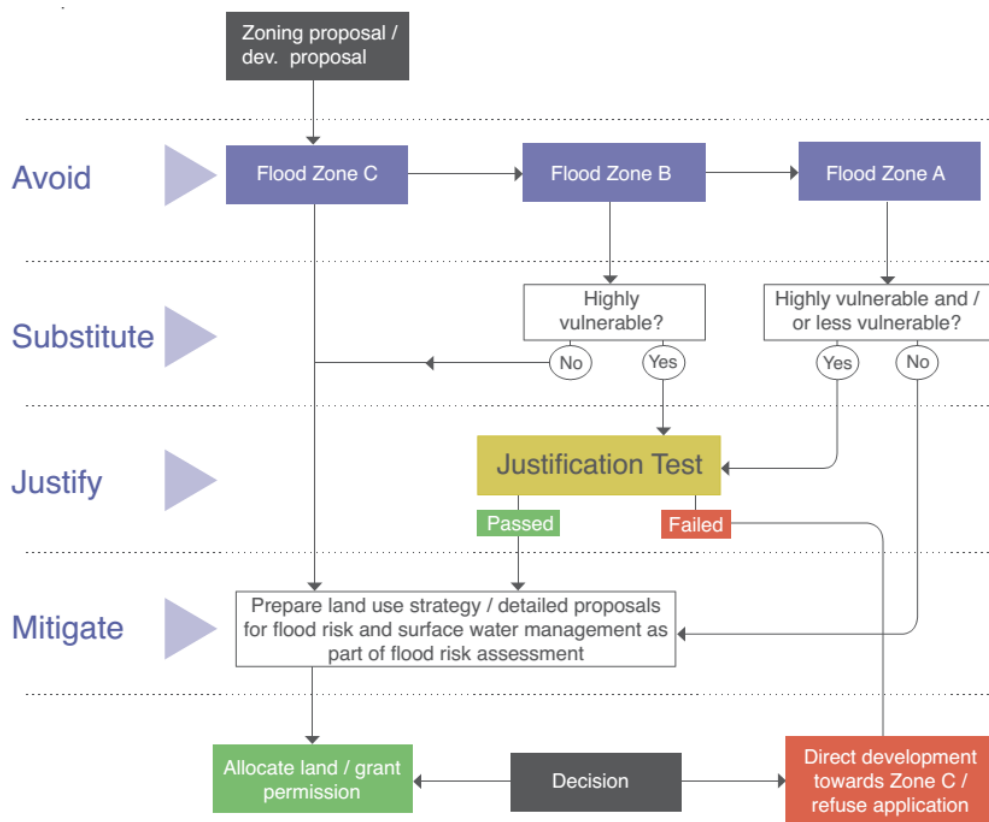
<sup>4</sup> The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

<sup>5</sup> The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009

<sup>6</sup> Source: The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009



Figure 2 taken from 'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009' sets out the broad philosophy underpinning the sequential approach.



**Fig 2: Sequential Approach (from The Planning System and Flood Risk Management Guidelines for Planning Authorities, 2009)**

The sequential approach to flood risk makes use of flood risk assessment and of prior identification of flood zones for river and coastal flooding and classification of the vulnerability of flooding of different types of development. This approach highlights the importance of taking into account the risks of other sources of flooding, in all areas and at all stages of the planning process.

The sequential approach is based on the following principles : **Avoid – Substitute – Justify – Mitigate – Proceed.**

Where possible, development in areas identified as being at high flood risk for that type of development should be avoided. This may necessitate de-zoning lands within the development plan. If de-zoning is not possible, then rezoning from a higher vulnerability land use, such as residential, to a less vulnerable use, such as open space may be required. Where rezoning is not possible, development restrictions are provided for through the application of the justification test.

The justification test is designed to rigorously assess the appropriateness or otherwise of particular developments that for various reasons are being considered in areas of moderate or high risk of flooding.

The tests comprise of two processes namely the plan making justification test and the development management justification test.

As part of the preparation of the Dublin City Development Plan 2016-2022, the various flood cells identified were subject to the justification test, and this LAP has been informed by this.

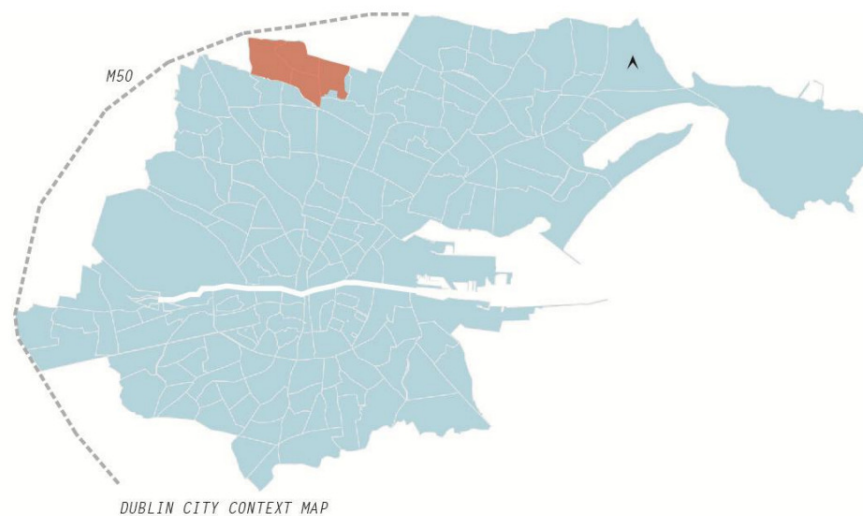
## 2 Stage 1 - Flood Risk Identification

### 2.1 Introduction

A Stage 1 Strategic Flood Risk Assessment (SFRA) was undertaken in order to identify whether there may be any flooding or surface water management issues within or adjacent to the LAP lands and consequently whether a Stage 2 (initial flood risk assessment ) should be proceeded to. Stage 1 was based on information supplied from the SFRA for the City Development Plan and historical factors.

### 2.2 Site Description

Ballymun is located 6.5 km north of Dublin city centre and 7.3 km south of Dublin Airport. Just south of Junction 4 on the M50 and 6km from the entrance to the Port Tunnel it is strategically located in the wider City context. The LAP area which covers all of Ballymun within the administrative boundary of Dublin City Council encompasses an area of 270 hectares.



**Fig 3: Ballymun LAP in context of Dublin City**



**Fig 4: Aerial View of LAP**

Ballymun is an established residential suburb comprising a mix of housing and vacant sites where the previous social housing flat blocks were located (since demolished). The commercial heart of the area is located along Main Street; encompassing a number of retail units on both sides of the street with the Ballymun shopping centre site on the western side and the Civic Centre multi-use public building and axis arts centre on the eastern side of Main Street. It is a designated Key District Centre (KDC), and a Strategic Development and Regeneration Area (SDRA) within the current Dublin City Development Plan (DCDP), 2016-2022.

Chapter 15 of the DCDP Written Statement sets out the following guiding principles for Ballymun: -

- 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.

Within the boundary of the LAP there are important recreational areas including Poppintree Park, a regional park of 18ha, Balcurris Park and Coultly Park.

The area contains a number of "key sites" which are considered suitable for redevelopment, and form the rationale for the preparation of a Local Area Plan. The key sites identified are: -

- Main Street and Town Centre lands
- Former Balbutcher Lane flats site
- Former Shangan Road flats site
- Former Sillogue Road flats site
- Former Coultly Road flats site (to the west of Coultly Park)
- M50 lands (outside of the LAP boundary, but owned by the City Council)

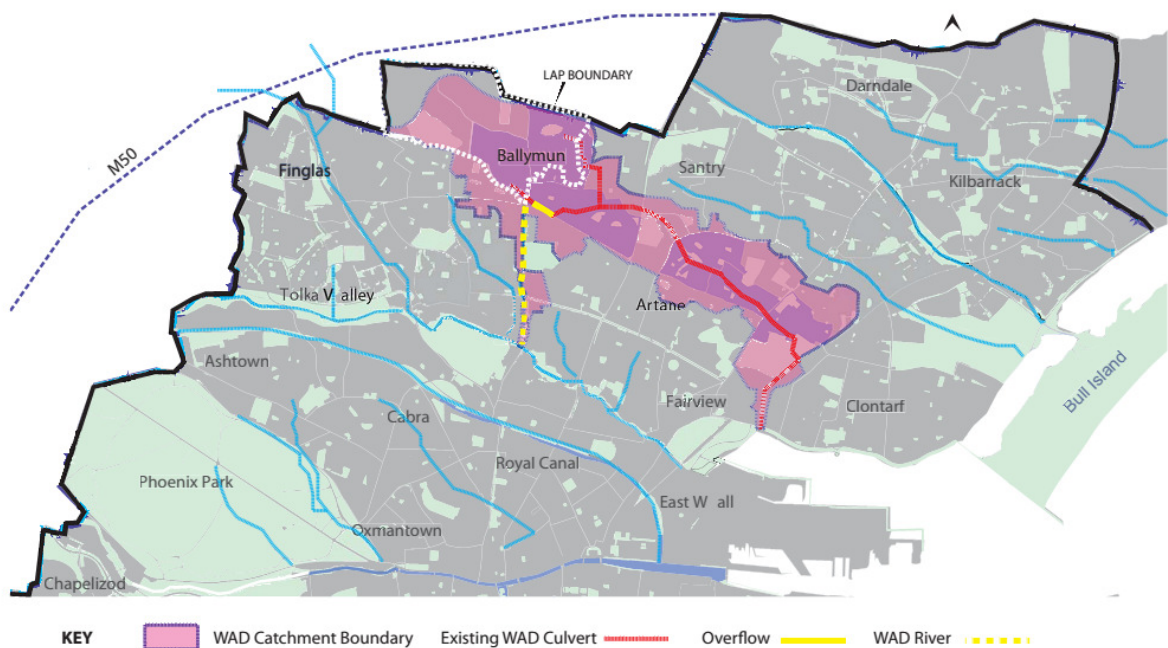
## **2.3 Drainage & Water**

The lands covered by the Ballymun LAP are located to the north of Dublin City Centre, and adjoining the administrative area of Fingal County Council to the north.

The Santry River runs to the north of the LAP lands and the River Tolka to the south of the LAP lands.

The Wad River runs through part of the LAP lands and is culverted for its entire route. The Wad River drains a catchment of approximately 483 hectares including parts of Ballymun, Santry, Donnycarney and Killester to the seafront at Clontarf in North County Dublin. The Wad River, originally in open channel has been completely replaced with culverts and pipelines of varying dimensions over the 6km route from Albert College Park on Ballymun Road to the seafront at Clontarf Road. There have been a number of historical flooding events reported within the catchment area of the Wad River.





**Fig 5: River Wad Catchment**

Significant investment in surface water (SW) infrastructure was carried out in this area under the Ballymun Masterplan. A Surface Water Masterplan (SWMP) was drawn up for the entire area and implemented over several years in tandem with the regeneration projects. The SWMP treated the entire area as a single catchment and produced an overall design that incorporated both hard and soft engineering solutions. The hard solutions included the construction of new pipe networks throughout Ballymun, and the soft solutions comprised landscaped ponds that acted as storage reservoirs and infiltration drains at the rear of houses. Surface Water attenuation is provided for by means of a throttle at the downstream end of the network, which allows only a limited flow to be discharged out of the Ballymun area with flows above this level being directed to the pond in Poppintree Park (i.e. this pond has an engineering and landscape function). 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 onto 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.

## 2.4 Flood Risk Indicators

### 2.4.1 Historical Flood Risk Indicators

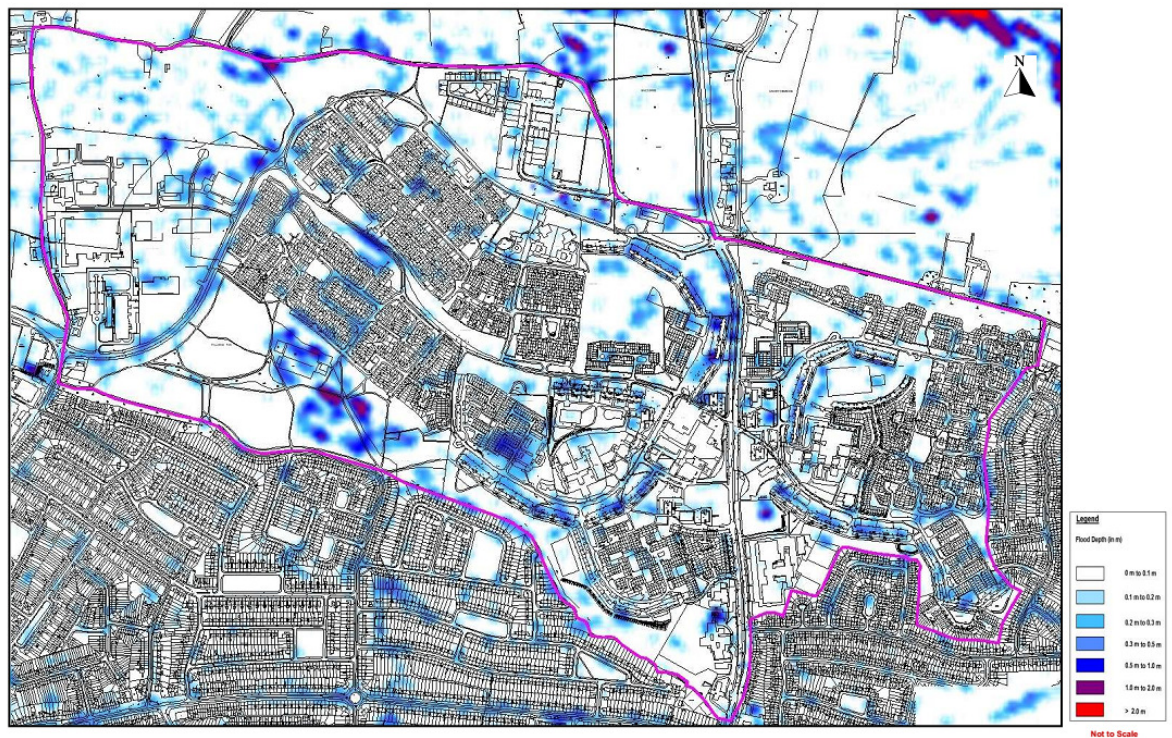
The main risk to the Ballymun LAP is mainly pluvial (rainfall) resulting in surface water flooding. In 2008 surface water flooding reports were received for the following areas, Knowth Court, Carraig Road, Sandyhill Gardens, Sillogue Gardens, Coultry Road and Shangan Gardens. In 2009 flooding reports were received from Coultry Road, Shangan Road and Shangan Gardens, and in 2011 the following areas received flood reports: Knowth Court, Druid Court, Poppintree Terrace, Balbutcher Lane, Sandyhill Way/Gardens, Sillogue Gardens, Coultry Gardens and Santry Cross. These flood events



were all as a result of heavy rainfall events. Whiteacre Crescent also has been flooded in the past.

Surface water drainage at low spots is the main consideration for any future development of these areas. Impacts of climate change would also need to be considered. Improvements to the local drainage network in the above areas and also some local storage would be required to reduce the risk.

Figure 6 below shows the pluvial flood map for the 1% AEP (Annual Exceedance Probability) pluvial flood depth map.



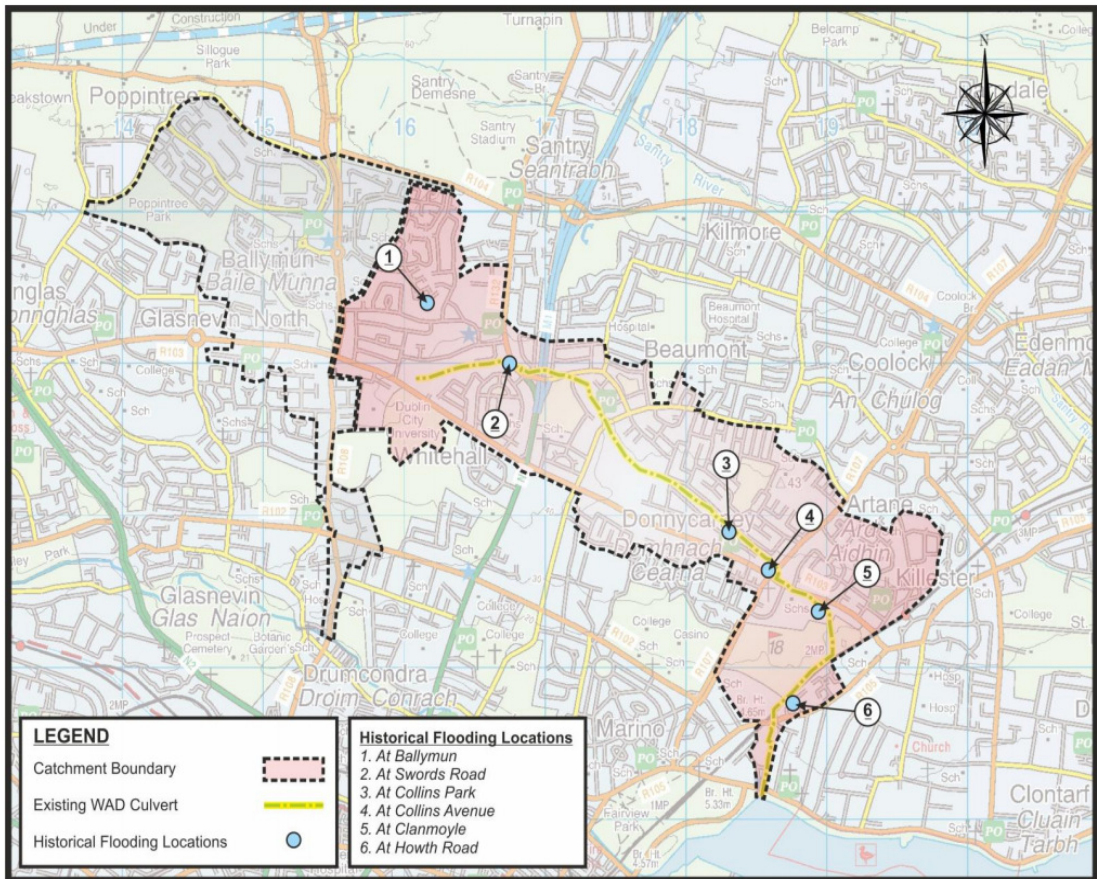
**Fig 6: Pluvial Flood Depth Map (1% Annual Exceedance Probability (AEP))**

#### **2.4.2 Fluvial (River) Flooding**

Preliminary flood maps were produced in 2011 by the Office of Public Works. Since the PFRA was carried out in 2011 the OPW through its engineering consultants and working with other local authorities and stakeholders have carried out extensive engineering assessment to better understand the risk of flooding in areas. This was subject to public consultation process which is now completed. The outcome of that work includes Predicated Flood Extent Maps which were finalised in 2016.

The nearest fluvial (river) sources to the LAP area are the Santry River which flows to the north of the LAP area and the River Tolka which runs to the south of the LAP lands. The LAP lands are in Zone C (low risk of flooding) for both of these river catchments.

The River Wad flows through a portion of the LAP lands but is culverted for its entire route. There have been a number of historical flooding events reported within the catchment area of the Wad River, as detailed in Figure 7 below.



**Fig 7: Historical Flooding on Wad River**

(Note: Blue hatched area on map relates to Tolka Diversion Catchment Boundary)

## 2.5 LAP Local Drainage Improvements Sought

As noted above significant investment in surface water infrastructure was carried out over the past 20 years under the Ballymun Surface Water Masterplan (SWMP). The LAP identifies a number of outstanding key pieces of infrastructural requirements to prevent localised flooding and to aid the delivery of additional development in the area.

Specific priorities identified include: -

- (a) Upgrading of drainage network to existing 1960's housing in Coultry Gardens
- (b) Upgrading of drainage network to existing 1960's housing in Sillogue Gardens
- (c) Provision of surface water attenuation in the Shangan area to cater for additional development capacity.

Chapter 6 of the LAP sets out aspirations and requirements for all of the remaining vacant sites within Ballymun. Site no. 10, Shangan Road, clearly states *“the build out of this vacant site requires the provision of a surface water attenuation area and associated works, as per the Ballymun Surface Water Masterplan (SWMP). The approximate location*

*is in the proposed green area across from the Shanghan neighbourhood Centre (subject to detailed design)”.*

Local objectives of note included within the LAP are: -

**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 Coultry Gardens.

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

## 2.6 Conclusion of Stage 1 SFRA

The information provided from a desktop study shows the primary flood risk within the Ballymun LAP is from pluvial (rainfall) surface water flooding. It is not considered necessary at this stage to proceed to a Stage 2 Flood Risk Assessment. All sites for redevelopment will be assessed on their merits and will have to comply with the Strategic Flood Risk Assessment for the Dublin City Development Plan 2016-2022.

All developments within the LAP shall have regard to the following: -

- Requirement to implement the flood management policies and objectives as set out in the Dublin City Development Plan 2016-2022 (see Chapter 9) and any guidance provided in the Strategic Flood Risk Assessment (Volume 7), and to implement the 'Guidelines on the Planning System and Flood Risk Management' (DoEHLG/OPW, 2009).
- Notwithstanding the identification of an area being at low risk of flooding, where Dublin City Council is of the opinion that flood risk may arise or new information has come to light that may alter the flood designation of the land, an appropriate flood risk assessment may be required to be submitted as part of a planning application.
- All planning applications shall be accompanied by a Storm-Water Management Plan. All development proposals shall have regard to surface water management policies contained in the Greater Dublin Strategic Drainage Study, and Chapter 9 of the Dublin City Development Plan 2016-2022, and any information contained in the Strategic Flood Risk Assessment (Vol. 7, Chapter 4).
- All development shall ensure the protection of water quality of existing water bodies and ground water sources, and retrofitting best practice SUDS techniques on existing sites where possible.
- All developments shall be carried out in accordance with the Ballymun Surface Water Masterplan.