



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

The Royal Canal runs in an east west direction to the south of the plan area, which is a man made waterway linking the River Liffey at Dublin with Richmond Harbour on the River Shannon at Clodara in County Longford. The Royal Canal is under the jurisdiction of Waterways Ireland. The canal passes through Maynooth, Kilcock, Enfield, Mullingar and Ballymahon has a spur to Longford. The total length of the main navigation is 145km, with 46 locks, 10 of which are double chambered and there is also a sea lock where the canal joins the River Liffey in Dublin. At the Dublin end, the canal reaches the Liffey through a wide sequence of dock and locks at Spencer Dock, with a final sea lock to manage access to the river and sea.

### Flood Risk Identification

The flood risk identification involved a desk top study to identify whether there may be any flooding or surface water management issues related to the proposed development of the LAP lands that may warrant further investigation.

The methodology used to prepare the flood risk identification is outlined as follows:

- Development Plan, policies and recent planning applications were studied.
- Responses from statutory bodies and other submissions during the consultation process were examined, with particular reference to concerns relating to flood risk
- All existing historical information on historic flood events, studies and surveys were examined, which are available from the Office of Public Works (OPW) flood hazard mapping website. The Preliminary Flood Risk Assessment and Management (PFRA) mapping developed as part of the National Catchment Flood Risk Assessment and Management (CFRAM) Programme and managed by OPW were also examined. The PFRA is available to view on the website [www.cfram.ie](http://www.cfram.ie).
- The available results from the River Tolka Flooding Study were assessed.
- The risk of flooding from groundwater sources was examined.
- Results for the pluvial maps were supplied from the Flood Resilient City Office (FRC)

Over the last few decades the risk of flooding has continued to increase in Ireland. Much of this has been attributed to climate change, resulting in increased & more intense rainfall, increased sea water levels, and also due to increasing levels of urbanisation. Coastal erosion can also increase the risk of flooding in some areas. The main types of flooding are from (i) coastal flooding which arises from the sea or estuaries,, (ii) fluvial flooding which arise from rivers or streams, (iii) pluvial or surface water flooding which arises directly from rainfall, (iv) groundwater flooding (v) dam breach and (vi) sewer/infrastructural failure.

The main flood risks identified in the Ashtown Pelletstown LAP area are from fluvial, pluvial and infrastructural overload or failure. It should be noted that the majority of the LAP lands zoned for development are located within Zone C (see figure 5 on page 71) which has a low probability of flooding, where the risk is less than 0.1% annually or 1 in 1000 years for both river and coastal flooding. The area to the north of the LAP lands, located within Tolka Valley Park, around the banks of the River Tolka, is located in Zones A which has a high probability of Flooding, greater than 1% annually or 1 in 100 for river flooding and 1 in 200 for coastal flooding. As there was periodic flooding around River Road, which is in close proximity to the recently constructed residential/commercial developments, it is recommended that a precautionary approach be adopted and that the Justification Test be carried out.

It should be noted that the area which is prone to flooding located to the north of the River Road, is primarily zoned Z9 to preserve, provide and improve recreational amenity and open space & green networks. As per the Flood Risk Guidelines, only water compatible uses would ever be permitted in Flood Zones A.'

The sequential approach to planning is the key tool in ensuring that development is first and foremost directed towards land which is at low risk of flooding. This is described in Fig 2 below

### Sequential Approach & Justification Test

The key principles of the risk based sequential approach is managing flood risk in the preparation of plans as set out in Chapter 3 of the DEHLG Flood Guidelines and these principles will be followed in the LAP.

This is the key tool in the decision making process of preparing plans to ensure that development is first and foremost directed towards land that is at low risk of flooding. This approach makes use of existing flood risk assessments (FRA's) and other data identifying flood zones for rivers, coastal and pluvial flooding and the classification of the vulnerability of flooding of different types of development.

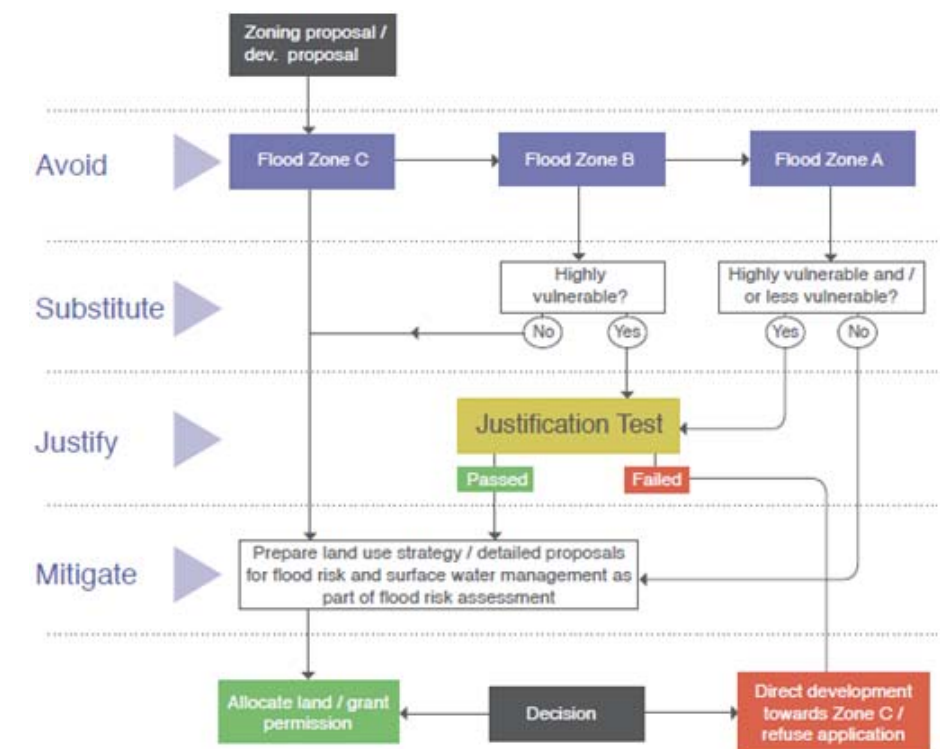
The sequential approach in terms of flood risk is based on the following principles:

The primary objective of the sequential approach is that development is primarily directed towards land that is at low risk of flooding (AVOID).

- The next stage is to ensure that the type of development proposed is not especially vulnerable to the adverse impacts of flooding (SUBSTITUTION).
- 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 flood risk (JUSTIFICATION).
- The test is comprised of two processes, namely The Plan-Making Justification Test and the Development Management Justification Test.

**Figure 2**  
**Sequential Approach Mechanism in the Planning Process**

(source 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' November 2009)





### Justification Test for Ashtown - Pelletstown LAP

The flood risk assessment carried out for the purposes of the LAP for Ashtown Pelletstown concluded that certain areas within the LAP boundary are within lands at risk of flooding.

In this context the designation satisfies the Justification Test, in that:

1. The urban settlement is targeted for growth under the National Spatial Strategy, Regional Planning Guidelines, statutory plans as defined above or under the planning guidelines or planning Directives of the Planning and Development Act, 2000 as amended.

The National Spatial strategy (NSS) recognises that Dublin, 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. The NSS places particular emphases on the physical consolidation of the metropolitan area, which incorporates the entire functional area of Dublin City Council. The Regional Planning Guidelines (RPG) for the Greater Dublin Area 2010 – 2022 translate the national strategy to the Regional Level with an emphasis on Dublin as the driver of national development and the need to physically consolidate the growth of the metropolitan area.

The RPGs recognise that “the settlement hierarchy selected by the Guidelines takes account of the fact that while a number of key towns and the City which are vulnerable to two key sources of flooding, fluvial and coastal, effective management of flood risk coupled to wider environmental, sustainability and economic considerations mean that it is possible to facilitate the continued consolidation of the existing urban structure of the GDA. In line with the sequential and justification criteria set out in the Department’s Guidelines on ‘The Planning System and Flood Risk Management’ it is considered that these locations should be encouraged to continue to consolidate and to grow in order to bring about a more compact and sustainable urban development form while at the same time managing flood risk appropriately”.

The Dublin City Development Plan 2011-2017 has been prepared in accordance with the requirements of the Planning and Development Act, 2000, (as amended) the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and Article 5 of the Habitats Directive 92/43/EEC.

2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular...

i) ...to facilitate regeneration and/or expansion of the centre of the urban settlement.

The plan area is located approximately 4km north west of Dublin City and 2km from Finglas and Cabra. In 2000 a non statutory plan was made for the area entitled ‘Pelletstown Action Area Plan’. The current Dublin City Development Plan 2011- 2017 sets out a core strategy which sets out over-arching principles relating to development including the delivery of statutory LAPs. These LAP’s which include the Ashtown/Pelletstown LAP is crucial to the delivery of the core strategy. The area is designated as one

of the nine Key Developing Areas (KDSs) under the development plan core strategy. The Key Development Areas represent significant areas of the inner and outer city with substantial development capacity and the potential to deliver the residential, employment and recreational needs of the city.

Pelletstown has also been designated as one of 14 Strategic Development Regeneration Areas (SDRAs) dedicated to comprehensive development or regeneration.

ii) ...comprise significant previously developed or underutilised lands.

A number of sites in the Plan area have been completed to date generally following the design and layout envisaged in the 2000 Action Area Plan, with blocks of development connected by thoroughfares. The dominant form of existing development is now residential, mainly in the form of apartments. Approximately 2,121 residential units have been built to date, housing a population of 3,777 people. Mixed uses are generally at service centres where there are retail outlets and services mainly at ground floor level. Tolka Valley park and the centrally positioned crescent park now provide natural amenity resources and the linear routes of the canal and its associated towpath, is now a well recognised amenity for cycling and walking. There are a number of large undeveloped sites however, mainly earmarked for residential uses, and some of these have live permission that have not commenced due to economic circumstances.

Map 4.9 of the LAP shows the undeveloped sites. In total there are 9 sites remaining, covering an area of approximately 17.05 hectares. By applying indicative density ranges to the remaining sites, there would be additional capacity for between approximately 920 - 1,270 residential units, and an estimated population of range of approximately of between 2490 and 3410. When added to the existing population of 3,777 there would be a total population range of approximately 6,267 -7,187. For purposes of the LAP a population of 7200 is planned for based on 920-1270 new units. The total number of units in the plan area, where the LAP area is fully built out would then calculate at approximately 3,040 – 3,400.

iii) ...will be essential in achieving compact and sustainable urban growth.

The redevelopment of the undeveloped sites will ensure the efficient use of public investment in infrastructure to date including strategic transport and will also ensure the effective implementation and phasing of the continued regeneration of the LAP area.

iv) ...there are no sustainable alternative lands for the particular use or development type in areas of lower risk.

This area has already been substantially developed with a large number of units, which were built mainly under the 2000 Action Area Plan. However there are a number of undeveloped sites which are essential to deliver the core strategy of the Dublin City Development Plan.

Dublin City lies entirely within the metropolitan area and the RPGs give direction to Dublin City as the ‘gateway core’ for high intensity clusters, Brownfield development, urban renewal and regeneration. The National Spatial Strategy designates Dublin as the pre-eminent gateway in Ireland, as the key international gateway of the State.

Gateways are strategically located and have a key role to play nationally and relative to their surrounding areas by virtue of their existing economic and social attributes. A core element of the RPGs is the importance of integration of land use, employment and transport. Within the City, as the national hub of employment and transport, it is critical that the policy of encouraging high quality new housing within the core of the gateway continues.

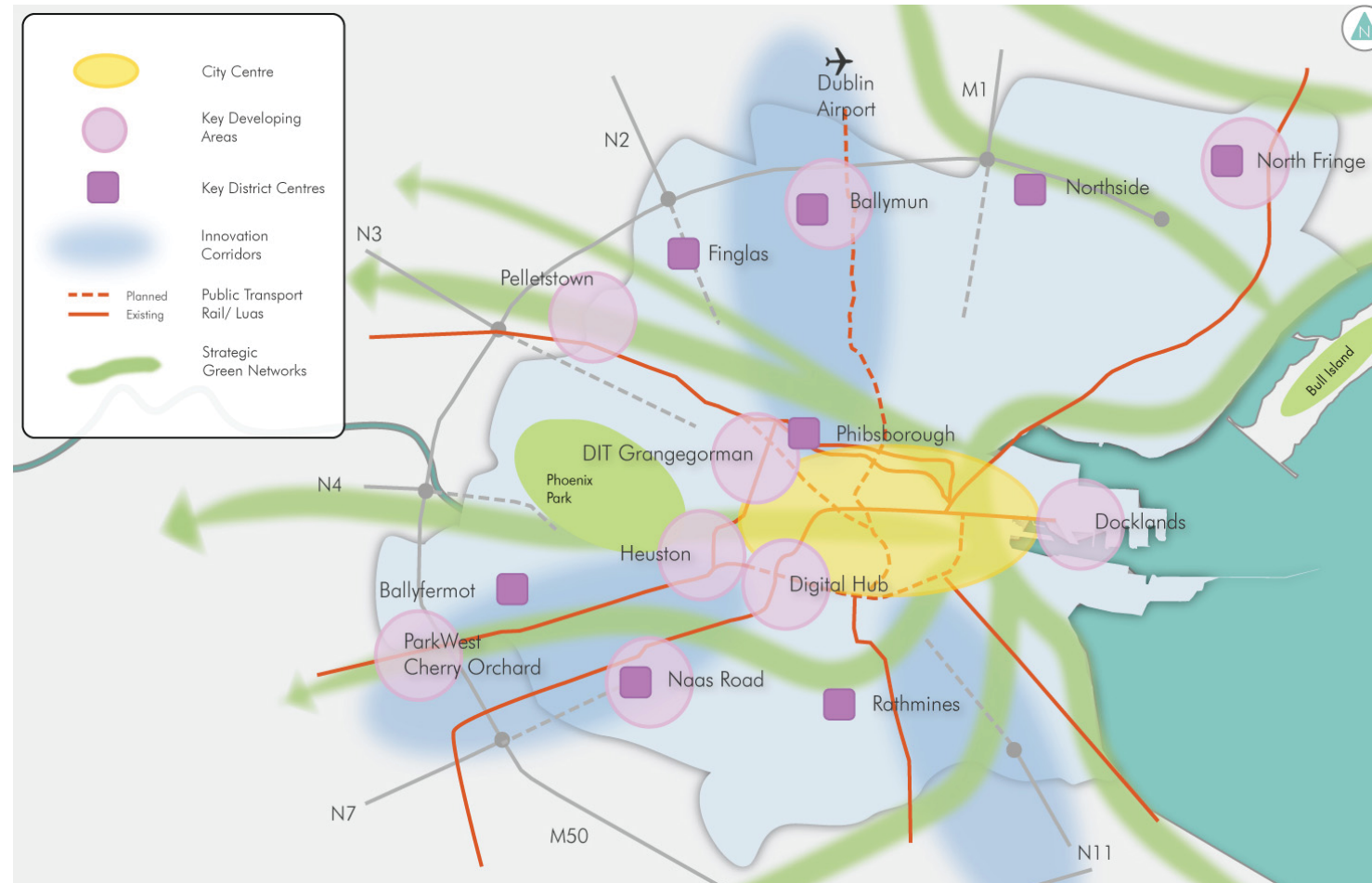
The RPGs also takes account that while a number of key towns and the City which are vulnerable to two key sources of flooding – fluvial and coastal – effective management of flood risk coupled to wider environmental, sustainability and economic considerations mean that it is possible to facilitate the continued consolidation of the existing urban structure of the GDA. In line with the sequential and justification criteria set out in the Department’s Guidelines on the Planning System and Flood Risk Management’

The LAP for Ashtown Pelletstown will facilitate the future development of the area in a consolidated manner.





## Dublin City Development Plan Core Strategy



The Development Plan's Core Strategy (See figure 3 above taken from the DCC Development Plan 2011 – 2017) designates the Ashtown - Pelletstown area as a Key Developing Area (KDA) and a Strategic Development Regeneration Area (SDRA).

The Regional Planning Guidelines Settlement Strategy for the metropolitan area includes a strong policy emphasis on the need to gain maximum benefit from existing assets, such as public transport and social infrastructure, through the continuation and consolidation and increasing densities within the existing footprint of the city. It should be noted that there is only circa 503 Ha of available zoned residential land which is capable of meeting the RPGs housing unit allocation of 42,400 for the period 2006 – 2016.

Ashtown- Pelletstown area is one of 9 Key Developing Areas, (in addition to the inner City), which represent significant areas of the overall city with substantial development capacity and the potential to deliver the residential, employment and recreational needs of the city, along with the North Fringe, and Naas Road lands, whilst several will support the economic or cultural specialism's essential for the growth and diversification of the city's economy, namely, the Docklands, Digital Hub/Liberties, Grangegorman and Heuston. The table below is from the Dublin City Development Plan Table 3.3 and shows the estimated capacity of key developing areas.

Figure 3 – Core Strategy

Table 3.3 Estimated capacities of Key Developing Areas (DCDP 2011 – 2017)

KDAs	Housing Units (Estimated)	Zoned Commercial/ Employment Lands (Estimated)
1. Inner City	6,340	475 Ha
2. North Fringe	4,000	170 Ha
3. Ballymun	3,950	60 Ha
4. Pelletstown	1,800	41 Ha
5. Park West/Cherryorchard	2,000	121 Ha
6. Naas Road Lands	2,100	63 Ha
7. Docklands	1,950	207 Ha
8. Digital Hub / Liberties	1,200	59 Ha
9. Heuston	1,200	49 Ha
10. Grangegorman/ Phibsborough	800	34 Ha
Rest of City	6,340	350 Ha
Total	31,680	1,629 Ha

The LAP area is also designated a Strategic Development & Regeneration Area, which are areas with the potential to deliver a significant quantum of residential development and ancillary commercial and service development.

The Development Plan sets out a series of Guiding Principles in Chapter 16 for the Ashtown – Pelletstown SDRAs. The core strategy of the Development Plan is to achieve the vision in a manner that is consistent with the guidance, strategies and policies at national and regional levels. In particular, the National Spatial Strategy 2002- 2020 (NSS), The Regional Planning guidelines for the Greater Dublin Areas 2010 – 2022 (RPGs) and the governments' Smarter Travel – A Sustainable Transport Future 2009 – 2020, all guide and direct the fundamentals of the City Council housing Strategies which in turn are integrated into the overall development plan vision and core strategy for 2011 – 2017.

A flood risk assessment to an appropriate level of detail has been carried out as part of the SEA which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.

Flood risk was considered as an issue in the screening process for the Strategic Environmental Assessment that was undertaken for the Dublin City Development Plan 2011 -2017. The LAP plan was screened in line with implementation of SEA Directive (2001/42/EC), Assessment of Certain Plans and Programmes on the Environment – Guidelines for Planning Authorities to determine whether or not a full Environmental Report would nevertheless be appropriate. It was determined that a full Environmental Report was required. A flood Risk assessment has been carried out to an appropriate level of detail. It is recognised that Dublin City is vulnerable to flooding. The majority of the lands in the LAP would be prone to occasional flooding and would be at risk mainly from fluvial and pluvial flooding, however Dublin City Council are undertaking a number of projects to improve the defences of Dublin City.

### Sources of Flooding

The main flood risks identified in the LAP area are from fluvial, pluvial and infrastructural overload or failure.

The OPW, as part of the National Flood Risk Management Policy has developed a number of information resources for the public. These resources provide information through a number of websites: ([www.floodmaps.ie](http://www.floodmaps.ie), [www.opw.ie/hydro](http://www.opw.ie/hydro), [www.flooding.ie](http://www.flooding.ie))

The Preliminary Flood Risk Assessment for the Republic of Ireland was published in late 2011. This was a requirement of the EU Floods Directive (2007/60/EC). The objective was to develop a method to indicatively assess potential future flood risk to enable the identification of 'Areas of Potentially Significant Flood Risk (APSRs) using available data. These APSRs will form the focus of the more detailed Catchment Bases Flood Risk





### Catchment Flood Risk Assessment and Management Studies.

A CFRAMS is a Catchment Flood Risk Assessment and Management Study and its purpose is to manage flood risk to the area being studied. CFRAMS are to be carried out for the whole of Ireland, for larger rivers and streams and all coastal areas.

The OPW commissioned RPS to undertake the Eastern Catchment Flood Risk Assessment and Management Study (Eastern CFRAM) in June 2011. The study covers four units of Management including HA09 (Liffey-Dublin Bay). The principle river in HA09 is the River Liffey which rises in the Wicklow Mountains and flows initially towards Newbridge, then turn north east towards Lucan and finally flows eastward through Dublin City, directly to Dublin Bay. The Dodder CFRAMS is one of four pilot studies in Ireland and is the first comprehensive study undertaken with a view to producing a single flood risk management strategy for the whole of the Dodder catchment.

Within HA09 there are 16 discrete Areas for Further Assessment (AFA) in addition to Dublin City under the Eastern CFRAM study. Dublin City AFA is defined by four High Priority Watercourses (HPW), the Liffey, Camac, Poddle and Santry Rivers (as well as the Dodder and Tolka from previous studies). The principal source of flood risk within HA09 is fluvial flooding at 12 of the 16 AFAs. Tidal Flood risk influences one AFA (Sutton and Howth North) with 3 other AFAs within HA09 (Sutton & Baldoyle, Clontarf and Sandymount) considered to have some element of combined fluvial/coastal flood risk.

Dublin City with its specified High Priority Watercourse (HPWs) is also subject to combined fluvial/tidal flood risk; however the finalisation of watercourses within the Dublin area to be included in the Eastern CFRAM Study is ongoing at this time. Many of the watercourses within the Greater Dublin Area were previously studied as part of the Greater Strategic Drainage Study (GSDSDS).

### Fluvial Flooding

The principal river that runs to the north of the plan area is the River Tolka. The River Tolka is the second largest river entering Dublin City in terms of its length and catchment area, after the Liffey. It rises in County Meath and serves a catchment which is roughly divided in three parts between a generally rural area in County Meath, a developing area in Fingal and a substantially developed area in Dublin City Council. In terms of flooding the river floods infrequently but with occasional severity. It is not typically flashy like the Dodder but builds up over a period. Notable floods on the River occurred in October 1880, December 1954, November 1965, August 1986 (Hurricane Charlie), November 2000, November 2002, January and April 2005, August 2008 and October 2011. The floods in 1954 and 2002 were the most severe. In November 2002 flooding caused extensive damage to residential areas along the Tolka banks. Work has been carried out to strengthen the river's flood defences, and following heavy flooding in 2005, major works were done to deepen and widen the river on a number of stretches, at Glasnevin Woods and at Drumcondra Bridge.

In 2001 Dublin City Council commissioned the Greater Dublin Strategic Drainage Study (GSDSDS) to look at the strategic drainage requirement for the Greater Dublin area. A full study of the Tolka was not included in the GSDSDS, however in view of the November 2002 flood event, the OPW requested that it be included. The Tolka Flooding Study identifies that substantial areas of urban development in the study area are at risk of repeat flooding from the River Tolka. The separate Dublin Coastal Flood Risk Assessment Study (DCFRAS) examined the issue of tidal flooding of the coastal areas.

As part of the Tolka Flooding Study, flood extent maps were produced showing the November 2002 flood event. The map produced was roughly a 100 year flood event. Also as an extension to the Tolka Flooding Study RPS produced a floodplain map showing the 1000 year flood event. See Appendix A Flood Map Section, Figure 6 & 7. Figure 8 shows the 0.1% AEP flood event.

Future development in the LAP area should be dependent on historic flood events and design consideration should respond effectively to these challenges as well as introducing new opportunities to the area. The Integrated Constructed Wetland (ICW) at Tolka Valley Park in Finglas, Dublin, was created in 1999 to address the treatment of domestic wastewater and hard surface run off which was having a large impact on pollution of the Finglaswood Stream which then fed into the River Tolka.

It should be noted that the area that was prone to flooding is to the north of River Road, in the Tolka Valley Park is zoned Z9 in the Dublin City Development Plan 2011-2017, which is 'to preserve, provide and improve recreational amenity and open space & green networks.' This area is not planned for any development under the LAP. Parks and Landscape Division have done extension work in this Park to construct an Integrated Constructed Wetlands to mitigate flooding in this area.

### Groundwater Flooding

Groundwater flooding is usually a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained rainfall or very high tides. Higher rainfall means that water will infiltrate into the ground, and causing the water table to rise. Groundwater flooding tends to occur in low lying areas, where with additional groundwater flowing towards these areas, the water table can rise to the surface causing groundwater flooding.

Information on aquifer vulnerability can be obtained from the [www.GSI.ie](http://www.GSI.ie) website (Geographical Survey of Ireland). From their maps it is noted that most of the LAP lands have moderate vulnerability. There have been no reports received on groundwater flooding in the LAP area.

### Pluvial Flood Risk

Pluvial Flooding results when heavy often sudden rainfall, causes flooding before it can infiltrate the ground, or enter a natural or man-made drainage system or watercourse or enter a conveyance system because the system is already full to capacity. Pluvial flooding is associated with Surface Water flooding which is a combination of true pluvial flooding, sewer flooding (due to heavy rainfall) groundwater flooding and flooding from urban watercourses.

An Extract Pluvial Type 1 Flood Depth Map, 1% AEP Event 3 hour Duration, is given in Appendix A, Flood Map see Figure 4.

Dublin City Council is in the process of implementing the Flood Resilient City Project and within this a Flood Risk Management Strategy. This strategy will provide further guidance in spatial planning and appropriate flood measures, if required in accordance with the requirement of the EU Floods Directive (2007/60/EC) the Office of Public Works (OPW) is currently responsible for co-ordinating the development of Flood Risk Management Plans (FRMPs) across Ireland.

Most of the storm water from the Ashtown - Pelletstown Area goes in to the River Tolka. The storm water outfall to the Tolka River has been constructed and commissioned under the supervision of Dublin City Council Drainage Division. Attenuation tanks and ponds have been constructed to serve both the West and East development lands. These tanks and overflow basin were designed to attenuate excess surface water from the Ashtown Pelletstown lands prior to it discharging into the River Tolka. The trunk sewer which serves the Pelletstown Development has been constructed and commissioned under the supervision of Dublin City Council Drainage Division. This sewer system now serves the main road networks as well as Phase 1 and 2 developments west and east.

### Flooding from the Royal Canal

The Royal Canal runs in an east west direction to the south of the plan area, which is a man made waterway linking the River Liffey at Dublin with Richmond Harbour on the River Shannon at Clodara in County Longford. There is no recorded history of flooding in the LAP lands from the Royal Canal. Historical records from the OPW do not provide evidence of flooding at the Royal Canal within the LAP boundary.

### Indicative Flood Zone Map

In the absence of detailed CFRAM studies for the River Tolka, Dublin City Council are using the best information available. The indicative Flood Zone Map for fluvial flooding is based on information from the River Tolka Flooding Study, 2005. As part of the Tolka Flooding Study, flood extent maps were produced showing the 100 year flood event (or the equivalent of Zone A in the OPW classification). Also as part of the Tolka Flooding Study RPS produced a floodplain map showing the 1000 year flood event (this would be equivalent to Zone B in the OPW classification). Zone C would be anything outside of Zones A & B. (see Appendix A Flood Map Section, Figure 5).





## Flood Zones

Flood Zones are geographical areas within which the likelihood of flooding is in a particular 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 DECLG and OPW Guidelines on Flood Risk Management:

- Zone A – High probability of flooding – Where the 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 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 including essential infrastructure which cannot be located elsewhere, would normally be allowed.
- Zone B – Moderate probability of flooding – (Risk between 0.1% annually or 1 in 1000 and 1 % annually or 1 in 100 years for river flooding, and between 0.1% or 1 in a 1000 years and 0.5% annually or 1 in 200 years for coastal flooding) highly vulnerable development including hospitals, residential care homes, Garda, 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 is met. Less vulnerable development such as retail, commercial and industrial uses, short term let for caravans, camping, and secondary strategic transport and utilities infrastructure might be considered appropriate in this zone. Less vulnerable development 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 be managed.
- Zone C – Low probability of flooding – (Risk 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).

## Flood Risk Management Strategy

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

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

Planning policies also play a major part in minimising flood risk, Dublin City Council were the first Irish local authority to require storm water management from developers in 1998 and then subsequently implemented a Sustainable Drainage Systems (Suds) Policy in 2005. In essence these

planning policies require developers to reduce the storm water run-off from newly paved areas to what it was before the development took place. This will ensure that development can take place in a sustainable manner without increasing the risk of flooding.

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

## Sustainable Drainage within Private Developments

In recent years in Ireland, there has been a move away from the traditionally designed hard-engineering drainage solutions such as concrete underground attenuation tanks and piped drainage systems in favour of multi-functional, sustainable solutions for the management of surface-water in urban environments. The use of SUDS (Sustainable Urban Drainage Systems) provides the additional benefits of improving the aesthetic character of the urban environment, enhancing biodiversity, and improving air quality. Sustainable drainage solutions that are visible to the public also allow for a stronger connection between the public and the natural environment, and therefore a greater awareness of water management issues.

A variety of sustainable drainage components, such as swales, retention ponds, constructed wetlands, permeable surfacing, green roofs, soak ways and rainwater harvesting systems, have successfully been incorporated into private development in the Dublin City Council area since the publications of the GSDSDS.

The following SUDS components should be considered for installation within the private area of all development :

- Green Roofs
- Rainwater Harvesting
- Permeable Surfacing
- Soak ways and Rain Gardens
- Rilles

Sustainable surface-water management designs should comply with current best-practice guidance and include a full maintenance package. In order to ensure their viability as sustainable solutions, the communication of maintenance requirements at handover or property transfer stage is of utmost importance.

## Sustainable Drainage of Public Areas

In addition to the incorporation of sustainable surface-water management techniques within private development sites, particular emphasis will be placed on the incorporation of SUDS into public realm infrastructure. The

use of sustainable surface-water management in streetscapes ties in with Dublin City Council’s biodiversity and green infrastructure strategies and has proven to be very cost effective in cities in the US and Europe. The following surface-water management solutions should be considered for surface-water management of public spaces:

- Permeable Surfaces in Pedestrian Areas
- Bioretention Areas
- Rilles

## Constructed Wetland in Tolka Valley Park

‘The Integrated Constructed Wetland (ICW) at Tolka Valley Park in Finglas, Dublin, was created in 1999 as a novel way of treating the polluted Finglaswood Stream that was polluted by misconnected domestic drains. This project was jointly initiated by Dublin City Council Parks and Landscape Services Division, Drainage Division and National Parks and Wildlife Service. Wastewater from dishwashers, showers, washing machines, kitchen waste, oils, car washings together with surface water runoff from roads and houses was flowing to an artificial pond in the park, via the now culverted Finglaswood Stream, before ultimately discharging into the nearby Tolka River. Pollutants from the surface water sewers were resulting in algal growths, floating greases and milky scum, foul odours, and a total loss of any amenity value that the pond may have had (Collins, 2007). Phosphates and Ammonia were also contributing to eutrophication, a term used to describe the excess application of nutrients, in the Tolka river. This phenomenon results in reduced oxygen concentrations in the river and accelerates ‘weedy’ plant and algal growth that blocks light and chokes streams – thereby creating a hostile environment for salmonid fish, including Salmon *Salmo salar* and Trout *Salmo trutta* (Giller, 1998)’<sup>1</sup>

An ICW removes pollutants from water by physical, biological and chemical processes. Sedimentation and filtration are responsible for the removal of suspended solids, particulate nitrogen and heavy metals. Integrated Constructed Wetlands by their very nature require fairly large land areas and typical retention times are in the order of several days but as space was limited in the park a decision was made to send an absolute maximum flow of some 35 litres per second through the wetland and flows in excess of this would overflow at an overflow weir to the Tolka in wet weather/high flows. This would ensure that all the day to day pollutants are treated in the wetland.

To date the Tolka Valley wetland has been a complete success and with the enormous improvement in water quality in the pond it now supports a large bird population (mallards, water hens, coots, and swans) insect life (dragon flies) and diverse plant life.<sup>2</sup>

<sup>1</sup> Biodiversity Survey of the Integrated Constructed Wetland at Tolka Valley Park, Finglas, Co. Dublin for Dublin City Council, prepared by OPENFIELD Ecological Services, June 2008

<sup>2</sup> Integrated Constructed Wetland Tolka Valley Park, Dublin, John Collins, Don McEntee, Dublin City Council, February 2009





## River Tolka Flood Alleviation Works

The River Tolka floodplain within Dublin City Council area has been heavily built up throughout its history. It is inevitable that significant flood alleviation and protection works are required over the river between the Finglas Bridge (N2) and Luke Kelly Bridge. Due to the scale of flooding experiences in the Dublin City Council area, the local Authority combined with the OPW in a fast tracked approach to implement flood alleviation measures which were identified in the interim report shortly after the flooding. No flood alleviation works were carried out in the LAP area itself but were carried out downstream.

## Conclusions and Recommendations

Most of the existing zoned lands within the LAP are located within Zone C, (see Figure 5 'Indicative Flood Zone Map') which has a low probability of flooding, where the risk is less than 0.1% annually or 1 in 1000 years for both river and coastal flooding. Part of the lands to the north of the LAP boundary, which are located around the banks of the River Tolka within the Tolka Valley Park, are located within Flood Zone A, with a high probability of flooding, greater than 1% annually or 1 in 100 for river flooding and 1 in 200 for coastal flooding. The area immediately north of River Road was subject to occasional flooding and as this area is in proximity to the existing and future planned residential/commercial development it was considered prudent to carry out the Justification Test. The sequential approach has been adopted throughout the process by directing development towards land that is at low risk of flooding. The remaining sites to be developed within the LAP area are located within Zone C, where there is a low probability of flooding. The land that is located within Zone A and B is located within the Tolka Valley Park, which is zoned Z9 in the Dublin City Development Plan 2011- 2017. This reads 'to preserve provide and improve recreational amenity and open space & green networks'. Only water compatible development would be permissible in these areas as per the Guidelines on Flood Risk Management.

All Planning applications for proposed development within the LAP area will be required to submit a site specific flood risk assessment (FRA) addressing risks from all sources of flooding, and using the best available data. All new development will be required to comply with the Greater Dublin Strategic Drainage Study for surface-water management, with possible provision for the CFRAMS High End Future Scenario. This will ensure that there is no increase in flood risk to properties downstream as a result of future development. In addition, in order to mitigate against the effects of flooding to new development, floor levels should be set to recommended levels. It is anticipated that specific recommendations for floor levels may issue from the CFRAMS Study. In the meantime, a precautionary approach should be taken of the 100 year fluvial flood level plus a minimum of 10% increase in rainfall intensity plus 300mm freeboard.

An assessment of the effects of existing development within the plan area on flood risk to properties downstream will be undertaken, and where possible, recommendations made in relation to possible retrofitting of additional flood storage areas within the study area in order to bring existing development in line with current best practice flood management methods.

## Flood Risk Management Objectives

IW04 To require all proposed developments to carry out a site specific flood risk assessment in accordance with the Departmental Guidelines on Flood Risk Management and Appendix 1 of this plan. The Flood risk assessment shall accompany the planning application and should be sufficiently detailed to quantify the risks and the effects of any residual mitigation /adaption together with the measures to manage residual risk IW05 All planning applications shall be required to submit a surface water drainage plan, following the principles of Sustainable Urban Drainage Systems (SUDS) which will include proposals for the management of surface water within sites, protecting the water quality of the River Tolka.

'IW08 – The recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area, upon its adoption'

## Disclaimer

It is important to note that compliance with the requirements of *The Planning System and Flood Risk Management - Guidelines for Planning Authorities*, 2009, and of the Floods Directive 2007 60/EC is a work in progress and is currently based on emerging and incomplete data as well as estimates of the locations and likelihood of flooding. In particular, the assessment and mapping of areas of flood risk awaits both the publication of Preliminary Flood Risk Assessments [PFRAs (currently in draft form)] and the publication of Catchment-Based Flood Risk Assessment and Management Plans [CFRAMP]. As a result, this guide for Flood Risk Assessment is based on best available information and may require revision as new information becomes available.

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

The indicative flood map does not show indicative flood hazard associated with any of the following:

- Extreme fluvial dominated combinations within the pluvial flows to the river
- Extreme pluvial events
- Blocked drains
- High ground water level conditions
- Other unforeseen events e.g. bridge/culvert collapse etc.

Dublin City Council makes no representations, warranties or undertakings about any of the information provided in this local area plan including, without limitation, on its accuracy, completeness, quality or fitness for any particular purpose. To the fullest extent permitted by applicable law neither Dublin City Council nor any of their members, officers, associates, consultants, employees, affiliates, servants, agents or other representatives shall be liable for loss or damage arising out of, or in connection with, the use of, or the inability to use, the information provided in this plan including, but not limited to, indirect or consequential loss or damages, loss of data, income, profit, or opportunity, loss of, or damage to, property and claims of third parties, even if Dublin City Council has been advised of the possibility of such loss or damages, or such loss or damages were reasonably foreseeable. Dublin City Council reserves the right to change the content and / or presentation of any of the information provided in this report at their sole discretion, including these notes and disclaimer. This disclaimer shall be governed by, and construed in accordance with, the laws of the Republic of Ireland. If any provision of this disclaimer shall be unlawful, void or for any reason unenforceable, that provision shall be deemed severable and shall not affect the validity and enforceability of the remaining provisions.

## UNCERTAINTY

Although great care and modern widely-accepted methods have been used in the preparation of this plan there is inevitably a range of inherent uncertainties and assumptions made during the estimation of design flows and the construction of flood models.

## Bibliography

Greater Dublin Strategic Drainage Study, Regional Drainage Policies, Technical Document (March 2005)

DoEHLG Guidelines for Planning Authorities (DoEHLG & OPW), The Planning System and Flood Risk Management (2009)

Dublin Coastal Flooding Protection (April 2005)

Flood Emergency Plan – A sub-plan of Dublin City Council Major Emergency Plan, January 2013

Eastern Catchment Flood Risk Assessment Management Study (Eastern CFRAMS) (Ongoing)





**Summary Local Area Report**

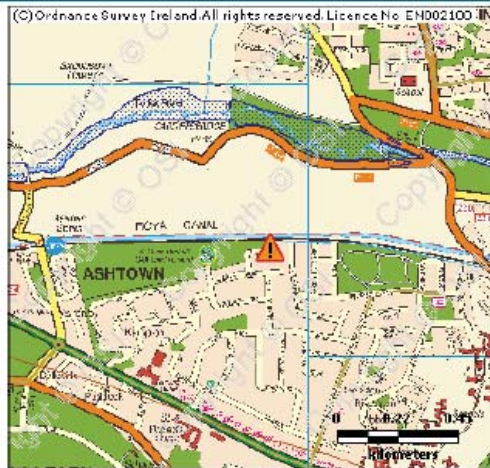
This Flood Report summarises all flood events within 2.5 kilometres of the map centre.

The map centre is in:

County: Dublin

NGR: O 117 374

This Flood Report has been downloaded from the Web site [www.floodmaps.ie](http://www.floodmaps.ie). The users should take account of the restrictions and limitations relating to the content and use of this Web site that are explained in the Disclaimer box when entering the site. It is a condition of use of the Web site that you accept the User Declaration and the Disclaimer.



Map Scale 1:18,491

Map Legend	
	Flood Points
	Multiple / Recurring Flood Points
	Areas Flooded
	Hydrometric Stations
	Rivers
	Lakes
	River Catchment Areas
	Land Commission *
	Drainage Districts *
	Benefiting Lands *

\* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained in the Glossary.

**7 Results**

	1. Flooding at Glendhu Park, Cabra, Dublin 7 on 24th Oct 2011 County: Dublin Additional Information: Reports (1) More Mapped Information	Start Date: 24/Oct/2011 Flood Quality Code: 3
	2. Tolka November 2002 County: Meath, Dublin Additional Information: Photos (126) Reports (8) Videos (3) Press Archive (13) More Mapped Information	Start Date: 13/Nov/2002 Flood Quality Code: 1
	3. Tolka Ballyboggan Road Nov 2000 County: Dublin Additional Information: Reports (1) More Mapped Information	Start Date: 05/Nov/2000 Flood Quality Code: 3
	4. Tolka and Finglas Rivers August 1984 County: Dublin Additional Information: Reports (2) More Mapped Information	Start Date: 26/Aug/1984 Flood Quality Code: 1
	5. Flooding at Broombridge Railway Station on 24th October 2011 County: Dublin	Start Date: 24/Oct/2011 Flood Quality Code: 2

Report Produced: 15-Mar-2013 14:43

	6. Flooding at Ballygall Crescent and Fairways Green, Finglas, Dublin 11 on 24th Oct 2011 County: Dublin Additional Information: Reports (1) More Mapped Information	Start Date: 24/Oct/2011 Flood Quality Code: 2
	7. Finglas November 1965 County: Dublin Additional Information: Reports (1) Press Archive (2) More Mapped Information	Start Date: 25/Nov/1965 Flood Quality Code: 4

Figure 4 – Type 1 Pluvial Flood Depth Map 1% AEP Event 3 Hour Duration Ashtown – Pelletstown LAP (see Disclaimer) Source: Flood Resilient City Office

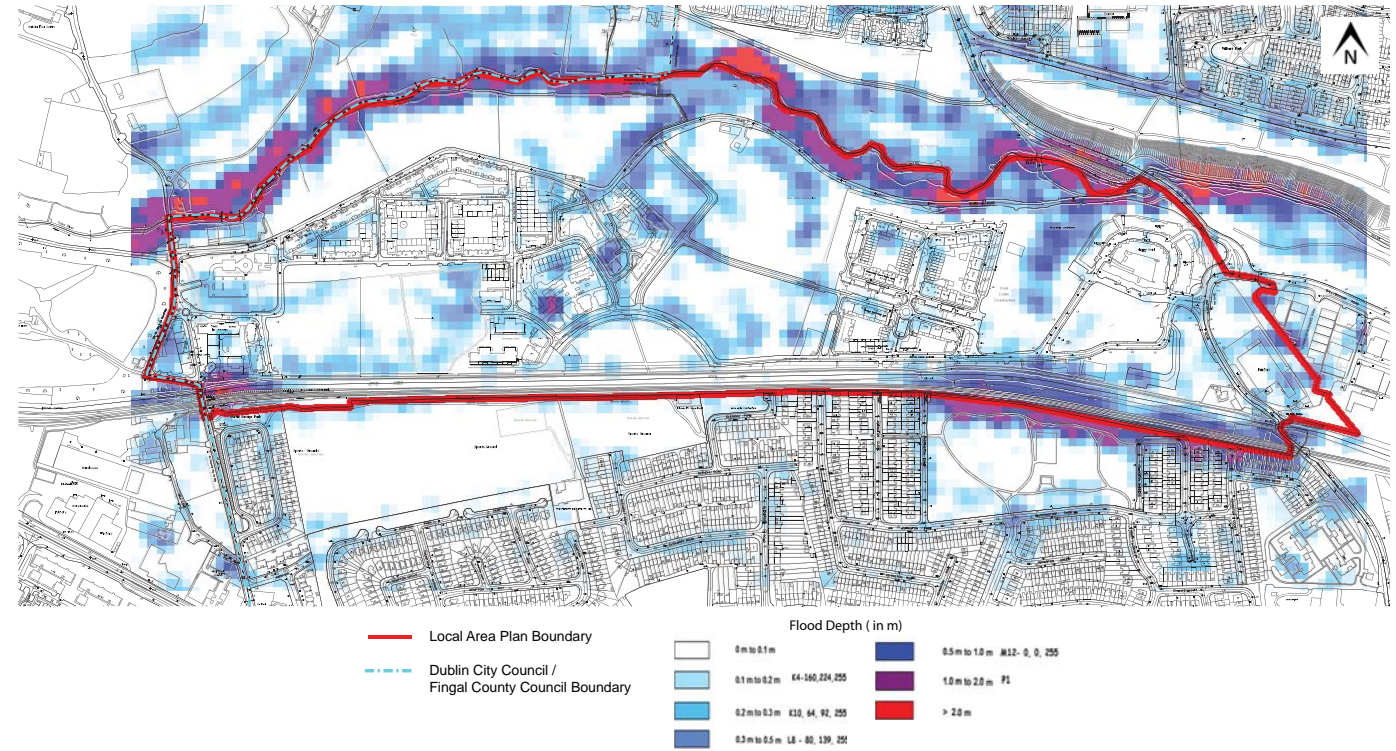
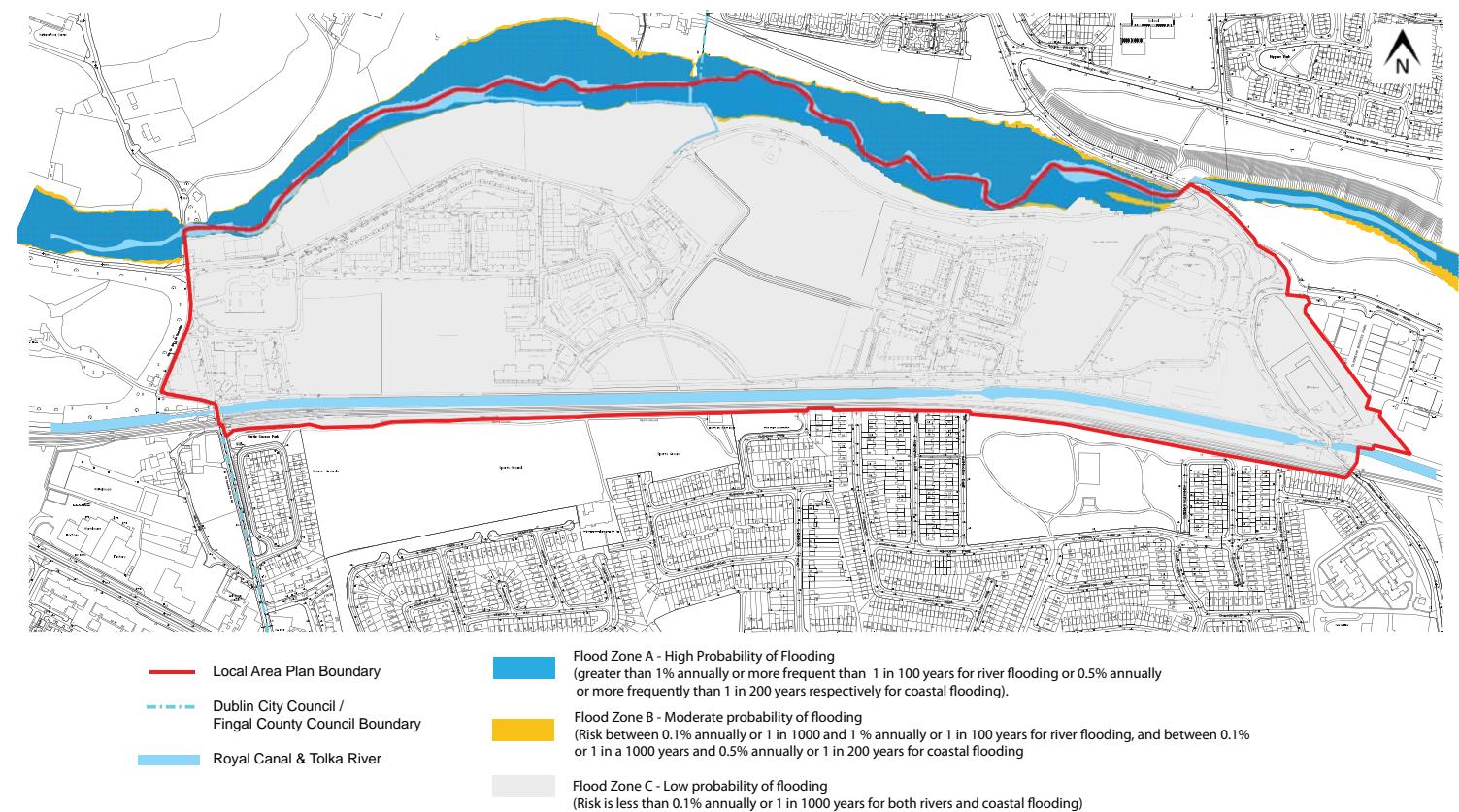


Figure 5- Indicative Flood Zone Map (see Disclaimer)



	Local Area Plan Boundary		Flood Zone A - High Probability of Flooding (greater than 1% annually or more frequent than 1 in 100 years for river flooding or 0.5% annually or more frequently than 1 in 200 years respectively for coastal flooding).
	Dublin City Council / Fingal County Council Boundary		Flood Zone B - Moderate probability of flooding (Risk between 0.1% annually or 1 in 1000 and 1% annually or 1 in 100 years for river flooding, and between 0.1% or 1 in a 1000 years and 0.5% annually or 1 in 200 years for coastal flooding)
	Royal Canal & Tolka River		Flood Zone C - Low probability of flooding (Risk is less than 0.1% annually or 1 in 1000 years for both rivers and coastal flooding)





Figure 7 - River Tolka Flooding Study Historical Flooding Map (Frame 23)  
(this shows roughly the 100 year event)

Figure 6 - River Tolka Flooding Study Historical Flooding Map (Frame 22)  
(this shows roughly the 100 year event)

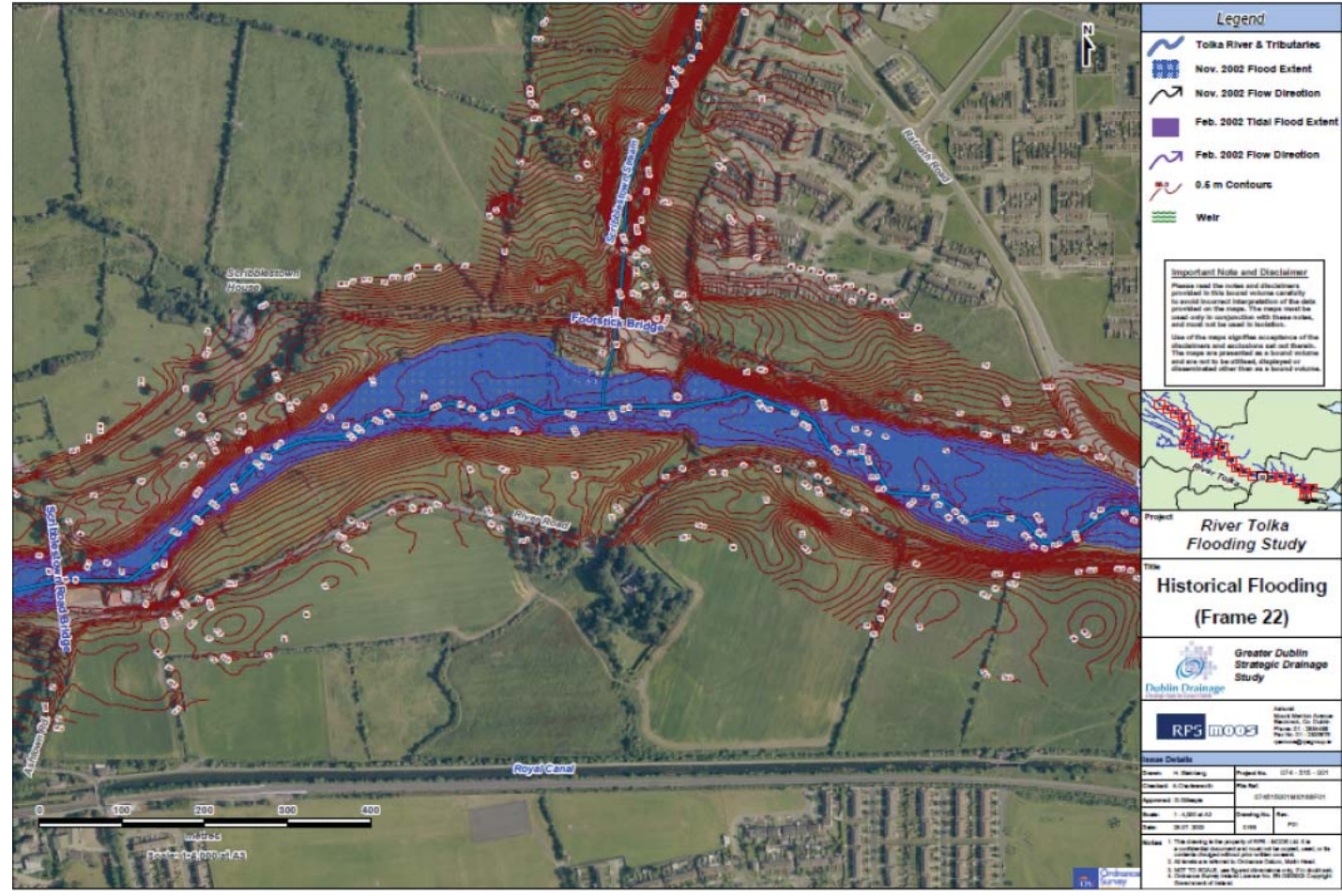


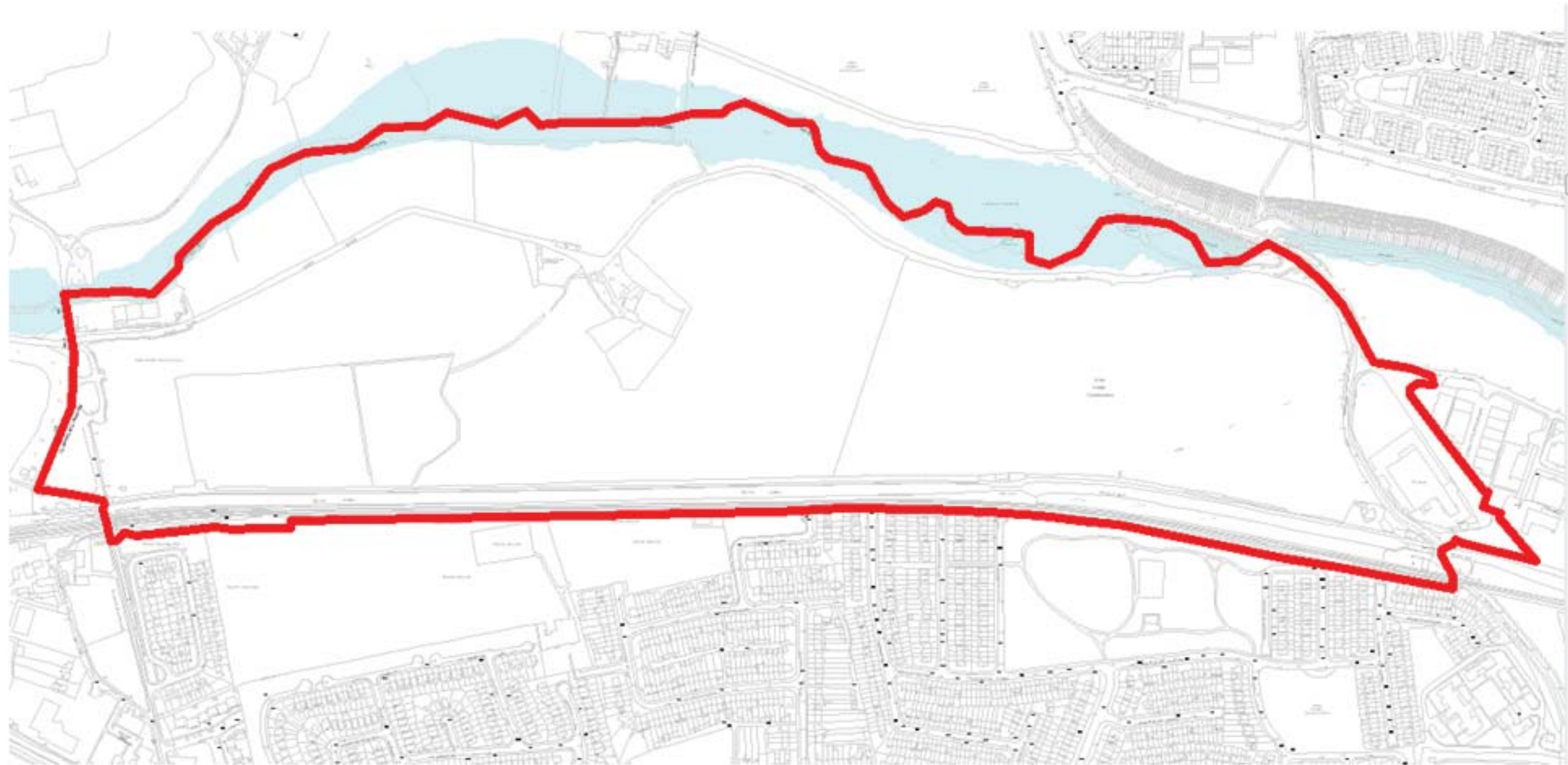
Figure 6 - River Tolka Flooding Study Historical Flooding Map (Frame 22)  
(this shows roughly the 100 year event)







Figure 8 – Tolka River 0.1% AEP Extent Ashtown – Pelletstown LAP)





## Appendix 2: Taking in Charge Standards, Open Space Design Guidance and SuDS Guidance

### Section 1: Guidelines for Open Space Development and Taking In Charge

How open space areas are managed and maintained after their provision is an important consideration at the design stage, particularly to ensure that public open space can be taken into charge by Dublin City Council successfully.

It is also important that topsoil is recognised as an important on site resource for biodiversity and landscaping. Considering the extent of lands still to be completed for development in the LAP area, a successful open space strategy is dependant on high quality soil being retained and appropriately stored on site for future landscaping purposes.

The Culture, Recreation and Amenity Department of Dublin City Council have produced a set of guidelines called "Guidelines for Open Space Development and Taking in Charge" which provide important information for landscape designers of new public open space.

Some of the important guidance provided, which will benefit open space provision in the LAP area, includes the following:

- Tree surveys should be carried out by a qualified Arboriculturist.
- Landscape works are to be completed before occupation of the development or initial phase of development.
- A detailed survey should be made of existing hedgerows, trees and other natural site characteristics to evaluate their potential for protection and augmentation within landscape proposals.
- Based on the survey information, works proposed to existing hedgerows and trees must be agreed with DCC. Vegetation supporting nests may only be altered between the period of 1<sup>st</sup> September to the 1<sup>st</sup> February each year in the interest of protecting wildlife.
- A two stage consultation with the Parks and Landscape Division is advised. The first should set out the existing site survey and analysis with the concept plan prior to an application being lodged. The second consultation should include the detailed design (at planning stage).

- For any public open space/streetscape to be taken in charge by Dublin City Council, landscape submissions shall consider:
  - Landscape plans at an approved scale.
  - Location plan with areas intended to be taken in charge.
  - Sections / elevations.
  - Images
  - Specialist opinions.
  - Landscape maintenance specification.
- The principle of SuDS should be adopted in the treatment of surface water drainage.
- In general the developer will be responsible for the maintenance of the public open space for an 18 month period after the completion of works. At the end of the maintenance period Dublin City Council and landscape consultant will inspect the open space prior to taking in charge.
- As a general rule, areas designated for public open space purposes should be fenced off prior to the commencement of any development works on site and should not be used as site compounds etc.
- All development works should ideally be carried out during summer months under the supervision of the landscape consultant. In general all gradients in grassed areas shall not be greater than 1:4.
- Any excess top soil to be removed from the site is subject to agreement with the Dublin City Council. The developer shall store any top soil to be used in future public open space in accordance with the requirements of the Council. Existing topsoil is to be viewed as a resource to be valued and managed in accordance with Dublin City Council's Biodiversity Action Plan 2008 - 2012.
- Dublin City Council may require testing of material to be used as topsoil on any future public open spaces, at the cost to the developer, to ensure quality control. Any importation of topsoil will be subject to national legislation and Dublin City Council shall be informed of the source of any imported material.

- All areas to be grassed on public open space should be provided with an adequate layer of good quality top soil. A minimum depth of 150mm freely draining soil is required. The finished level of the topsoil shall remain 50mm above adjoining roads and footpaths to allow for settlement.
- All areas to be planted for trees and shrubs shall be provided with a minimum of 300mm depth of topsoil with a minimum depth of 300mm subsoil underneath.
- For street trees, a 600mm depth of topsoil, at a radius of 1m from the base of the tree, should be provided at all street tree planting positions. Street trees should not be planted under or within three metres of street lights.





## Section 2: Private and Communal Open Space Design Guidance

Maximising the amenity value of homes and residential schemes is important for quality of life of the residents and in particular to encourage longer term residency.

The Dublin City Development Plan 2011-2017 provides important guidance for the design of homes and Section 17.9 in particular sets out important quality standards which must be met. Of note for residential developments are the following:

### For Apartments

- Where balconies are provided, they should be functional, screened, have a sunny aspect, be wheelchair accessible and allow table and chair seating. The primary balcony should be located adjacent to the main living area.
- Communal open space may include sheltered roof gardens and communal landscaped areas at ground or podium level accessible to all the units it serves.
- The design of communal open space should take into account good passive surveillance, children's play, wheelchair access, good sunlight penetration, appropriate maintenance and management arrangements (including factors of storage and water supply).
- Outside the city centre area, combined private and communal open space provision shall be 12-15 sq.m per bedspace at a minimum.

### For Houses

- A standard of 15 sq.m private open space per bedspace will normally be applied.
- At the rear of dwellings, there should be adequate separation (traditionally 22 metres between two storey houses with first floor opposing windows). This distance can be shorter if the design is such that the privacy of adjacent occupiers is preserved.
- The provision of defensible space behind the public footpath by means of a planting strip is important for housing units that address a street with own door access and ground floor windows. In particular, where on street parking is provided, a landscaped strip of 2 metres minimum depth should be provided.
- Rear gardens and private garden space should be screened from public areas, provide safe and secure play areas, be overlooked from a living or kitchen area, have robust boundaries and should not back onto roads or public open spaces.

## Playgrounds and Children's Play Spaces

Incorporating opportunities for children's play and activity, inclusive of young children and teenagers, is an important consideration for open space design. In particular a network and sequence of different open space character areas can provide opportunities to provide amenities for different age groups. Providing safe routes between different character amenity areas can be very beneficial to encourage active use.

While all open space areas should incorporate flexible design principles to encourage recreation for all ages, making sure that children and teenagers have access to recreational facilities is important for the development of the community.

Section 17.16 of the Dublin City Development Plan 2011-2017 provides some valuable guidance on playgrounds and play spaces which is valuable for designers creating open space within the LAP area.

Some guiding principles include:

- Play spaces for small children (under 5s) should be close to residential dwellings, safe from traffic, overlooked with housing and frequented streets and footpaths, have both sunny and shaded parts, and be equipped with both natural play elements and also play equipment.
- Recreation facilities for older children and teenagers should take into account multi use game areas (MUGAs), teenage shelters, skate parks, meeting places (seating) etc. Such locations should be well positioned within the neighbourhood with good visual prominence and connections to the residential area.

Dublin City Council has published a Play Plan (2012-2017) which includes guidance on improving design of play spaces.



## Section 3: SuDS Design Guidance

The following general guidance is provided to guide future developments within the LAP area:

### Domestic Designs

SuDS measures can have effective outcomes on management of surface water drainage if implemented as part of domestic design. The design of individual houses should take into consideration design features including:

- Roof drainage could incorporate green roofs or drain to a soakaway, permeable paving area or mini detention basin.
- Permeable materials (especially for driveways)
- Cost savings could be made if surface water is recycled for domestic use.

See also section 4.11 'Environment Sustainability and Sustainable Design', including green points system and advice on sustainable design.

### Commercial/Office/Apartment Blocks

Larger schemes will have optimal opportunities to incorporate SuDS measures, particularly where they can be incorporated as part of the site masterplan features measures including infiltration systems, filtration systems, retention systems/swales and detention systems can all contribute towards sustainable drainage and storm water management. See section 4.8.5.1 for further details.

Such measures can have a significant positive effect on biodiversity and green infrastructure. See section 4.11 in regard to sustainable design and green points system.

Example of SuDS residential development





## Appendix 3: Appropriate Assessment (AA) Conclusion Statement

### Appropriate Assessment Overview

Appropriate Assessment (AA) is a detailed examination of the possible significant adverse effects of a plan or project on the environmental integrity of Natura 2000 sites. The term “Appropriate Assessment”, is set out in the EC Habitats Directive Article 6(3). In accordance with the procedures stated in the Department’s publication, *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (December 2009)*, all land use plans or strategies that are not directly related to the management of Natura 2000 designated sites, such as this LAP, must be examined to ensure that there will not be any significant adverse effects on such designated sites. These particular sites are of European importance and are part of the European Commission’s (EC) Natura 2000 network of sites in Ireland. The Irish Government and local planning authorities have a legal obligation to protect these sites.

Dublin City Council has adopted a pre-cautionary and comprehensive approach, undertaking an AA screening exercise of policies and objectives throughout the LAP process and inserting mitigation measures in the form of policies and objectives, to safeguard against any possible significant adverse effects from the implementation of the LAP. At each statutory consultative stage of the process, copies of the latest LAP, SEA and AA documents were forwarded to relevant prescribed government departments for their advice and comments.

There are two distinct stages of the Appropriate Assessment process:

Stage 1 – Screening

Stage 2 – Appropriate Assessment (Natura Impact Statement(s) )

The first step is to look at the Plan in principle and to ascertain if there are likely to be significant adverse effects. This step is known as ‘Screening for Appropriate Assessment’. If the screening stage results in a judgement that significant adverse effects may occur or cannot be ruled out, as was the case with the Ashtown/Pelletstown LAP, then a more detailed ‘Appropriate Assessment’ (AA) is required. In this instance the Screening Stage determined that due to the nature of development that could arise as a result of implementing the Local Area Plan, significant adverse effects could not be ruled out, - in this instance, possible indirect effects arising from the LAP’s proximity to the Tolka River and Royal Canal, and their consequent linkage to Dublin Bay and Natura 2000 sites. Therefore the draft LAP required further assessment, that is, Stage 2 – Appropriate Assessment.

For the Ashtown/Pelletstown Local Area Plan (LAP) the AA process encompasses an initial Natura Impact Statement of the draft LAP, various interim Natura Impact Report (NIR) screenings on foot of changes made to the draft LAP after statutory consultation, and finally a ‘Conclusion Statement’ summarising the process. This is to ensure development will not compromise the environmental integrity of any Natura 2000 sites.

### Summary of Appropriate Assessment Outcome and Integration of Findings into LAP

Stage 2 involved analysing the relationship between the proposed policies and objectives in the Local Area Plan and the Natura 2000 sites, as set out in the LAP ‘Policy and Objective Mitigation Matrix’ in the Natura Impact Statement. Where there was potential for a significant adverse effect to occur, mitigation was required. Mitigation was in the form of policies and objectives that could counteract any potential for significant adverse effects. This process was repeated for every Natura Impact Report produced on foot of alterations to the draft LAP. These mitigation measures were integrated into the LAP to ensure that plan implementation will not result in any significant adverse effect on Natura 2000 sites.

### Relationship of Appropriate Assessment to Strategic Environmental Assessment

The Appropriate Assessment (AA) process specifically aims to ensure that the plan will not have any significant adverse effects on the integrity of any Natura 2000 sites, whereas Strategic Environmental Assessment (SEA) has a broader objective of ensuring land-use plans contribute to sustainable development by integrating social, environmental and economic considerations into plan preparation and incorporating the requirements of the SEA Directive (2001/42/EC). The preparation of an AA and SEA are complementary processes and each can inform the content of the other, dependent upon the type of plan, project or habitat involved.

### Preparation of LAP and Consideration of Alternative Options

It is standard practice when devising an LAP that various ways of fulfilling its strategic vision are considered. Dublin City Council, as the plan-making authority, is obliged therefore to consider alternative ways of achieving this. The SEA Environmental Report (accompanying the LAP document) details the process and outlines the alternative options considered for the delivery of the strategic vision, in summary, there were three alternatives considered;

1. Reissue the existing Action Area Plan (2000)
2. Use the land use zoning objectives for the area to guide development
3. Prepare an LAP

The preparation of an LAP was deemed the most suitable option for achieving the strategic vision objective as it provided a co-ordinated approach for development in line with statutory requirements and advice from prescribed environmental bodies. The LAP provides an updated strategy on how the area should be developed and managed in line with best practice in sustainable urban planning, integrating environmental considerations such as ‘Green Infrastructure’ and ‘Sustainable Urban Drainage Systems’. It provides policies and mechanisms that would deliver necessary physical, social and environmental infrastructure in a nuanced, phased manner over a period of time.

Thus in tandem with, and cognisant of the SEA process and outcomes, the AA was prepared. The thoroughness of the SEA and AA process ensured there were no serious environmental issues arising from the LAP’s strategic vision, as articulated through policies and objectives in the various chapters. As a consequence the AA provided mitigation more as a precautionary measure, rather than in anticipation of significant adverse effects on Natura 2000 sites. Again, all relevant prescribed authorities were informed of the preparation of an LAP for the area.





**Location of Natura 2000 Sites in relation to Ashtown/Pelletstown LAP Area**



- ① Rockabill to Dalkey Island SAC
- ② Baldoyle Bay SAC / SPA
- ③ North Dublin Bay SAC / North Bull Island SPA
- ④ South Dublin Bay SAC / SPA
- ⑤ Dalkey Island SAC
- ⑥ Malahide Estuary SAC / Malahide Estuary SPA

**Legend**

- Dublin City Council Boundary
- 15 KM Buffer
- SACs
- SPAs

The relevant Natura 2000 sites are;

- North Bull Island SPA (IE004006)\*
- South Dublin Bay & River Tolka Estuary SPA (IE004024)
- Baldoyle Bay SPA(IE004016)
- Dalkey Islands SPA (IE004172)
- Baldoyle Bay SAC (IE00199)
- North Dublin Bay SAC (IE00206)
- South Dublin Bay SAC (IE00210)
- Rockabill to Dalkey Island SAC (IE003000)
- Malahide Estuary SAC (IE000205)
- Malahide Estuary SPA (IE004025)

\*The number in brackets is the National Parks and Wildlife Service site code. ([www.npws.ie](http://www.npws.ie), 2013)

**Declaration that the LAP will not significantly adversely effect Natura 2000 sites**

The AA process identified those policies and objectives that may have potential to significantly adversely effect Natura 2000 sites. In response to this, policies and objectives were drawn up that mitigated against this possibility. The policies and objectives of the plan have been devised to anticipate and avoid the need for developments that would be likely to significantly adversely effect the integrity of any Natura 2000 sites. Furthermore, developments arising from the LAP shall be required to conform to the relevant regulatory provisions for the prevention of pollution, nuisance or other environmental effects likely to significantly and adversely effect the integrity of Natura 2000 sites. The direct influence of LAP policies and objectives upon Natura 2000 sites beyond the LAP area is limited, and mainly confined to Dublin Bay, as the receiver of impacts from the river Tolka and Royal Canal, which pass through the LAP area.

**Note: This report forms part of the AA documentation of the LAP making process. It should be read in conjunction with the Natura Impact Statement and SEA.**



