



Comhairle Cathrach Chorcaí
Cork City Council

Cork City Development Plan 2015 - 2021

Environmental Assessments





Environmental Assessments

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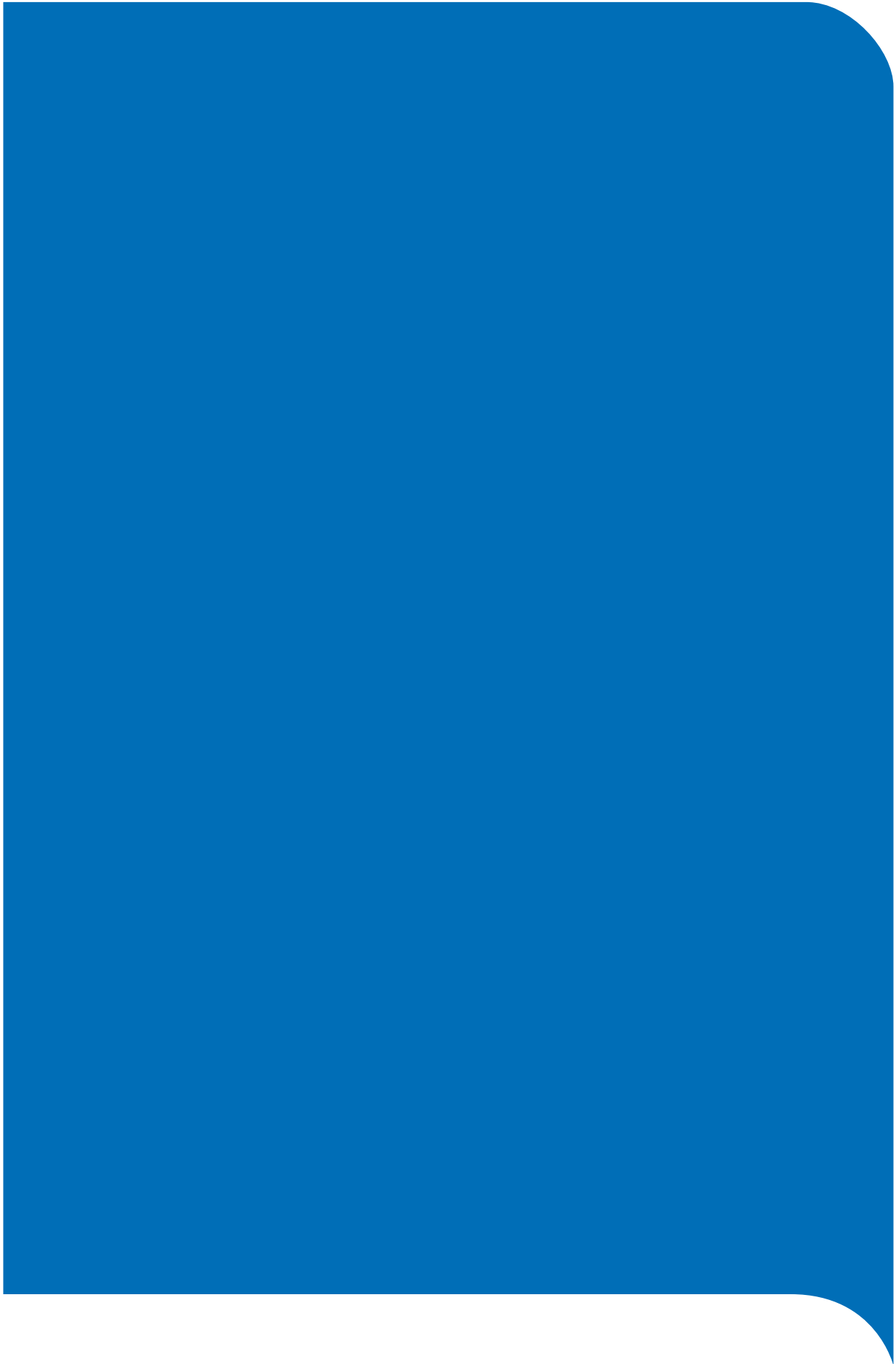
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part 1

Non-Technical Summary Strategic Environmental Assessment (SEA)

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PART 1

SEA NON-TECHNICAL SUMMARY

1. Introduction

Strategic Environmental Assessment (SEA) is the formal, systematic assessment of the likely effects on implementing a plan or programme before a decision is made to adopt the plan or programme. This Report describes the assessment of the likely significant effects on the environment if the draft City Development Plan is implemented. It is a mandatory requirement to undertake a SEA of the City Development Plan, under the Planning and Development (Strategic Environmental Assessment) Regulations, 2004 (as amended).

SEA began with the SEA Directive, namely, Directive 2001/42/EC Assessment of the effects of certain plans and programmes on the environment. The SEA Directive was transposed into Irish legislation by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations, 2004 (S.I. No. 435 of 2004) and Planning and Development (Strategic Environmental Assessment) Regulations, 2004 (S.I. No. 436 of 2004). Subsequently, these statutory instruments were amended by S.I. 200 of 2011 and S.I. No. 201 of 2011. The Cork City Development Plan falls under the remit of S.I. 436/2004.

Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. Scoping requires consultation with the prescribed Environmental Authorities. Scoping establishes all relevant issues and potential impacts of the draft plan. The Environmental Protection Agency, (EPA) made a submission.

The process continued with the collection and evaluation of Baseline Data on the current state of the environment with respect to biodiversity, population, human health, fauna, flora, soil, water (surface freshwater, coastal, transitional, groundwater, bathing and water services (drinking water and waste water treatment), air, climatic factors, material assets (roads, transportation, energy etc), cultural heritage (including architectural and archaeological heritage), landscape and the interrelationships between these factors as appropriate. Any existing problems relevant to the new Plan are also identified at this baseline stage.

Identification of baseline environmental status provides for the identification of key resources and sensitivities within the Plan area and the identification of potential threats to the environment, thus allowing for the inclusion of mitigation measures that may need to be incorporated into the new Plan to ensure that it does not exacerbate existing problems. Assessment of the baseline environment also enables plan-makers to consider how the environment might evolve in the absence of the proposed plan.

As the data is compiled and plan policies evolve the likely significant effects of implementing the plan are identified, described and evaluated and this is described in the Environmental Report.

The information to be contained in the environmental report is set out in Annex 1 of the SEA Directive and reproduced in Schedule 2B of the Planning and Development Regulations 2001, as inserted by Article 12 of the Planning and Development (SEA) Regulations 2004. The structure of this report is summarised as follows:

The SEA Process produces two documents, the Environmental Report to accompany the Draft Development Plan and an SEA Statement which will be published at the end of the process, when the Plan is adopted.

During the preparation of the Environmental Report, no new research was undertaken and information was gathered from existing sources of data. There are a number of areas where data was not readily available, including habitats surveys for non-designated sites and extent and range of protected species; limited Air Quality monitoring and Water Quality Status data.

As part of the review of the City Development Plan, and in order to meet the needs of the Strategic Environmental Assessment process, a Strategic Flood Risk Assessment (SFRA) was undertaken.

The assessment provides for an improved understanding of flood risk issues within the City and the spatial distribution of flood risk. The SFRA report sets out how the Flood Risk Assessment was undertaken, as well as how its findings were addressed and integrated into the City Development Plan.

2. Context

In accordance with the Planning and Development Acts, the Council is legally obliged to prepare a Development Plan (CDP) for its functional area every six years and, not later than four years after the preparation of this plan, a planning authority must give notice of its intention to review that plan and prepare a new plan.

The current Cork City Development Plan 2009 - 2015 was adopted in 2009. On 22nd April 2013 the Council commenced a review by publishing an Issues Paper and placing notices in the press to advise the public of the commencement of an 8 week period of public consultation. Submissions received were considered and included in a Managers Report to the Elected Members of the Council in August 2013. Following consideration of the report, the Members issued a direction to the Manger to proceed with the preparation of the Draft Plan.

The City Development Plan is part of a hierarchy of local, regional and national plans. While it should be consistent with higher-level plans such as those of a regional or national nature, it must guide or direct plans and programmes at a lower level hierarchically.

The Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) and its transposed Irish legislation, including amendments form the legislative framework for the SEA process, including its documentation in the form of an Environmental Report. The Planning and Development Act, 2000 (as amended) also forms an integral part of SEA and additional guidance from a European context and national context. Additional key pieces of legislation pertaining to environmental considerations include inter alia, EU Birds Directive (79/409/EEC), EU Habitats Directive (92/43/EEC), The Wildlife Act, 1976 (as amended in 2000).

3. Baseline Environment

The environmental baseline of Cork City is described in this section. The baseline data is the existing state of the City's environment. This baseline together with the Strategic Environmental Protection Objectives, (EPOs), is used to identify, describe and evaluate the likely significant environmental effects

of implementing the City Development Plan and the alternatives, and to determine a baseline from which future monitoring data can be measured.

The impacts of the City Development Plan can be estimated as the difference in environmental conditions with or without implementation of the plan. Cork city's existing environment is characterised by way of a description of the environmental receptors as set out in SEA Directive as follows.

3.1 Population and Human Health

Population

The National Development Plan 2007-2013 identifies Cork as a national gateway, a priority growth area. The National Spatial Strategy 2002- 2020 reinforces this role. The population target for Cork is set out at a regional level in the National Population Projections NSD Regional Population Targets 2010-2022, January 2009 and the 'Gateway and Hub Population Targets' October 2009 issued by the DEHLG.

Under the current Regional Planning Guidelines, the population of the Region is forecast to increase by 127,500 persons to 795,000 persons during the period 2010 - 2022. The population targets were apportioned by the Regional Authority through the adoption of the South West Regional Planning Guidelines 2010 - 2022. The target population for Cork City is 150,000 persons, an increase of 30,478 from the recorded population of 119,522 persons in the 2006 Census. The 2011 Census recorded the Cork City population at 119, 230 persons representing a small decrease from 119,418 in 2006, (-0.1%). The population has effectively stabilized following a prolonged period of decline since the 1979 peak of 138,000 persons.

There was significant variation in population change within Cork City between 2006 and 2011, with the City Centre and the South East increasing population, while the North side, South West and South Centre declined. Despite the overall fall in population in the city, the number of households has been gradually increasing. There was a net gain of 3,650 households between 2006 and 2011, although average household size is continuing to fall.

In line with the City's population target of 150,000 persons by the year 2022, the number of households has increased from 43,939 in 2009 to 47,163 in 2011. At this rate a further 17,792 households will be formed if the population target of 150,000 persons is reached. However, the average household size within the city has fallen from 2.61 persons per household in 2006 to 2.45 persons per household in 2011, and is predicted to continue to fall in line with national trends. Therefore, an increased number of housing units is required in the region of 20,032 units, (The Joint Housing Strategy, Cork Planning Authorities, January 2013).

Human Health

The impact of development on human health is influenced by the extent to which development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil.

Soil in some areas of the City has been polluted and contaminated by development which has not followed environmentally friendly practices and/or which has not been serviced by the appropriate infrastructure.

Cork City is very vulnerable to adverse effects from small changes in sea level combined with changes in the occurrence of severe rainfall events and associated flooding of the River Lee and a number of smaller urban streams such as the River Bride. Flooding in certain circumstances could pose a risk to human health.

Although air quality in Cork City meets current standards there are traffic ‘hotspots’, located along the main road routes especially at intersections, which give rise to a harsh sensory environment which may impact upon human health. Traffic hotspots in low lying areas that have surrounding high buildings are likely to be more stressful environments due to air pollution and noise levels.

There are a number of locations within Cork City where dangerous substances are handled in quantities above specified thresholds for which a high level of protection for people, property and the environment is required under the Seveso II Directive. When considering development proposals, the Council will be advised by the Health and Safety Authority.

Deprivation is frequently associated with poor health. Those who experience economic, social or education disadvantage are more likely to have poor health. The Deprivation Index of Ireland shows that much of the north-side and the south central area of the City is disadvantaged, whereas affluent areas are concentrated in the western part of the city and south eastern wards. The majority of the city is categorised as marginally above average. The RAPID (Revitalising Areas through Planning Investment and Development) programmes continue to play a very important role in tackling disadvantaged areas.

Lower than expected growth in the City and the Metropolitan Cork area and high rates of growth in rural areas (illustrated in 2011 Census data) represents a significant challenge for the Council as it reduces the performance and competitiveness of the City to attract inward investment, thus impacting on economic prosperity, human health and quality of life issues. A dispersed population will reinforce ‘car dependency’ and inhibit the provision of viable public transport services with the added benefit of lower traffic related emissions and noise levels.

New development and supporting infrastructure needs to be utilized to maximum effect to support human health and quality of life. Adequate wastewater treatment systems, water supply and storage facilities must be in place to sustain a growing population without creating adverse impacts on the population and the receiving environment. Quality of housing must be supported by adequate community facilities and services and quality robust open spaces to support an increasing density of population.

3.2 Biodiversity, Flora and Fauna

Biodiversity refers to the variety of life on Earth and includes the variety of species, plants, animals and micro-organisms found on earth, and the places (habitats and ecosystems), where these organisms live. Flora and fauna refers to plants and animals. Biodiversity is a primary indicator of the health of our surroundings. Biodiversity gives us many of the essentials of life, oxygen, water, food, clothing and health.

Biodiversity is protected by European and Irish legislation, in particular the EU Habitats and Birds Directives, the EU (Natural Habitats) Regulations 2011, and the Irish Wildlife Acts 1976 and 2000. The requirements of the Habitats and Birds Directives have been incorporated into planning law in the Planning and Development (Amendment) Act, 2010.

Much of the habitats of Cork City have been impacted by man over time. CORINE Land Cover is an interpretation of satellite images. The most up to date mapping for Cork is from 2006. The CORINE land cover mapping indicates that the majority of the city area is covered by ‘man-made’ surfaces; ‘continuous urban fabric’ is found in the city centre and this is surrounded by discontinuous urban fabric. (see Figure 1). Differences since 2000, shows that natural / semi-natural landcover categories, such as pastures at the City’s northern and southern boundaries have been developed. (See Figure 2). There is a process of expansion of the City and the Metropolitan area, in particular, along the Commuter Rail-line settlements to the east of the city.

Cork City is located within close proximity to a number of designated ecological sites: Cork Lough Natural Heritage Area (NHA) is located within the City boundary; Cork Harbour Special Protection Area (SPA), Douglas River Estuary NHA, Dunkettle Shore NHA and Lee Valley NHA are located partially within or adjacent to the City boundary; and a number of sites by virtue of their ability to support bird populations are located in the wider Cork Harbour area. (See Figure 3). Other designated sites include the Cork Harbour Ramsar Site; Protected Aquatic Habitats such as Shellfish Waters, (Great Island North Channel, Rostellan North, South & West located in Cork Harbour) and Designated Salmonid Waters, (River Lee). (See Figure 4).

Habitat loss, fragmentation, and disturbance to wildlife caused by changing land uses and development, agricultural, forestry and recreational activity are probably the greatest threats, with climate change and invasive species also important issues. Aquatic habitats and species are particularly vulnerable to deterioration in water quality. This is a particularly significant issue given the potential impact on biodiversity. The scale of development proposed in the plan will increase pressure on biodiversity. A significant challenge in preparing the baseline assessment is the lack of information on all areas of local biodiversity value and ecological corridors.

3.3 Water

Water within and surrounding Cork City has many functions; it provides drinking water to the City's population; it sustains the biodiversity and flora and fauna; and it is an integral part of the landscape both within the City and across the wider Cork Harbour area. Water is both a receptor and pathway of environmental pollution and hence its importance as an environmental consideration.

The Water Framework Directive (WFD) 2000/60/EC requires all member states to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving 'good' status by 2021. Cork City is within the Lee/ Harbour Catchment, one of five units that make up the South Western River Basin District (RBD). Two lengths of the River Lee, the Groundwater underlying the City, the Transitional waters of the River Lee and various areas within Cork Harbour are listed on the Registers of Protected Areas under the Water Framework Directive.

The European Communities Environmental Objectives (Surface Waters) Regulations 2009 introduced further environmental quality standards in relation to all surface waters, including lakes, rivers, canals, transitional waters, and coastal waters.

The water quality of the River Lee is categorised as 'Poor', whereas, the Glashaboy River which forms part of the eastern boundary of the City at Tivoli is categorised as 'Good.' Rivers such as the Bride, Tramore and Curragheen are not monitored.

In terms of achieving WFD objectives, the risk assessment for the River Lee is currently classified as being (1a) at significant risk of failing to achieve the WFD's objectives. The transitional surface water bodies (saline coastal waters influenced by fresh water flows) at Cork City and Cork Harbour are also classified as being (1a) at significant risk of failing to achieve the WFD's objectives. (See Figure 5). The River Lee is transitional up to Sunday's Well in the west of the City. Lough Mahon estuarine waters have a good status for the period 2007 – 2009, whereas the River Lee has a moderate status. (See Figure 6).

The Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI) system classifies the quality of transitional waters. Of relevance to Cork City is that Lough Mahon, Cork Harbour and the Outer Cork Harbour have an 'Intermediate' status and that the Great Island North Channel has a 'Potentially Eutrophic' status. (See Figure 7). Water quality in Lough Mahon has steadily improved from 'Eutrophic' status in

the period 1999- 2003 to 'Potentially Eutrophic' status in the period 2001-2005 to 'Intermediate' status in the period 2007 - 2009.

Dredging is undertaken regularly within Cork Harbour periodically to remove excessive levels of silt which may interfere with marine traffic lanes. The dredging process can affect water quality and ecology by releasing toxic contaminants into the water source and altering the hydrology. This is a concern as dredging areas are close to protected habitats, species and designated Shellfish waters.

The current status of the City's Groundwater is 'good' (EPA). However, the majority of the City's groundwater is classified as being either of 'extreme' or 'high vulnerability,' (Geological Survey of Ireland). (See Figure 8). All of the groundwater bodies underlying the City and surrounding area are currently classified as being at risk of not achieving good status due to risk from diffuse sources including leaking urban sewerage systems and point sources including contaminated land, municipal waste and water treatment plants. Pollution sources and pathways are complex, and sources of pollution are difficult to control.

Drinking water for Cork City is provided by Irish Water. The city has two sources of drinking water; The Lee Road Waterworks, which extracts water from the River Lee, providing 70% of the total water supply, (the city centre and northern suburbs); and, the eastern, western, and southern suburbs are served by the Cork Harbour and City Water Supply Scheme, which extracts water from the Inniscarra Reservoir. The construction of a new treatment plant at Lee Road and two new interconnectors further connecting the two schemes will help ensure security of supply. Water supply capacity currently imposes no constraints on development in the city. There is adequate capacity to serve 'Metropolitan Cork' through 2021 with regard to population targets set out in the Core Strategy of the Plan; treatment capacity, abstraction limits, and a reduction in "unaccounted for water" i.e. primarily leakage.

Increased water production by increased abstraction has the potential to impact on existing water bodies which are classified as being 'at risk of not achieving good status.' Therefore, the need for increased production will need to be very carefully assessed and conservation measures adopted / promoted.

Irish Water also provides wastewater infrastructure and treatment facilities for Cork City. The City is served by two main sewerage schemes: the Cork Main Drainage Scheme is the primary scheme, while, the Tramore Valley scheme serves the south-eastern suburbs. The waste water treatment plant at Carrigrennan on Little Island treats the majority of the City's wastewater.

Based on current usage rates the Carrigrennan Plant has adequate capacity to serve the city region through 2020 with regard to population targets outlined in the Core Strategy. The existing treatment plant will be expanded on a modular basis during the lifetime of the Development Plan, if required. Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive is also under assessment. There are no plans for the construction of any major infrastructure within the City administrative area through 2021.

There is growing scientific consensus that global warming is occurring as a result of human activity, namely, greenhouse gas emissions. Climate change will result in rising sea levels and more frequent and more severe rainfall events and will significantly increase the risk of flooding and coastal erosion. Cork City has experienced a number of flood events in recent years, and is at particular risk of flooding from the River Lee, its tributaries and Cork Harbour. (See Figure 9).

In order to minimise flood risk, the City Council will adopt a precautionary approach, namely, to avoid development in floodplains, wetlands and coastal areas prone to flooding and so preserve these natural

defences that hold excess water until it can be released slowly back into river systems, the sea, or seep into the ground; and to invest in infrastructural works such as flood protection and stormwater attenuation. Where development has to take place in identified flood risk areas, the type or nature of the development needs to be carefully considered and the potential risks mitigated and managed through on-site location, layout and design of the development to reduce flood risk to an acceptable level.

The following principles have been incorporated into the Draft City Development Plan.

- To avoid development in areas at risk of flooding, and to retain existing 'Greenfield' lands at a risk of flooding, in their existing state in order to maintain water holding capacity and function and help reduce flooding.
- Where this is not possible, to consider substituting 'vulnerable' land uses to less vulnerable land uses, i.e. to avoid development other than 'water compatible development' in areas where there is a high probability of flooding, (flood zone A); and to avoid 'highly vulnerable developments' in areas where there is a moderate probability of flooding, (flood zone B).
- Where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks, i.e. to retain the land-use zoning where an overriding strategic need can be demonstrated and that flood risk can be adequately managed without causing adverse impacts elsewhere, namely, satisfy the Justification Test.
- On completion of the South West / Lee CFRAMS Management Plan, to incorporate the updated 'flood extent maps' and recommendations of the management plans into the City Development Plan.

The River Lee, the City's Groundwater and Cork Harbour are currently classified as being (1a) at significant risk of failing to achieve the WFD objectives of 'good' status by 2021. The said water bodies are highly vulnerable to a number of factors such as land-use, outside the control of the City Council. Therefore, greater co-ordination and co-operation between Cork City Council, Cork County Council and Irish Water is required to effectively manage the supply, treatment, storage, delivery and quality of water; in order to meet statutory obligations.

3.6 Soil

Soil is defined as the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. The parent material of soils in Cork City consists of a mantle of glacial drift. The southern part of the City lies on Carboniferous Limestone and Shales; to the north of the city are bands of upper Devonian brown grey Sandstone, Greystone and grey green Sandstone and red purple Mudstone. The present River Lee floodplain overlies a buried valley or "gorge", which was formed in the Carboniferous and Devonian rock during the Pleistocene glaciations. (See Figures 10 & 11).

Within the City, the majority of soils are urban soils, i.e. soil that has been disturbed, transported or manipulated by man's activities in the urban environment. The majority of soils in the Cork City area have been sealed preventing the soils from performing certain functions such as drainage.

Cork City, in the past, has been host to heavy industry and fuel generation / storage depots, particularly in the port area. Soils in such areas has been polluted and contaminated by development which has not followed environmentally friendly practices and/ or which has not been serviced by the appropriate infrastructure. The removal and disposal of hazardous material (from land and water) due to reclamation works in areas within the City especially within dock areas is potentially a significant problem because of the quantities of material involved.

Development that takes place without sufficient surveying and assessment of the potential for the presence of karsified limestone under or adjacent to the site has the potential to give rise to problems both for the structures and for the receiving environment, particularly, if storage or piping infrastructure is caused to leak by a geological collapse.

Pressure to accommodate a growing population within the finite city boundary, and climate change threatens the quantity and quality of 'greenfield' lands and soil. Climate change has the potential to increase soil erosion rates through hotter, drier conditions that make soils more susceptible to wind erosion, coupled with intense rainfall incidents that can wash soil away. Soil erosion can also have off-site effects which result from the movement of sediment and agricultural pollutants into watercourses. This can result in increase silting of watercourses, disruption to ecosystems and contamination of drinking water supplies. Managing the impact of construction and development on soil functions, such as absorbing rainwater is vital.

3.7 Air and Climatic Factors

Monitored air quality in Cork City meets current standards and is relatively good. However, our high rate of reliance on the private car will continue to be a problem unless measures are introduced to reduce car use and emissions from vehicles.

Traffic hotspots within the City are likely to have elevated levels of air pollution and noise due to traffic congestion. Traffic hotspots are located along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health. Traffic hotspots in low lying areas that have retaining high buildings are likely to provide for harsher sensory environments with regard to air pollution and noise levels.

Potential point sources of emissions include Integrated Pollution Prevention Control (IPPC) licensed discharges aimed at reducing or preventing emissions to air, water and land and to reduce waste; and Waste Licensed Facilities such as transfer stations, hazardous waste disposal and recovery operations. (See Figure 12). Seveso II sites relating to the control of major accident hazards involving dangerous substances are identified in Figure 13.

The Core Strategy of the draft city development plan is underpinned by principles such as consolidating existing urban centres, re-using 'brownfield' lands and integrating land-use and transportation in order to mitigate and minimize emissions.

Noise can have a significant effect on the environment and on the quality of life enjoyed by individuals and communities. There is a need to minimise the adverse impact of noise without placing unreasonable restrictions on development, and to avoid future conflicts likely to lead to demands for restrictions on airport operations.

The over-riding noise source in the city is from vehicular traffic and to a lesser extent trains and aircraft. Intensification of uses / development would be likely to increase noise levels. The promotion and development of alternative modes of transport and detailed design solutions will play a role in mitigating noise issues.

Minor changes in climate can result in higher probability of droughts in summer resulting in water shortages and increased flooding events in winter. Changes in sea level and / or changes in the occurrence of severe rainfall events as a result of climate change could adversely impact upon the city's population,

its biodiversity and its economy. Changing climatic factors can have serious implications on the carrying capacity of the drainage network and can threaten critical infrastructure such as transport corridors, bridges etc.

River basin management provides an effective mechanism to prepare for and adapt to climate change by incorporating adaptation into the programme of measures. The Water Framework Directive monitoring programme collects information that improves our understanding of climate change. A Strategic Flood Assessment has been carried out as part of this SEA report and informs the proposed land-use zonings of the draft plan.

3.8 Material Assets

Material assets are defined as the critical infrastructure essential for the functioning of society. Cork City Council has a responsibility to ensure that the collection, treatment and disposal of waste is undertaken in a controlled manner by an authorised operator, such that it does not pose a risk to human health or the environment.

The Cork City Waste Management Plan 2004 - 2009 remains in place until the new Southern Region Waste Management Plan is drafted and adopted by all local authorities in the Region (expected in 2014). The Regional Plan will be incorporated into the draft city development plan when adopted.

Waste minimisation is a key element of Council's waste management plan and includes a number of measures, including waste prevention, reduction at source, reuse, recycling and recovery. Under the waste management hierarchy, minimisation, re-use and recycling are the preferred options to landfill. Currently the city has 42 no. bring sites and 1 no. Civic Amenity Centre at the former Kinsale Road Landfill site.

Cork is largely car dependent with 69% of workers in the City driving to work; compared to the national average of 60%. The public transport share is 7%, cycling is 2%, whereas walking accounts for 13%. Vehicular circulation in Cork City is provided through primary, secondary and main streets or roads. Traffic hotspots are found within the City along the main roads, at intersections and result in detrimental impact environment of noise and poor air quality. The absence of a Northern Ring Road, beyond the city boundary is to the detriment of the city's northern suburbs. There are capacity issues at the Dunkettle Interchange & Jack Lynch Tunnel, the Mahon Point Junction of the N40; and the N28 linking Ringaskiddy.

Key infrastructure for the long term development of the city includes a Bus Rapid Transit Route on an east-west corridor and the continued expansion of the suburban commuter rail-line between Mallow and Cobh/ Middleton; and City and Suburban bus routes and Park & Ride facilities such as Carrigrohane Road. The redevelopment of Docklands will require significant transport infrastructure including new Bridges over the Lee.

Although there is some high quality public transport infrastructure within the city, it does not constitute a realistic alternative for the majority to the private car as a mode of transport. Given the high dependency on the private car there is a conflict between the need to tackle congestion on the road network as opposed to facilitating road space for alternative modes such as public transport and cycling. In order to optimise investment in high quality public transport such as a Bus Rapid Transit, the Council must facilitate the redevelopment of lands along the route in a manner that supports the infrastructural investment in terms of appropriate land use and density of development.

The Port of Cork handles approximately 19% of all seaborne trade in the State. In 2012 the total volume through Cork was 9.05 million tonnes, up from 8,434 million tonnes in 2011. The Port of Cork's Strategic Development Plan Review, 2010 outlined the long term goal to relocate commercial trade to the lower harbour at Ringaskiddy.

3.9 Cultural Heritage

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything from objects and buildings to the environment. Our cultural heritage links us to where we come from and shapes an understanding of our city as a unique place. It is cultural heritage which makes Cork City an attractive vibrant place to live, work, study and visit. The protection of our heritage can result in environmental benefits, such as enhancing the quality of life of people and the economic benefit of providing tourism assets for visitors to enjoy. As a growing city, there is a continuing need to balance day to day operations with the protection of the cultural resources or fabric of the city.

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. All remains and objects and any other traces of humankind from past times are considered elements of our archaeological heritage. Archaeological remains are a non-renewable resource and so it is essential that they are properly safe-guarded and managed.

The Record of Monument and Places (RMP) is a statutory list of all known archaeological monuments and it is maintained and updated by the Archaeological Survey of Ireland. The Zone of Archaeological for the city centre includes the medieval historic core. (See Figure 14). There are 54 RMP sites located within this Zone. There are 59 RMP sites located outside the Zone of Archaeological Potential for the City.

Increased development pressure raises the potential for impact on the archaeology of the city unless properly assessed, managed and mitigated. Archaeology that is previously unknown can be damaged through development causing ground disturbance. This is particularly relevant within the City's Zone of Archaeological Potential.

The state of Cork's Built Heritage / Architecture is intrinsically linked to the wider structural issues facing the city and how attractive it is to live, do business and visit the city. This is particularly the case in relation to the City Centre, which is the location for most of Cork's historic buildings. In addition, the state of Cork's built heritage is linked to the economic justification for continual investment in buildings. The re-use, rather than demolition, of older buildings also has wider sustainability benefits. These wider issues have been clearly recognised by preparation of the City Centre Strategy. Ensuring that Cork's built heritage assets have an economic purpose, are occupied and benefit from good custodianship is a key issue.

The Minister for Arts, Heritage and the Gaeltacht recommended that 2,779no. Structures identified from a survey of Central Cork (National Inventory of Architectural Heritage, NIAH) should be added to the Record of Protected Structures, (RPS); and that 752no. structures from a survey of Suburban Cork should be added to the RPS. (See Figure 15). Protecting all these structures in addition to existing Protected Structures poses a significant challenge to the Council. Many protected structures are threatened by neglect and deterioration where they lie vacant and unused and this can be difficult to address.

Large scale development has the potential to adversely impact upon cultural heritage as well as the medieval layout and settlement patterns of the City. Development which involves material alteration or

additions to Protected Structures and NIAH buildings and structures within ACAs can detract from the special character of the structure and its setting, and have the potential to result in the loss of features of architectural or historic interest and the historic form and structural integrity of the structure are retained. Development on sites adjoining protected monuments, places or structures can also impact upon the setting of these cultural heritage items.

3.10 Landscape

Landscape is defined as an area, as perceived by people, whose character is the result of the action and interaction of natural and/ or human factors, (European Landscape Convention, 2000). Landscape shapes our image of a place, give us a sense of place, an identity and can be a source of pride and inspiration and so influence our well-being and quality of life. All aspects of our natural, built and cultural heritage come together in the landscapes we experience. Cork's landscape forms a key aspect of the city's character. The challenge is to manage the city's landscape in a manner that facilitates economic growth and development while protecting and enhancing the city's key landscape assets and resources.

Cork City is characterised by dramatic topographical changes and prominent east west ridges, forming a bowl within which the City lies and providing a series of striking viewpoints from which the City can be viewed. The City's rivers and their valleys play an important role in the layout and structure of the City and are an integral element of the City's landscape character. (See Figure 16). The Cork City Landscape Study 2008 established the framework for protecting and enhancing the natural environment and positively managing its change.

Landscape is not static but is constantly changing. Development has the potential to detrimentally impact on visual amenity of the city landscape, in particular, on high grounds and within the City Centre.

Protecting important landscapes (designated and undesignated) and elements of the landscape, such as trees; Increasing access to semi-natural landscape and creating new linkages within the existing urban fabric; Creating new landscapes or publicly accessible landscapes for an increasing population; Balancing competing demands or incompatible uses within the public landscape, such as biodiversity as opposed to leisure & recreational uses are key issues.

4. Strategic Environmental Protection Objectives

Strategic Environmental Protection Objectives (EPOs) are methodological measures against which the environmental effects of the Development Plan can be tested. If complied with in full, EPOs would result in an environmentally neutral impact from the implementation of the Plan. The EPOs are set out under a range of topics and are used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated. The EPOs are distinct from the objectives of the Plan, but they may overlap, and are developed from international, national and regional policies and include those of various European Directives which have been transposed into Irish law.

The SEA Directive requires that the evaluation of plans be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. EPOs relating to these environmental characteristics have been developed throughout the SEA. Most attention has been given to environmental components which are likely to be impacted as a result of implementation of the Plan. The EPOs have been selected on the basis of local circumstances and environmental issues in Cork city.

The EPOs are linked to targets and indicators. Targets set the aims and thresholds which should be taken into consideration to effectively assess the impact of the Plan on the environment. These targets once breached would require remedial action. Indicators are those measures used to track the achievements of the EPOs towards the particular targets set and to monitor the implementation of the Plan and its impact on the environment.

Table 4.1 Environmental Receptors, EPOs, Targets and Indicators

Environmental Receptor	Environmental Protection Objective	Target	Indicator
Population and Human Health	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.	Increase in population	Population of city
		Increase in number of residential properties	Number of residential properties/ average density of development permitted
		Increased modal shift from private car to public transport and cycling	Modal shift; Number of residential units and employment floorspace within 400metres of bus route / planned BRT; Measure of new cycle-ways.
		Avoid incompatible development near SEVESO and IPPC sites	Number of permissions granted within the consultation zones of Seveso or IPPC sites.
		Improved access to community and recreational facilities	Number of primary health care/ schools/ crèches/ community parks/ sports facilities permitted
Biodiversity, Flora & Fauna	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings.	Maintain the favourable conservation status of all habitats and species, especially those protected under national and international legislation	Number of developments receiving planning permission within designated sites or within the consultation distance of designated sites where the HDA process identified potential for impacts
		Delivery of the Cork City Biodiversity Action Plan 2009-2014 and its objectives	Totals of, or reduction in the quantum of 'greenfield' lands; length of linked green corridors
		Establishment of a green infrastructure strategy for the county	Number of actions achieved in biodiversity action plan

Environmental Receptor	Environmental Protection Objective	Target	Indicator
<i>Biodiversity, Flora & Fauna continued</i>		Protect habitats from invasive species	<p>Progress on green infrastructure strategy</p> <p>Monitor extent and distribution of invasive species</p> <p>Monitor distribution of butterfly, otter, bat populations</p> <p>Monitor street trees</p> <p>Increase in area of wetlands / swales (SUDS) on new developments</p> <p>Length of channel converted from culvert to natural channel</p>
Soil	To protect and enhance the soil and 'Greenfield' resources of the City.	<p>To reduce the use or development of Greenfield sites</p> <p>To encourage the re-use of Brownfield sites</p>	<p>Number of greenfield sites developed or preserved</p> <p>Number of brownfield sites redeveloped</p> <p>Volume of construction and demolition waste recycled</p> <p>Increase or reduction in number of vacant and derelict buildings. Derelict sites register.</p>
Water	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of all water and habitat based legislation including the Water Framework Directive.	<p>Achieve (maintain) 'good' status of all surface waters.</p> <p>Achieve (maintain) compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC.</p> <p>To permit development in accordance with WWTP capacity and discharge licenses.</p>	<p>Status of Surface Water (under Surface Water Regulations SI No 272 of 2009).</p> <p>Ecological Status of Water Bodies</p> <p>Status of Bathing Waters (under Directive 2006/7/EC).</p> <p>Status of Groundwater (under Directive 2006/118/EC).</p>

Environmental Receptor	Environmental Protection Objective	Target	Indicator
<i>Water continued</i>		<p>To provide adequate water, wastewater treatment and drainage infrastructure / flood prevention works</p> <p>All water bodies to meet targets set in SWRDB plan (in accordance with S.I. 722 of 2003)</p> <p>To maintain safe status of drinking water and water sources - EC (Drinking Water (No. 2) Regulations 2007 and EC (Quality of surface water intended for the abstraction of drinking water) Regulations 1989</p> <p>All designated Bathing waters to comply with the requirements of the Bathing Water Quality Regulations 2008 (SI No 79 of 2008)</p> <p>Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for Biodiversity</p> <p>Ensure sustainable levels of abstraction of surface and ground water and promote water conservation</p>	<p>Number of households served by 'public' urban waste water treatment plants or individual systems.</p> <p>Number of households served by 'public' water supplies.</p> <p>Quantum of capacity and demands of water supply and wastewater infrastructure</p> <p>Number of development schemes incorporating SuDS such as swales and on-site wetlands</p> <p>Length of watercourses culverted</p> <p>Measure of water loss / waste through leakage;</p> <p>Number of development schemes incorporating water conservation strategy</p>
Climate & Air	Contribute to the mitigation of and adaptation to climate change such as flooding, air quality and noise issues.	<p>Meet (maintain) air quality status targets in line with Air Quality Framework Directives.</p> <p>Minimise noise pollution for city residents</p> <p>Increase energy efficiency, renewable energy sources and reduce energy waste</p>	<p>Monitor level of pollutants, including particulates and Nitrogen Oxides</p> <p>Percentage of residential properties exposed to high sound levels</p> <p>Percentages/ quantum of population travelling to work by public transport, walking or cycling.</p>

Environmental Receptor	Environmental Protection Objective	Target	Indicator
<i>Climate & Air continued</i>		<p>Decrease / minimise emissions of greenhouse gases</p> <p>Increase modal shift to public transport, walking and cycling.</p> <p>Provide flood protection measures where appropriate.</p> <p>Avoid inappropriate development in areas of flood risk.</p>	<p>Number of permitted schemes in flood plains/ areas at risk of flooding</p> <p>Number of permitted wind turbines.</p> <p>Number of permitted developments incorporating solar panels</p>
Material Assets	To make best use of the City's infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City's population.	<p>Develop the road, rail and public transport infrastructure to facilitate sustainable growth and travel patterns.</p> <p>Ensure an efficient water supply and wastewater treatment infrastructure in line with demand</p> <p>Protect and optimise the use of the existing building stock.</p> <p>Protect and enhance green infrastructure such as 'greenfield' lands and recreational facilities</p> <p>Reduce the generation of waste, and waste to landfill and to operate sustainable waste management practices</p>	<p>Percentage changes commuting modal shift from car to alternatives</p> <p>Number of passengers / journeys by bus and rail</p> <p>Quantum of demand and capacity of water supply services and wastewater treatment.</p> <p>Quantum of water loss / waste through leakage</p> <p>Number of critical infrastructure projects completed</p> <p>Number of vacant / underutilised buildings</p> <p>Number of derelict sites</p> <p>Quantum of 'greenfield' sites developed</p> <p>Quantum of domestic and commercial waste generated; disposed to landfill and / or recycled</p>

Environmental Receptor	Environmental Protection Objective	Target	Indicator
Cultural Heritage	To protect and where appropriate, enhance the character, diversity and special qualities of the City's cultural, architectural and archaeological heritage.	<p>No loss of or adverse impact on the fabric or setting of monuments on the Record of Monuments (RMP).</p> <p>No loss of or adverse impact on the architectural heritage value or setting of Protected Structures and Architectural Conservation Areas</p> <p>No loss of or adverse impact on structures recorded on the National Inventory of Architectural Heritage.</p> <p>Implementation of current Cork City Heritage Plan 2007-2012. Preparation of new Heritage Plan.</p>	<p>Loss of or adverse impact on monuments on the Record of Monuments</p> <p>Loss of or adverse impact on Protected Structures, Architectural Conservation Areas, or NIAH Structures</p> <p>Number of Protected Structures</p> <p>Number of Protected Structures put 'at risk' or on Derelict Sites Register</p> <p>Number of Architectural Conservation Areas</p> <p>Number of Archaeological Sites investigated</p> <p>Number of formal advice statements issued (Section 5s & 57s)</p> <p>Number of proposed plans and schemes screened / assessed by the City Archaeologist and the Conservation Architect</p>
Landscape	To protect and where appropriate, enhance the character, diversity and special qualities of the City's landscapes.	<p>No large scale or inappropriate development permitted in areas of high landscape value or landscape preservation zones</p> <p>Protect and enhance all designated sites and landscapes and features of significance</p> <p>Protect and enhance all non-designated Greenfield sites</p>	<p>Number of large scale developments permitted in areas of high landscape value or land preservation zones.</p> <p>Number of new parks / quantum of area</p> <p>Number of trees planted</p> <p>Quantum of area categorized as landscape / green infrastructure</p> <p>Length of linked landscape corridor</p>

Environmental Receptor	Environmental Protection Objective	Target	Indicator
<i>Landscape continued</i>		<p>Develop new areas of open space</p> <p>Increase tree coverage and protect significant trees</p> <p>Number of new landscapes created and linear connections between green spaces / habitats</p>	Tree Preservation Orders

5. Alternative Scenarios

Article 5 of the SEA Directive requires Cork City Council to consider “reasonable (development) alternatives taking into account the objectives and geographical scope of the plan” and the significant environmental effects of the alternatives considered. The alternative scenarios are reasonably distinct and provide an overview of the options available in deciding the core strategy for the plan, having regard to national and regional plans. Having evaluated the alternative scenarios, the potential impacts of each are identified thus informing the selection of a preferred alternative for the City Development Plan.

The Alternative Scenarios for the City Development Plan generally focus development on the Key Development Areas and District Centres. The objective of the Suburban Key Development Areas and the City Centre and Docklands is to create vibrant, high quality urban residential and employment locations served by an expanded and integrated public transport system. The objective for the suburban District Centres is to develop these centres into mixed-use, urban centres with good public transport access and high quality urban design.

Scenario 1 Minimal Approach

This scenario seeks to restrict or limit new development. The priority is to protect the existing character and amenity of residential areas and the built and natural heritage of the city. The entire plan area under this scenario would be covered by blanket policies providing for conservation and protection. This approach seeks to maintain the status quo as far as possible, to limit the development potential of key development areas and to restrict new development to the established scale, density and character of development in the respective areas of the city.

Scenario 2 Market-led Approach

This scenario seeks to relax planning controls and to encourage and support higher density development in all development areas and infill sites. There is little emphasis on protecting residential and environmental amenity, or the built and natural heritage of the city. The location and nature of new development is dependent entirely upon market demand. Encouraging higher densities on ‘infill’ and ‘brownfield’ sites where they arise would result in a dispersed pattern of development with pockets of high density development scattered throughout the city, predominantly on the southside of the city.

Scenario 3 Selective Concentrations

This scenario takes a balanced approach to new development. The focus is on higher density mixed-use development in suitable strategic locations throughout the City, namely, the key development areas and

district centres, while protecting the residential amenity and character of established residential areas by restricting inappropriate scale and design. A new District Centre would be proposed for the North-West of the City at Hollyhill Neighbourhood Centre. Higher density development will reduce pressures on 'greenfield' land, sensitive landscapes and built heritage. The prerequisite to (re) development would be the preparation and adoption of Local Area Plans or suitable alternative mechanisms.

6. Evaluation of Alternative Scenarios

It is a requirement of the SEA Directive to consider 'reasonable alternatives taking into account the objectives and geographical scope of the plan or programme' and the significant environmental effects of the alternatives selected. The alternative scenarios have been assessed for planning and environmental impacts against the existing environment, (environmental baseline) and the environmental protection objectives, (EPOs) during the preparation of the draft City Development Plan.

Based on an understanding of the existing and emerging environmental conditions in the City a series of EPOs were developed in order to assess the likely environmental effects which would be caused by implementation of each of the alternative scenarios described. Each Scenario was assessed to see whether it was likely to have a positive, negative, uncertain or neutral impact on the EPOs.

Table 6.1 Summary Interactions of the Development Scenarios against the EPOs.

EPOs	Scenario 1	Scenario 2	Scenario 3
Population Human Health	Neutral	Negative	Positive
Biodiversity Flora Fauna	Positive	Negative	Positive
Soil	Neutral	Unclear	Positive
Water	Positive	Negative	Neutral
Climate & Air	Negative	Negative	Positive
Material Assets	Neutral	Neutral	Neutral
Cultural Heritage	Positive	Negative	Unclear
Landscape	Unclear	Negative	Positive
Overall Assessment	Positive	Negative	Positive

**Unclear Impact may include positive and negative impacts*

Scenario 1 Minimal Approach

Planning Effects

The economic and social implications of this scenario would be negative. The City's available development capacity would be realised in a very short period of time thus leading to urban sprawl into the adjoining administrative area. Potential benefits that could be realised through the redevelopment of Key Development Areas would be compromised and lead to urban decline. Maintaining the current form and character of the city would be detrimental of the City's social, economic and environmental fabric.

This approach is contrary to the principles of proper planning and sustainable development, namely, seeking higher densities in the city centre and 'brownfield' sites to maximise investment in infrastructure such as high quality public transport systems.

Prioritising the protection of the established urban fabric and environment and so limiting the extent, scale and form of all new development would inhibit investment in new development.

It would be detrimental to the City's economy, in particular the city centre, as the critical mass of population required to sustain it would not be achievable. The population would become more dispersed and therefore more car dependent in order to access services, etc. leading to increased greenhouse gas emissions. Business would be likely to relocate close to the dispersed population outside the city, making planned investments in high quality public transport less feasible.

The areas with the highest level of economic and social deprivation which are in greatest need of access to investment, services and employment and environmental improvements would be unlikely to improve but suffer further decline.

Environmental Effects

This scenario would significantly undermine the capacity of the City to accommodate new development and would fail to maximise limited available land resources. As opposed to reducing development pressures on 'Greenfield' lands in the Metropolitan area it would have the opposite effect and lead to the long term decline of the City's environment.

This scenario would have little impact upon biodiversity, flora and fauna within the City, but would be likely to have detrimental effects outside the City boundary, as Greenfield sites and potentially protected areas would come under increasing development pressure.

This scenario would be likely to increase encroachment into and loss of important habitats in the peripheral areas of the City and into the wider Metropolitan area, thus affecting biodiversity, flora and fauna. It would result in the loss of soil resources for agriculture or recreational purposes and have surface water implications.

Greenfield development is more likely to pose a threat to the status of watercourses and adversely impact on biodiversity, flora, fauna and human health; and will reduce the natural water holding / saturation capacity of the land, resulting in increased risk of flooding.

Limiting population growth within the city will result in urban sprawl, car dependency, increased energy use and greenhouse gas emissions and prohibit investment in high quality public transport infrastructure.

As development migrates outwards, the potential for direct adverse impacts on architectural and archaeological heritage would diminish. However, the city's built heritage may fall into decline in the

medium to long term as a result of economic decline in the more central historic areas as economic investment migrates out to the suburbs.

A strict protectionist policy towards the City's existing scale and character and landscape assets would be beneficial in the short term but may be detrimental to the landscape assets beyond the city boundary, as development migrates out to the suburbs.

Scenario 2 Market-led

Planning Effects

Facilitating higher densities on all 'infill' and 'Brownfield' sites, throughout the City, would likely result in a dispersed pattern of settlement with sporadic pockets of high density development, predominantly in the southside of the City. The absence of a coherent spatial strategy for high density development would prohibit the development of an integrated high quality public transport system.

Speculative development pressure would increase on 'Greenfield' sites, including protected landscapes, recreational and sporting facilities, thus impacting on biodiversity, flora and fauna. The established character of the city including built and natural heritage assets would be undermined with detrimental results.

The location and nature of development would be dependent upon market demand and would be likely to be disproportionately spread throughout the southside of the City, centred on established and more affluent growth areas, whereas, socially and economically deprived areas on the northside of the City would be likely to suffer further decline and neglect.

Environmental Effects

This scenario allows for high densities, maximising efficiency of use of particular land assets / sites, but the sites are dictated by market demand and profitability and at a cost of the structural requirements of the city. The resulting piecemeal development pattern is likely to undermine the economic viability of high quality public transport infrastructure.

Increased development pressures on the City's sports, recreational infrastructure and landscape assets would result in the loss of some resources and relocation of others beyond the city boundary. This scenario would give rise to increased car dependence, traffic generation and congestion, greenhouse gas emissions and detrimental impact on the quality of the streetscape environment.

This scenario would lift restrictions on development and as such would be more likely to encroach upon designated protected areas, with detrimental impact on protected species and habitats; on 'Greenfield' lands within the City, with detrimental impacts on flora and fauna, biodiversity as a whole.

This scenario would encourage re-use of 'Brownfield' sites and reduce pressures on 'Greenfield' lands beyond the City boundary.

This scenario would potentially overload the City's wastewater treatment infrastructure resulting in a deterioration of water quality and so adversely effecting biodiversity, flora and fauna and human health.

This scenario would be more likely to result in development within existing floodplains or increase surface water infrastructural demands from the development of 'greenfield' sites with potential adverse impacts from flooding.

This scenario would be more likely to encroach upon and damage the built heritage of the city, as the emphasis would be to maximise the development potential of sites. High rise high density development would be juxtaposed with low and medium rise character areas, and undermine protected and historic views and vistas and injure the visual amenity of the city's landscape assets including protected ridges.

Scenario 3 Selected Concentrations

Planning Effects

This Scenario aims to maximise development at strategic locations and 'Brownfield' sites, in order to plan for and support high quality public transportation infrastructure by achieving critical mass of population. This scenario would be likely to minimise urban sprawl and be consistent with the sustainable compact city model and reduce car dependence.

Economic and population growth in targeted strategic locations, such as key development areas and district would be likely to safeguard the amenities and character of established residential areas and at the same time facilitate the essential growth of the city in line with regional plans and forecasts.

This scenario would reduce the need to develop 'greenfield' sites and so minimise potential adverse impacts on biodiversity, flora and fauna.

Targeted growth at strategic locations throughout the city would benefit socially and economically deprived areas of the city, particularly on the northside of the city where the need of access to services and employment is greatest, resulting in environmental improvements to these areas.

Environmental Effects

This scenario would be likely to result in less development beyond the City's boundary and would reduce the need to develop 'greenfield' sites within and beyond the City, thus minimising potential adverse impacts.

Higher density development in appropriate strategic locations is an efficient use of limited land resources, and would enable the delivery of a critical mass of population to support new infrastructure and services; and reduce development pressure on established residential areas and so protect residential amenity.

This scenario would be likely to result in reduced encroachment and impact on 'Greenfield' lands and protected areas, thus minimising potential impact on biodiversity, flora and fauna.

This scenario would be most likely to facilitate population growth within the city, which would facilitate and support the provision of necessary wastewater treatment plant and to safeguard water quality, and human health; which would support and facilitate the provision of a high quality public transport system and reduce car dependence, and minimise increases in greenhouse gas emissions and air quality and noise issues.

Concentrating the majority of development at selected key development areas should reduce the potential conflict of new development in areas of flood risk and support the provision of flood mitigation measures where it is necessary, such as Docklands.

This scenario would be likely to protect many of the City's existing landscape assets and development can be directed away from sensitive areas. Potential adverse impacts to the historic city centre and suburban gateways could be mitigated by implementing the recommendations of the Cork City Landscape Strategy 2008.

The Preferred Scenario

Scenario 3 - Selected Concentrations is the preferred Scenario. Scenario 3 would result in the most positive impacts such as protecting the built and natural heritage within and beyond the City boundary; making best use of 'Brownfield' sites and strategic growth areas and thus reducing pressure on 'Greenfield' lands; targeted strategic growth areas would facilitate and support investment in public transport systems and infrastructure. This scenario would be likely to result in the least environmental impact and is the most desirable option.

In addition, Scenario 3 provides a better balance between environmental protection and economic and social development than the other alternatives. The core strategy of the draft development plan that has emerged relates well with Scenario 3. Although this scenario may conflict with a number of environmental objectives and potentially cause significant adverse environmental effects, the evolving draft development plan has integrated a number of mitigating objectives.

7. Evaluation of the Draft Plan

In accordance with the SEA Regulations, the evaluation assesses the likely or potential significant effects on the environment by implementing the Cork City Development Plan 2015 - 2021.

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

Potential beneficial and adverse impacts have been identified in line with the requirements of the SEA Directive. Potential effects of plan policies on the Environmental Receptor have been categorised as Positive, Negative, Uncertain or Neutral. A summary of the significant impacts on each of the Environmental Receptors is provided.

A summary of the impacts of each chapter of the draft plan is provided in Table 7.1. Although there is inherent conflict in terms of facilitating growth and development within Cork City while safeguarding environmental considerations, the draft plan is generally neutral - positive in terms of interaction with the environmental protection objectives. The implementation of the development plan will prove to have positive impacts on the environment.

This assessment of the plan is a reflection of the continued containment of the City within its existing boundary and the emphasis on re-using existing 'Brownfield' and under-utilised lands in particular within the city centre and docklands and key strategic locations within the city suburbs in order to facilitate and support investment in essential public infrastructure such as public transportation and water / wastewater treatment services. The City's existing capacity and infrastructure (in terms of water supply and wastewater treatment) in line with future population growth and resulting demand is a key mitigation to potential impacts on the receiving environment.

Table 7.1 Summary of Assessment of City Development Plan versus Environmental Protection Objectives (EPOs)

EPO	CPD Chapter Assessment														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Population Human Health	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Biodiversity, Flora Fauna	+	+	N	N	?	?	?	N	N	+	N	N	N	N	N
Soil	+	+	N	N	N	?	?	N	N	+	+	N	N	N	N
Water	+	+	N	N	N	?	?	N	N	+	N	N	N	N	N
Climate & Air	+	+	+	+	+	?	?	N	N	N	+	+	+	+	+
Material Assets	+	+	N	N	+	?	?	N	N	N	N	N	+	N	N
Cultural Heritage	+	+	N	N	?	?	?	+	+	N	N	N	N	N	N
Landscape	+	+	N	N	?	?	?	N	+	+	+	N	N	N	N

Note: In line with Section 4.23 of the SEA Directive Guidelines for Planning Authorities, the assessment has not extended to specific development control standards, namely, Chapter 16 Development Management.

Mitigation measures to prevent significant adverse environmental effects

A ‘successful sustainable regional capital... by balancing the relationship between community, economic development and environmental quality’ is the strategic vision or overarching theme of the city development plan and as a result, a comprehensive set of strategic goals and objectives informed by the principles of sustainability have been devised and incorporated in the plan.

In designing development plan objectives, the authority was aware that some policy areas have the potential to adversely affect environmental receptors unless mitigated against. For example, policies relating to increased densities and intensification, etc. will increase pressures on and risks to the receiving environment unless mitigated against. Therefore, plan objectives with the potential to adversely affect the receiving environment have been designed to incorporate mitigation measures from the outset.

In the next stages of the development plan process, any proposed amendments to existing objectives and/ or new objectives to the draft plan shall be evaluated against the environmental receptors and amended if required by way of inclusion of mitigation measures, if it is considered likely to result in a significant adverse impact on the environment.

8. Monitoring the Plan

The overriding aim of the SEA process is to improve the quality of the draft City Development Plan and to ensure that it protects the environment. Monitoring of the indicators is essential in order to track the impacts of the development plan on the environment. A monitoring programme will be devised having regard to the existing monitoring systems in place, to identify at an early stage unforeseen effects, and to be able to undertake appropriate remedial action.

When the City Development Plan is adopted a number of steps will be required to conclude the SEA process in order to provide information regarding the difference the SEA process has made to the plan. The Environmental Statement will specify:

- how environmental considerations have been integrated into the plan;
- how the environmental report has been taken into account;
- how opinions expressed during various consultations have been taken into account;
- the reasons for choosing the plan as adopted in the light of other reasonable alternatives; and
- measures to monitor significant environmental effects.

Figure 1 CORINE Land Cover 2006

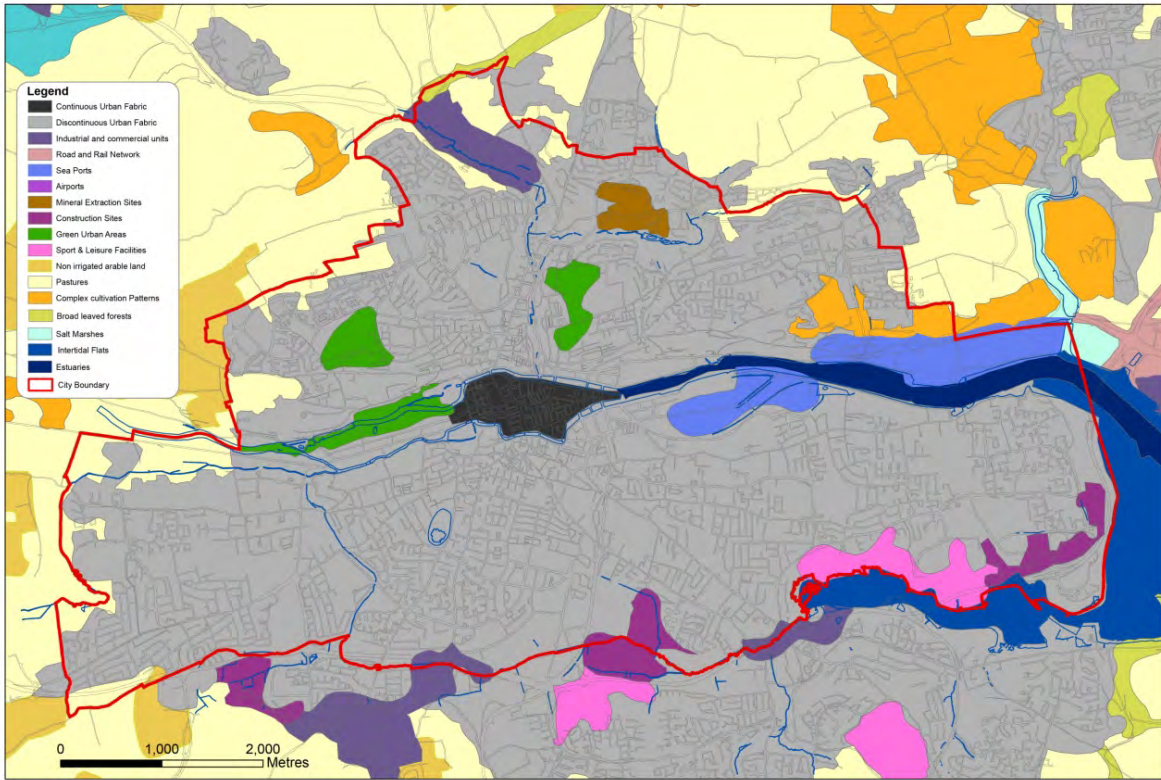


Figure 2 CORINE Landcover changes 2000 – 2006

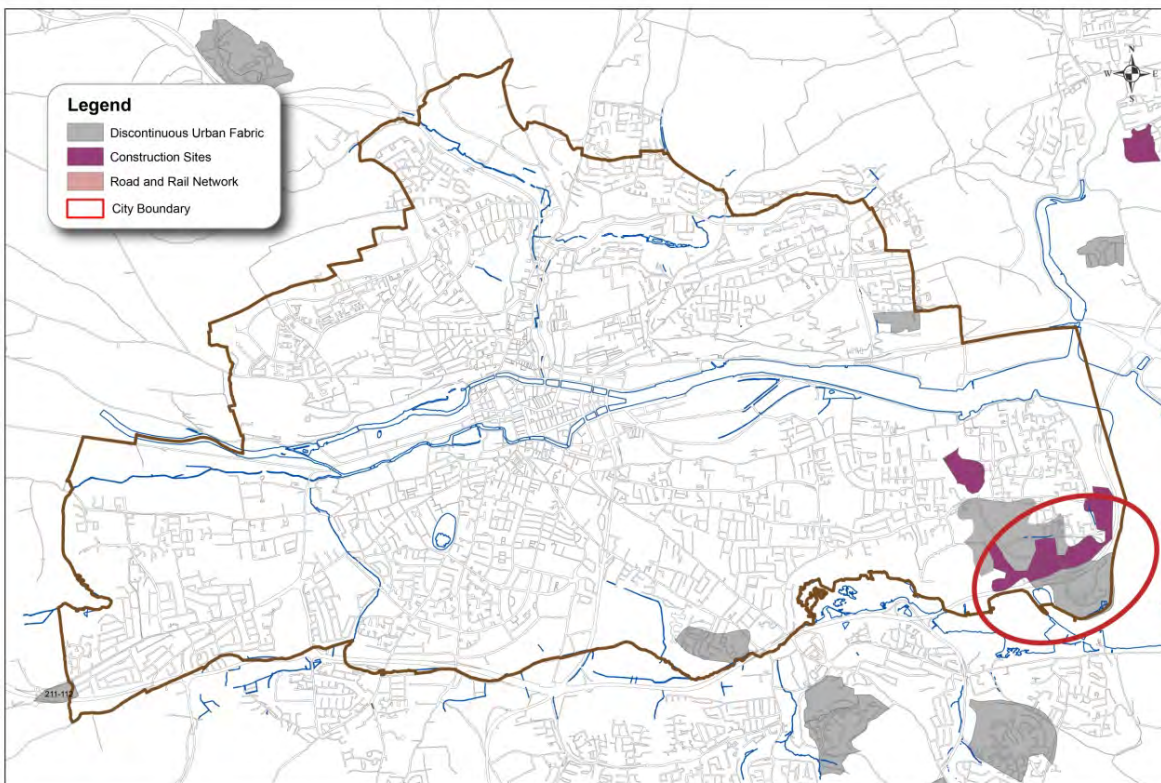


Figure 3 Designated Sites in Cork City

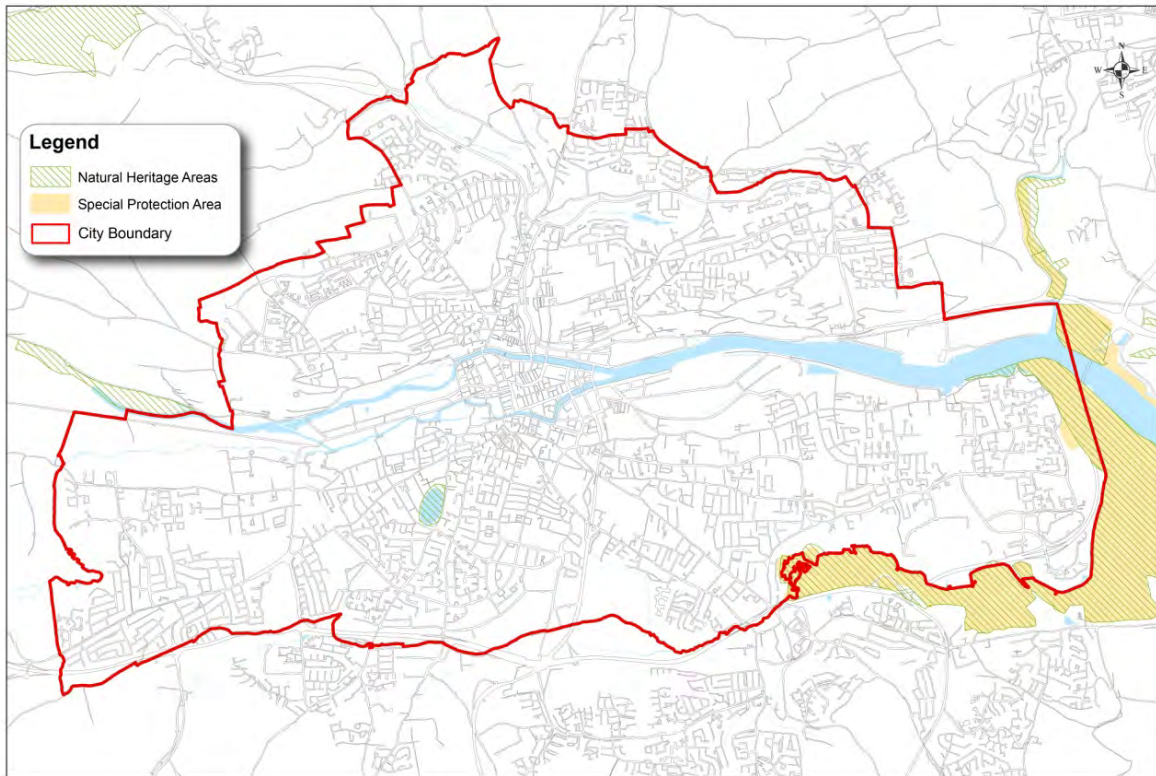


Figure 4 Designated Sites within 15km of Cork City

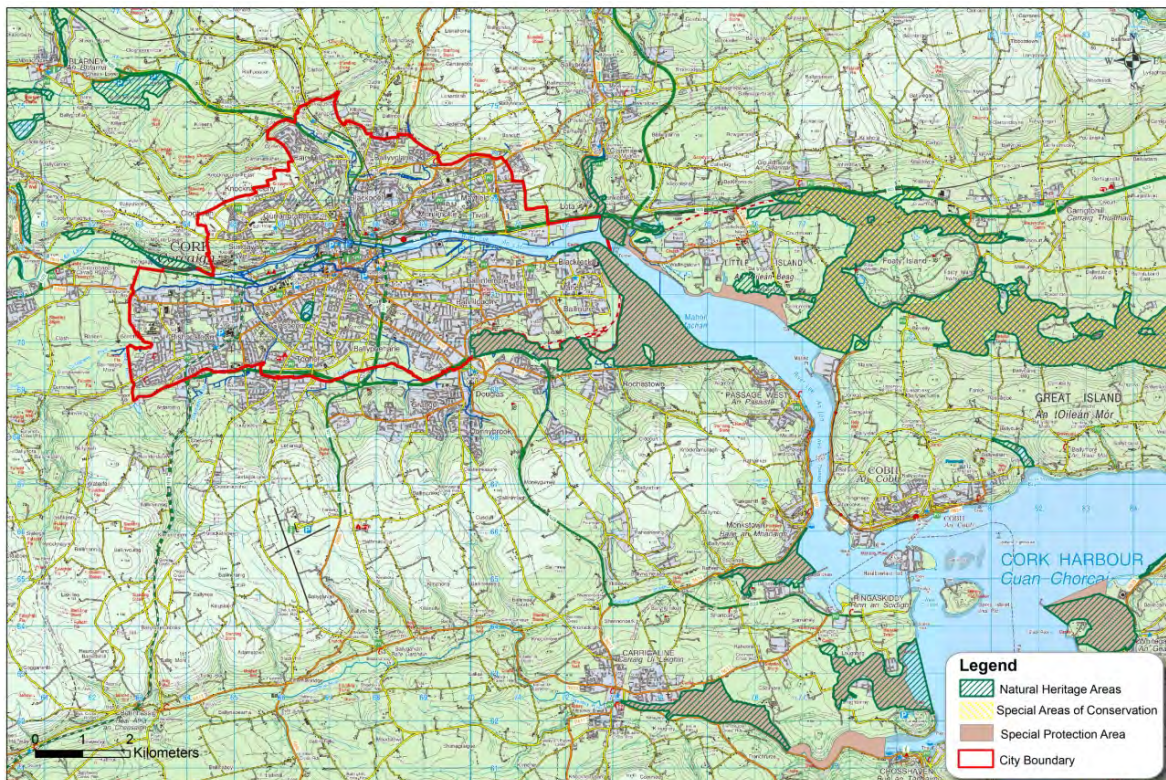


Figure 5 Water Framework Directive Risk Assessment

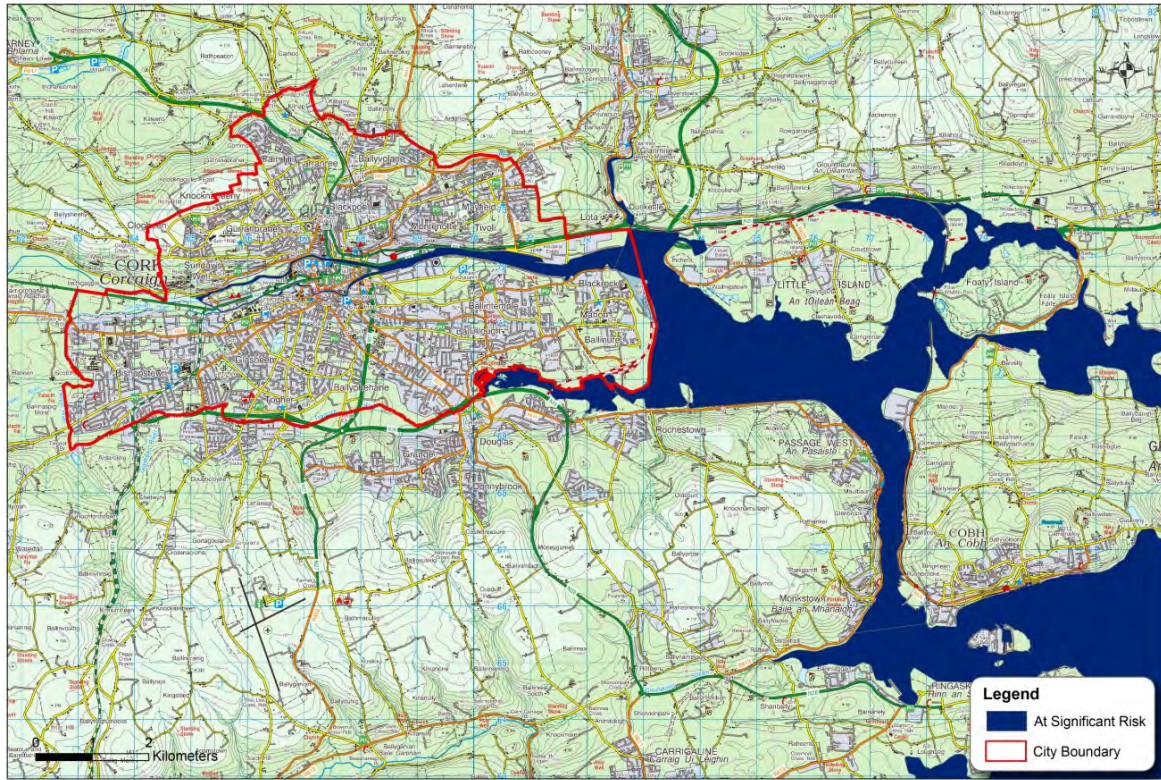


Figure 6 Water Framework Directive Status 2007 – 2009. Transitional and Coastal Status

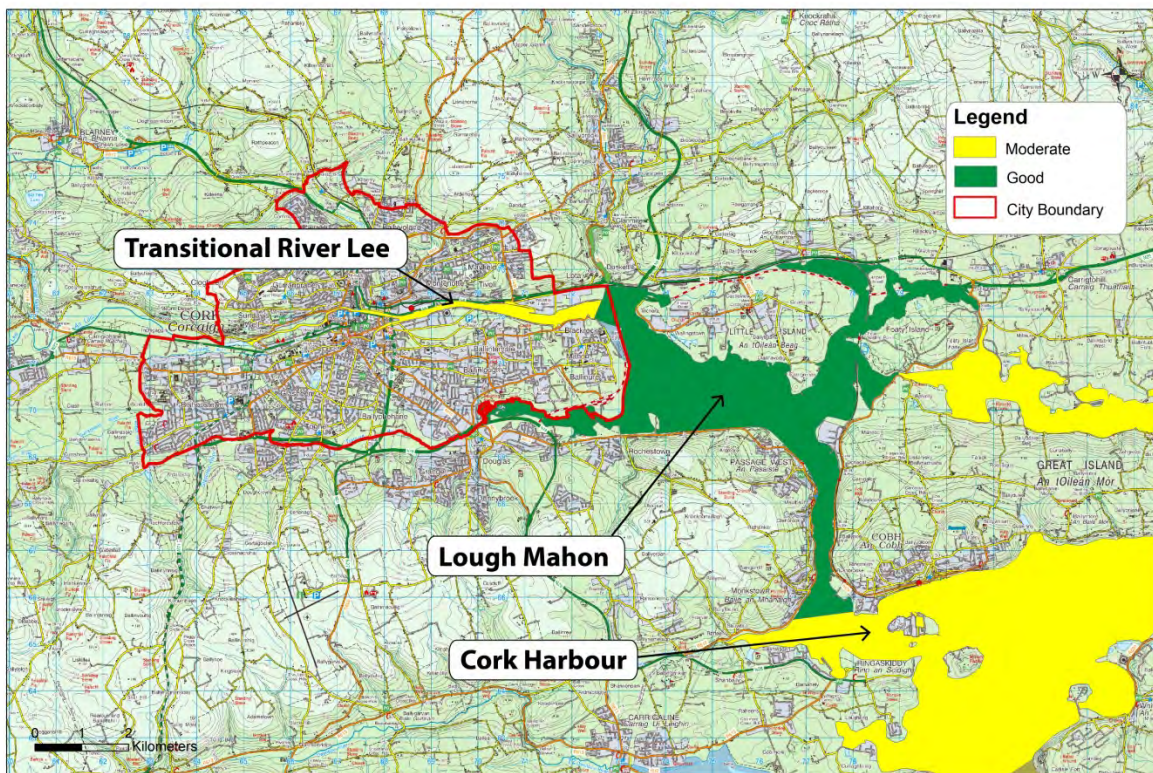


Figure 7 Surface Water Quality

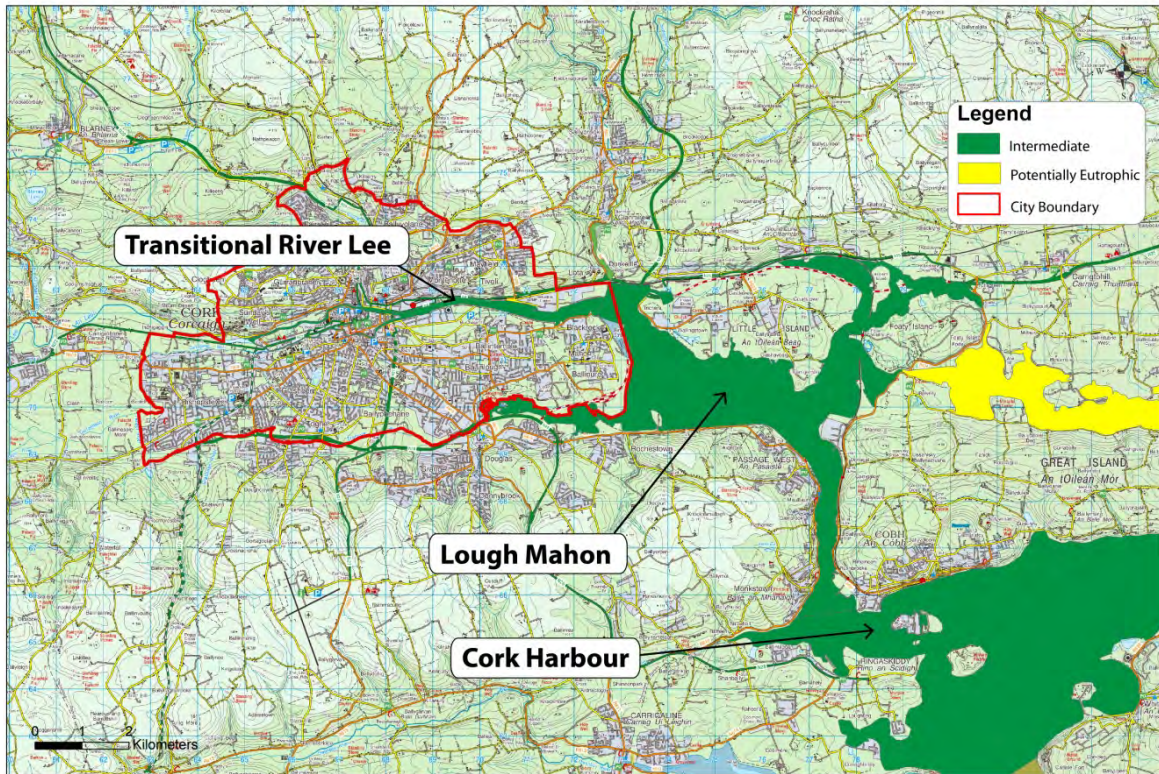


Figure 8 Geological Survey of Ireland Ground Water Vulnerability

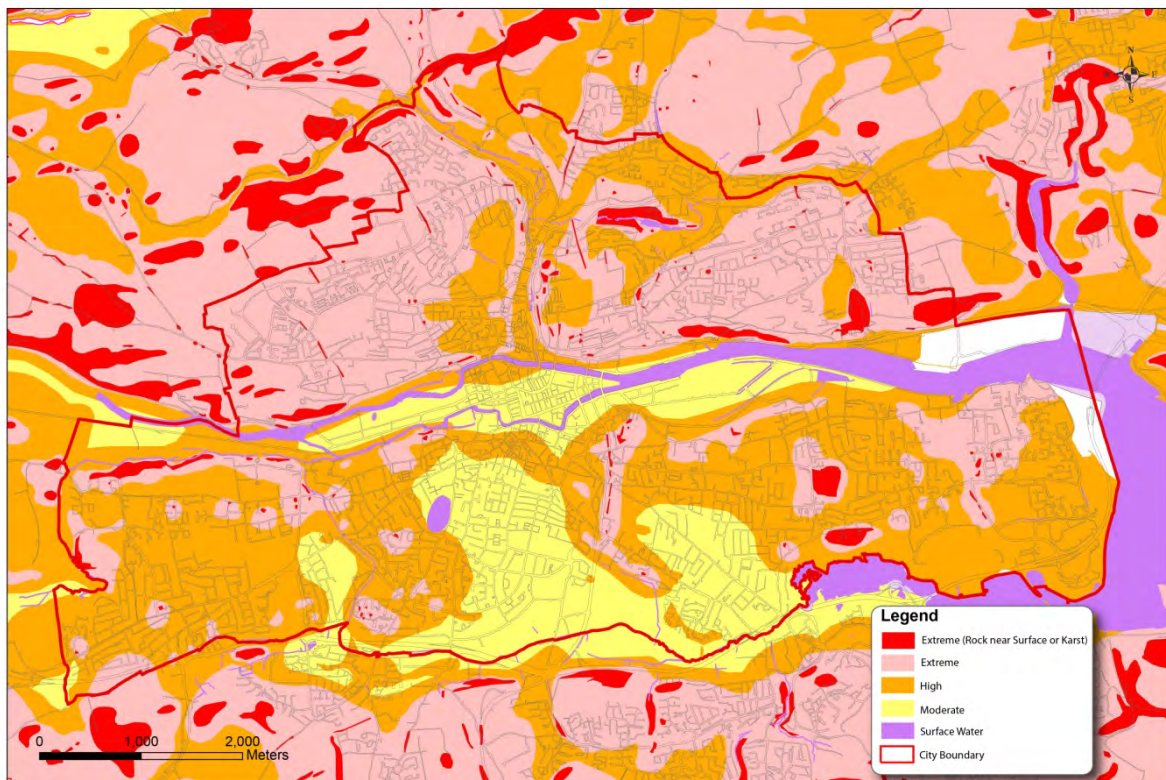


Figure 9 City Flood Zones

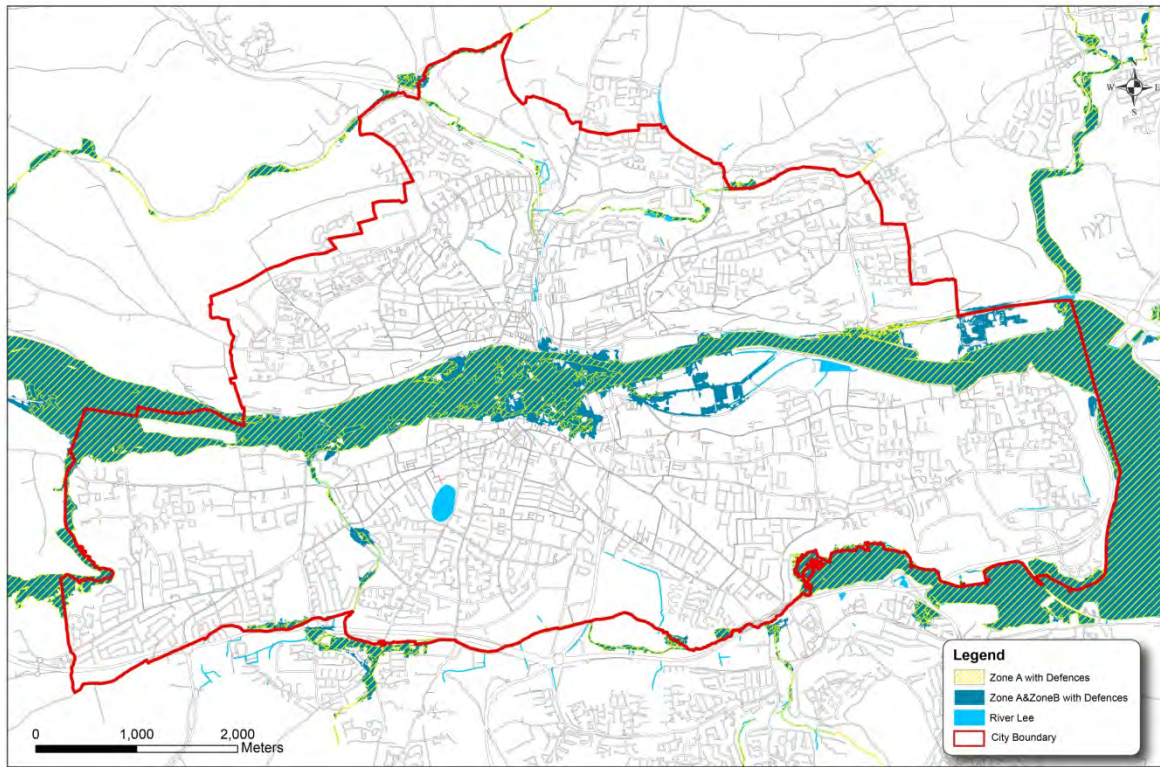


Figure 10 Soils of Cork

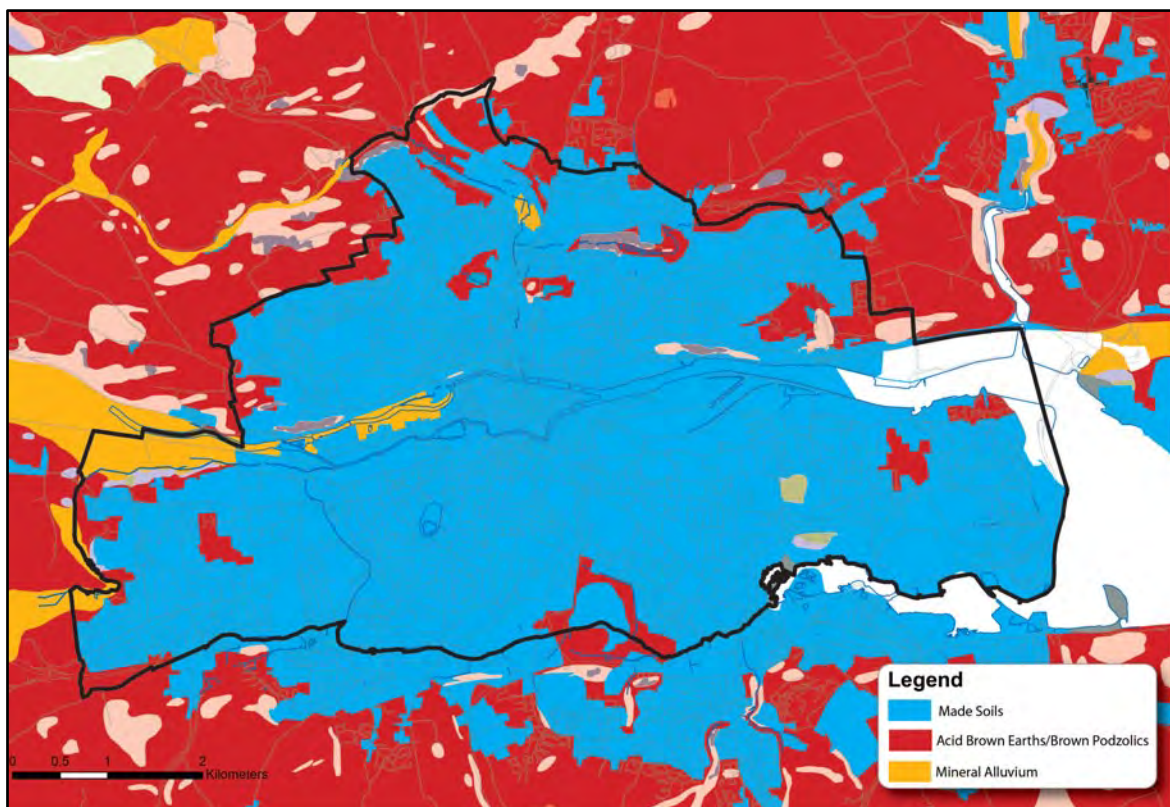


Figure 11 Sub-soils of Cork

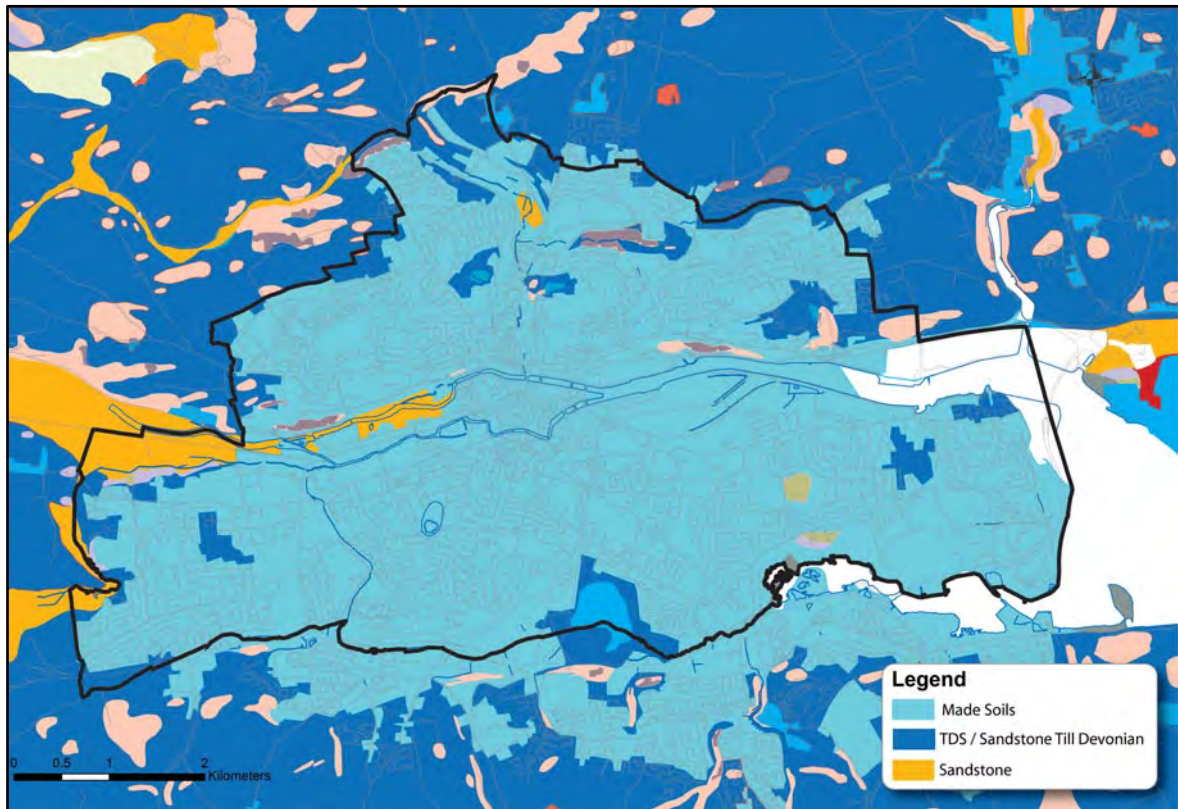


Figure 12 IPPC Licensed Facilities and Waste Licensed Facilities

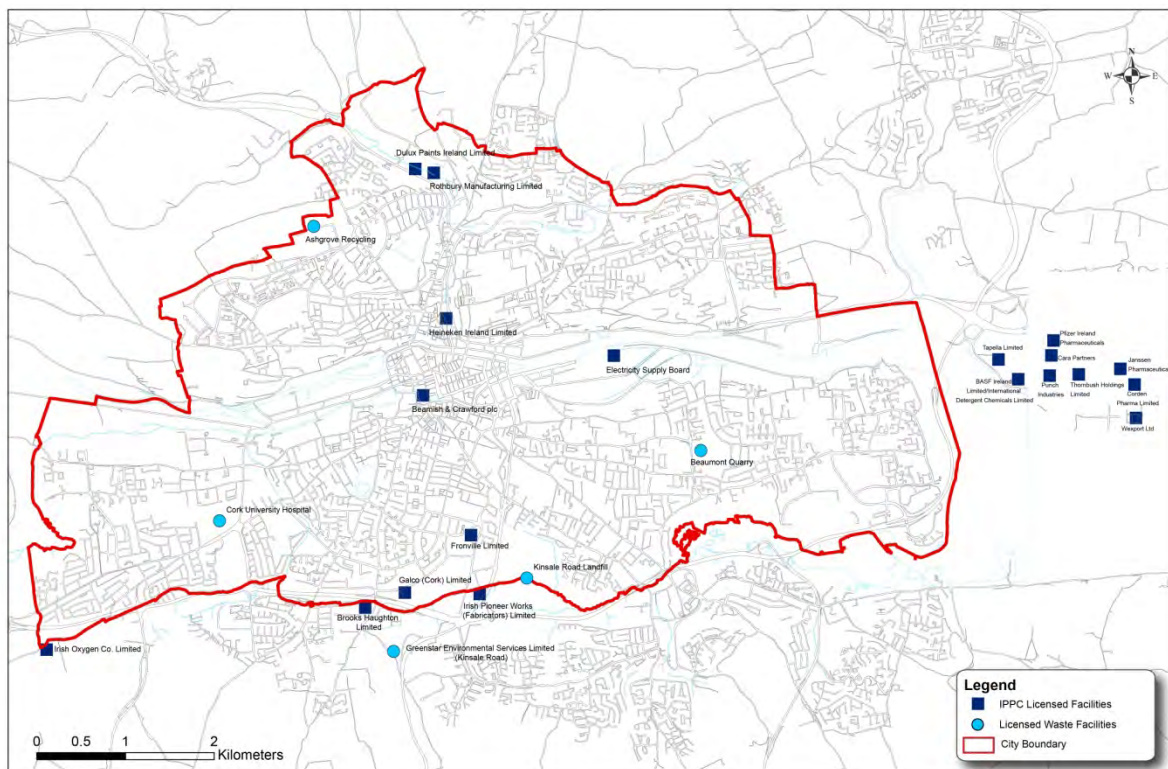


Figure 13 Seveso II Sites in Cork City

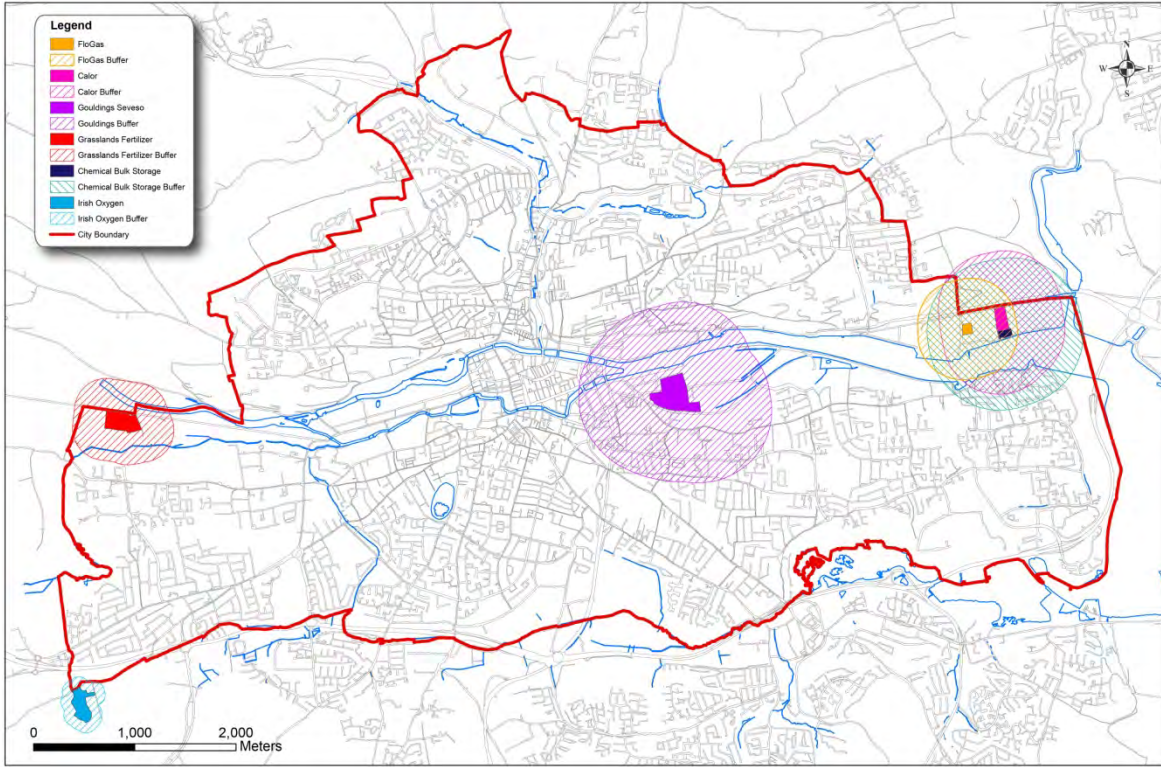


Figure 14 Archaeological Sites

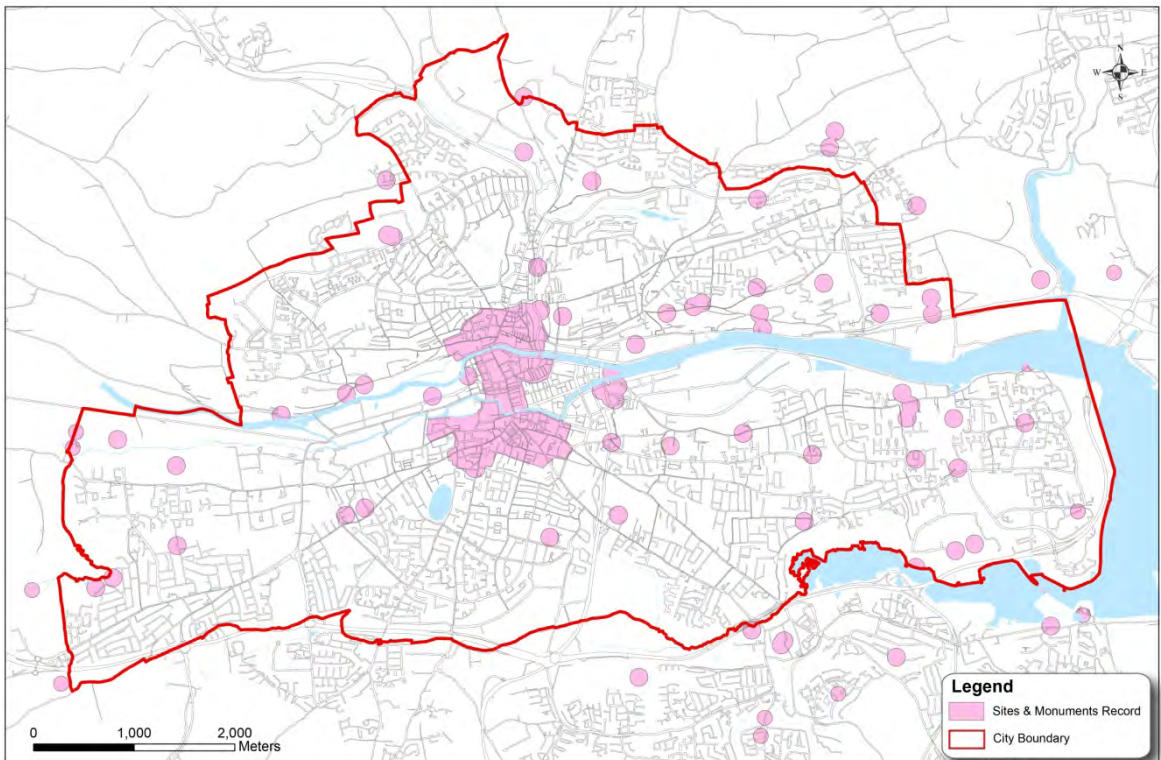


Figure 15 Architectural Heritage

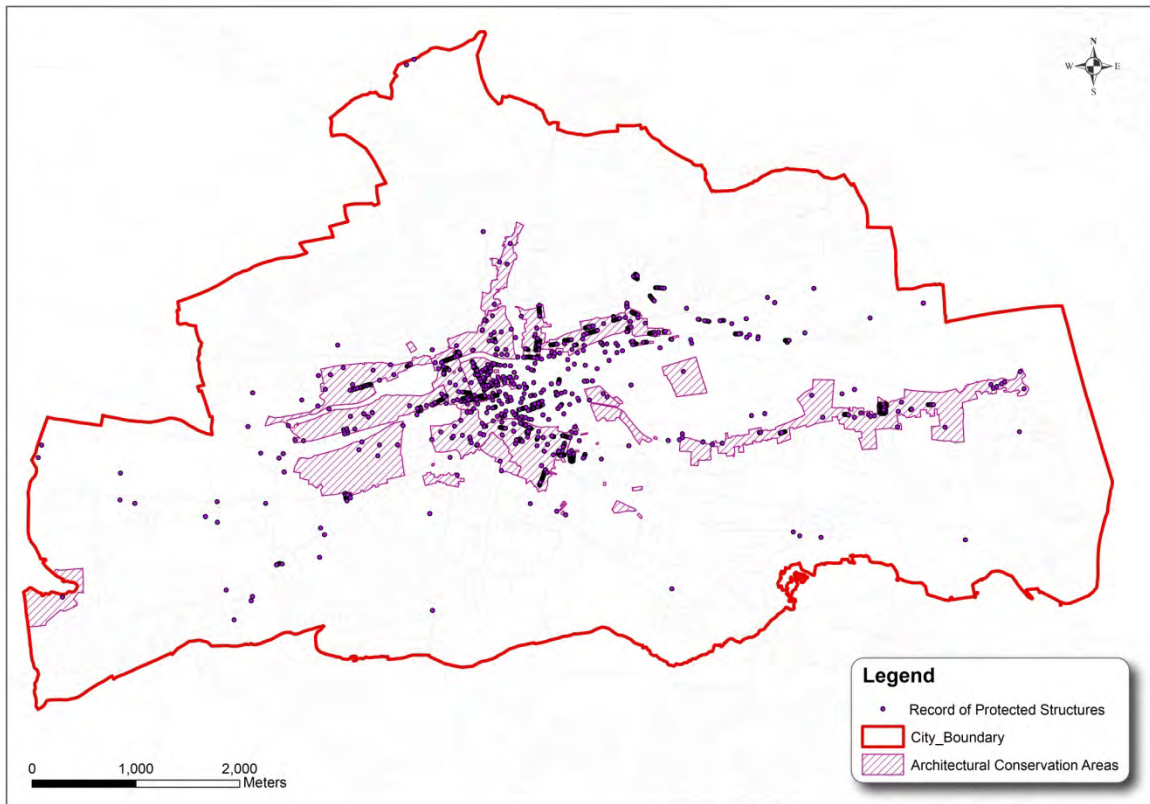
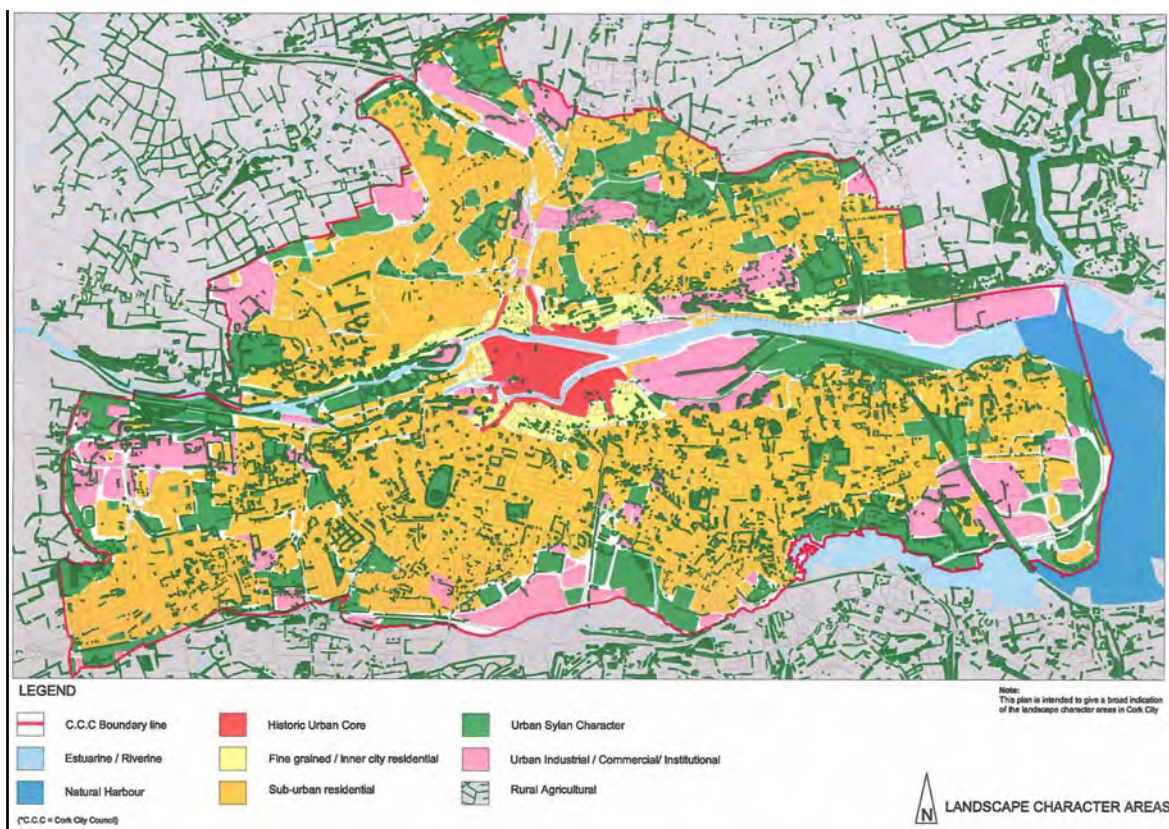


Figure 16 Landscape Character Areas, (Landscape Study 2008)



part 2

Environmental Report

Strategic Environmental Assessment (SEA)

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PART 2

SEA ENVIRONMENTAL REPORT

CHAPTER 1 INTRODUCTION

1.1 Introduction

This is the SEA Statement for the Draft Cork City Development Plan 2015 - 2021. Strategic Environmental Assessment (SEA) is the formal, systematic assessment of the likely effects on implementing a plan or programme before a decision is made to adopt the plan or programme. This Report describes the assessment of the likely significant effects on the environment if the draft City Development Plan is implemented.

SEA began with the SEA Directive, namely, Directive 2001/42/EC Assessment of the effects of certain plans and programmes on the environment. The SEA Directive was transposed into Irish legislation by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations, 2004 (S.I. No. 435 of 2004) and Planning and Development (Strategic Environmental Assessment) Regulations, 2004 (S.I. No. 436 of 2004). Subsequently, these statutory instruments were amended by S.I. 200 of 2011 and S.I. No. 201 of 2011. The Cork City Development Plan falls under the remit of S.I. 436/2004.

The methodology followed in this report is derived from a number of sources including legislation and guidance documents prepared on a national and EU level, including:

- Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment Guidelines for Regional Authorities and Planning Authorities, DEHLG, 2004
- SEA Pack and Scoping Guidance Document, EPA.
- SEA Process Checklist, EPA.

1.2 Stages of SEA

There are a number of stages involved in the SEA process which are listed as follows:

- Screening
- Scoping
- Collection of baseline data, assessment and compilation of the Environmental Report.
- Consultation with designated environmental authorities on Environmental Report and Draft Plan.
- Evaluation of submissions received in response to the consultation and amendments to the plan as appropriate with designated environmental authorities.
- Issuing of the final SEA Statement identifying how environmental considerations have been integrated into the final adopted Plan.
- Monitoring of significant environmental effects following adoption and implementation of the Plan.

1.3 Screening

Screening determines if a SEA is to be undertaken. It is a mandatory requirement to undertake a SEA of City and County Development Plans, under the Planning and Development (Strategic Environmental Assessment) Regulations, 2004 (as amended). Screening was not required.

1.4 Scoping

Scoping is undertaken to ensure that the relevant environmental issues are identified allowing them to be addressed appropriately in the Environmental Report. Scoping requires consultation with the prescribed Environmental Authorities. Scoping establishes all relevant issues and potential impacts of the draft plan. The submissions of Environmental Authorities are incorporated into the Plan through the Environmental Report.

Scoping for the current SEA was undertaken as part of the preparation of the Section 11 Consultation Document published in April 2013, followed up with the preparation of the Draft SEA Scoping Report in June 2013 which was circulated to all the Environmental Authorities. The Environmental Protection Agency, (EPA) made two related submissions in relation to Section 11 Document and the SEA Draft Scoping Report.

1.5 Collection of Baseline Data, Assessment and Environmental Report

In order to assess the likely significant impacts of the Plan, baseline data on the current state of the environment has to be collected and evaluated and the potential effects of the plan predicted and considered. In accordance with legislation and guidance, the existing environment is described with respect to biodiversity, population, human health, fauna, flora, soil, water (surface freshwater, coastal, transitional, groundwater, bathing and water services (drinking water and waste water treatment), air, climatic factors, material assets (roads, transportation, energy etc), cultural heritage (including architectural and archaeological heritage), landscape and the interrelationships between these factors as appropriate. Any existing problems relevant to the new Plan are also identified at this baseline stage.

Identification of baseline environmental status provides for the identification of key resources and sensitivities within the Plan area and the identification of potential threats to the environment, thus allowing for the inclusion of mitigation measures that may need to be incorporated into the new Plan to ensure that it does not exacerbate existing problems. Assessment of the baseline environment also enables plan-makers to consider how the environment might evolve in the absence of the proposed plan.

As the data is compiled and plan policies evolve the likely significant effects of implementing the plan are identified, described and evaluated and this is described in the Environmental Report.

The information to be contained in the environmental report is set out in Annex 1 of the SEA Directive and reproduced in Schedule 2B of the Planning and Development Regulations 2001, as inserted by Article 12 of the Planning and Development (SEA) Regulations 2004). The structure of this report is summarised as follows:

Table 1.1 Information to be contained in an Environmental Report

Item	Information to be contained in Environmental Report	Relevant Section of Report
A	Outline of the contents and main objectives of the draft plan and relationship with other relevant plans or programme	Chapter 1 Introduction & Background Chapter 2 Context of the Plan
B	Description of the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Chapter 3 Baseline Environment
C	Description of the environmental characteristics of areas likely to be significantly affected	Chapter 3 Baseline Environment
D	Description of any existing environmental problems which are relevant to the plan including those relating to any areas of a particular environmental importance, such as Natura 2000 sites	Chapter 3 Baseline Environment
E	Description of environmental protection objectives (EPOs), established at international, EU or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation	Chapter 4 Strategic Environmental Protection Objectives
F	Description of the likely significant effects on the environment, including on issues: biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and interrelationships between these factors	Chapter 7 Evaluation of Draft Plan
G	Description of the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan	
H	Outline of the reasons for selecting the alternatives considered, with a description of how the assessment was undertaken and including any difficulties encountered in compiling the information	Chapter 5 Alternative Scenarios. Chapter 6 Evaluation of Alternative Scenarios.
I	Description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan	To be included in SEA Statement when plan is Finalised
J	A non-technical summary of the above information.	Non -Technical Summary

1.6 Documenting the SEA process

The SEA Process produces two documents, the Environmental Report to accompany the Draft Development Plan and an SEA Statement which will be published at the end of the process, when the Plan is adopted.

This Environmental Report is submitted to the Members of Council with the Draft City Development Plan (CDP). The Members must take account of the Environmental Report in considering the Plan. When the Plan is formally made, an SEA Statement will be published, summarising, *inter alia*, how environmental considerations have been integrated into the Plan and the reasons for choosing the Plan as adopted over other alternatives considered in the Environmental Report.

Should alterations to the draft Plan be proposed, there will be a further submission period of not less than four weeks during which time submissions and/ or observations may be made on the proposed alterations. If material alterations are proposed they will need to undergo a screening process to determine if SEA is required. The proposed alterations, the screening document and SEA Environmental report, where relevant, will be sent to the Minister, the Board and the prescribed authorities and will be made available for public inspection.

1.7 Appropriate Assessment or Habitats Directive Assessment

Appropriate Assessment or Habitats Directive Assessment is an iterative process which runs parallel to and informs both the plan making process and the Strategic Environmental Assessment Process. It involves analysis and review of draft policies as they emerge during each stage of plan making, to ensure that their implementation will not impact on sites designated for nature conservation, nor on the habitats or species for which they are designated. Within this process, regard must also be had to the potential for policies to contribute to impacts which on their own may be acceptable, but which could be significant when considered in combination with the impacts arising from the implementation of other plans or policies.

The results of this analysis and review are presented in the Appropriate Assessment section of Volume 4. At the end of the plan making process, an Appropriate Assessment Conclusion Statement will be produced which contains a summary of how ecological considerations in relation to Natura 2000 sites have been integrated into the plan. The final Report and a declaration in relation to the potential for the plan to affect the integrity of Natura 2000 sites within its potential impact zone will also be produced at this time.

1.8 Strategic Flood Risk Assessment

As part of the review of the City Development Plan, and in order to meet the needs of the Strategic Environmental Assessment process and the requirements of the Department of the Environment, Heritage and Local Government / Office of Public Works Guidelines, “The Planning System and Flood Risk Management” (2009), Cork City Council undertook a Strategic Flood Risk Assessment (SFRA).

The assessment provides for an improved understanding of flood risk issues within the City and the spatial distribution of flood risk. The SFRA report sets out how the Flood Risk Assessment was undertaken, as well as how its findings were addressed and integrated into the City Development Plan. The SFRA is included in Volume 4 and should be read in conjunction with the Draft City Development Plan.

1.9 Difficulties encountered

During the preparation of the Environmental Report, no new research was undertaken and information was gathered from existing sources of data. There are a number of areas where data was not readily available, including:

- Lack of habitats surveys for non-designated sites and insufficient baseline data on habitats and species to allow for on-going monitoring.
- No wetland inventory.
- Data is not readily available in digital format, (GIS).
- Lack of guiding legislation in relation to Soils.
- Limited Air Quality monitoring data for the plan area. Most recent data refers to 2010.
- Lack of a Regional Waste Management Plan. The most recent plan is the Cork City Waste Management Plan 2004 – 2009.
- Water Quality Status data is not up-to-date, i.e. data on River, Transitional and Coastal Waterbodies is not consistent and highlights issue of implementing the Water Framework Directive.
- The lack of centralised data source for environmental baseline data is problematic in terms of resource allocation.
- Difficult to ascertain up-to-date and accurate extent and range of protected species, surveys required - resource issue.

CHAPTER 2 CONTEXT

2.1 Introduction

In accordance with the Planning and Development Act, 2000 a planning authority is legally obliged to prepare a Development Plan (CDP) for its functional area every six years and, not later than four years after the preparation of this plan, a planning authority must give notice of its intention to review that plan and prepare a new plan.

The current Cork City Development Plan 2009 - 2015 was adopted in 2009. On 22nd April 2013 the Council commenced a review by publishing an Issues Paper and placing notices in the press to advise the public of the commencement of an 8 week period of public consultation. A Draft Joint Housing Strategy was also published. Submissions received were considered and included in a Managers Report to the Elected Members of the Council in August 2013.

Following consideration of the report, the Members issued a direction to the Manger to proceed with the preparation of the Draft Plan.

2.2 Contents / Objectives of Draft Plan and its relationship with other plans

The Draft City Development Plan provides a blueprint for the development of Cork City for the latter part of this decade and the early years of the next. The structure of the Draft City Development Plan 2015 – 2021 is listed as follows:

Chapter 1	Introduction
Chapter 2	Core Strategy
Chapter 3	Economic Strategy
Chapter 4	Retail Strategy
Chapter 5	Transportation
Chapter 6	Residential Strategy
Chapter 7	Inclusive Neighbourhoods
Chapter 8	Arts Cultural Heritage and Tourism
Chapter 9	Built Heritage and Archaeology
Chapter 10	Landscape and Natural Heritage
Chapter 11	Recreational Infrastructure
Chapter 12	Environmental Infrastructure
Chapter 13	City Centre and Docklands
Chapter 14	Suburban Development Priority Areas
Chapter 15	Land-use Zoning Objectives
Chapter 16	Development Management

2.3 Development Plan Objectives

In accordance with Section 10(2) of the Planning and Development Acts 2000 - 2013, the Draft City Development Plan contains objectives and policies for, inter alia:

A core strategy which shows that the development objectives in the development plan are consistent, as far as practicable, with national and regional development objectives set out in the National Spatial Strategy and Regional Planning Guidelines.

The zoning of land for the use solely or primarily of particular areas for particular purposes (whether residential, commercial, industrial, agricultural, recreational, as open space or otherwise, or a mixture of those uses), where and to such extent as the proper planning and sustainable development of the area;

The provision or facilitation of the provision of infrastructure including (i) transport, energy and communication facilities, (ii) water supplies and waste water services (iii) waste recovery and disposal facilities.

The conservation and protection of the environment including, in particular, the archaeological and natural heritage and the conservation and protection of European sites and any other sites which may be prescribed for the purposes of this paragraph;

The promotion of compliance with environmental standards and objectives established- (i) for bodies of surface water, by the European Communities (Surface Waters) Regulations 2009; (ii) for groundwater, by the European Communities (Groundwater) Regulations 2010; which standards and objectives are included in river basin management plans (within the meaning of Regulation 13 of the European Communities (Water Policy) Regulations 2003);

The integration of the planning and sustainable development of the area with the social, community and cultural requirements of the area and its population;

The preservation of the character of the landscape including the preservation of views and prospects;

The protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest;

The preservation of the character of architectural conservation areas;

The development and renewal of areas in need of regeneration;

The provision of accommodation for travellers, and the use of particular areas for that purpose;

The preservation, improvement and extension of amenities and recreational amenities;

The control, having regard to the provisions of the Major Accidents Directive and any regulations, under any enactment, giving effect to that Directive, of (i) siting of new establishments, (ii) modification of existing establishments, and (iii) development in the vicinity of such establishments, for the purposes of reducing the risk, or limiting the consequences, of a major accident;

The provision, or facilitation of the provision, of services for the community including crèches and schools;

The protection of the linguistic and cultural heritage of the Gaeltacht including the promotion of Irish as the community language, where there is a Gaeltacht area in the area of the development plan;

The promotion of sustainable settlement and transportation strategies including (i) the promotion of measures to reduce energy demand in response to the likelihood of increases in energy and other costs due to long-term decline in non-renewable resources, (ii) reduce anthropogenic greenhouse gas emissions, and (iii) address the necessity of adaptation to climate change;

2.4 The relationship of the draft Plan with other relevant plans and programmes

The City Development Plan is part of a hierarchy of local, regional and national plans. While it should be consistent with higher-level plans such as those of a regional or national nature, it must guide or direct plans and programmes at a lower level hierarchically. The following national, regional and local plans have influenced the policies contained in the draft CDP.

National Policy

2.4.1 National Spatial Strategy

The National Spatial Strategy (NSS) is a twenty year planning framework for the entire country which is designed to achieve a better balance of social, economic and physical development and population growth between regions. The main focus of the NSS is to bring people, jobs and services closer together, in order to achieve a better quality of life for people, a strong, competitive economic position for the country and to ensure environmental protection.

Cork is identified as a gateway, a nationally significant centre whose location, scale and service base supports the achievement of the type of critical mass necessary to sustain strong levels of growth. Cork will build on its substantial and established economic base to lever investment into the South West region, with the support of its scale of population, its third level institutions and the substantial capacity for growth identified in the Cork Area Strategic Plan (CASP) and the CASP Update (2008). Implementation of CASP is important to secure the objectives of the NSS.

2.4.2 National Development Plan 2007 - 2013

The National Development Plan (NDP) Transforming Ireland - A Better Quality of Life for All sets out our national investment priorities and has four basic objectives: to continue sustainable national economic and employment growth, to strengthen and improve Ireland's international competitiveness, to foster balanced regional development and to promote social inclusion. In Cork, the NDP identifies the need to accelerate growth and development and identifies a number of investment priorities for Cork including motorways, integrated public transport systems, enhancement of tourism, leisure and recreational facilities, developing employment, research and development capacity, etc.

2.4.3 National Climate Change Strategy 2007 - 2012

The National Climate Change Strategy 2007 - 2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland's greenhouse gas emissions.

2.4.4 Climate Change Adaption Framework 2012

The National Climate Change Adaptation Framework introduces an integrated policy framework, involving all stakeholders on all institutional levels to ensure adaptation measures are taken across different sectors and levels of government to manage and reduce Ireland's vulnerability to the negative impacts of climate change. Under the Framework, the relevant Government Departments, Agencies and local authorities have been asked to commence the preparation of sectoral and local adaptation plans and to publish drafts of these plans by mid-2014

2.4.5 National Renewable Energy Action Plan

The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach

and concrete measures to deliver on Ireland's 16% target under European Renewable Energy Directive 2009/28/EC. The development of renewable energy is central to overall energy policy in Ireland. Nationally, the Government's ambitions for renewable energy and the related national targets are fully commensurate with the European Union's energy policy objectives and the targets addressed to Ireland under the Renewable Energy Directive. Ireland's energy efficiency ambitions (20% of energy from renewable sources by 2020) as set out in the National Energy Efficiency Action Plan are duly reflected in the NREAP.

2.4.6 National Biodiversity Plan

Action for Biodiversity 2011 - 2016: Ireland's second National Biodiversity Plan sets out a vision for the conservation and restoration of biodiversity and ecosystems in Ireland and includes the overarching target of "reducing biodiversity loss and degradation of ecosystems in Ireland by 2016, and achieving substantial recovery by 2020". The Plan sets out a number of strategic objectives and actions which are aimed at mainstreaming biodiversity in the decision making process across all sectors, strengthening the knowledge base and increasing awareness of biodiversity in order to support the achievement of the target.

2.4.7 Our Sustainable Future - A framework for Sustainable Development in Ireland (2012)

This framework recognises that the green economy and sustainable development agendas are a key element of Ireland's economic recovery strategy and sets out the range of environmental, economic and social measures required to move these agendas forward. The framework sets out 70 measures that will ensure we improve our quality of life for current and future generations and sets out clear measures, responsibilities and timelines in an implementation plan. These include areas such as the sustainability of public finances and economic resilience, natural resources, agriculture, climate change, transport, sustainable communities and spatial planning, public health, education, innovation and research, skills and training, and global poverty. The framework recognises that some aspects of the pattern of development that emerged in Ireland over the last decade present major challenges from a sustainable development perspective and spatial planning is one of the mechanisms, along with wider public policy coordination and fiscal policy, to effect change at national, regional and local level and deliver more sustainable communities.

2.4.8 Smarter Travel. A new transport Policy for Ireland 2009-2020

Smarter Travel recognises that transport and travel trends in Ireland are unsustainable. Even with the investment in Transport 21, if we continue with present policies, congestion will get worse, transport emissions will continue to grow, economic competitiveness will suffer and quality of life will decline. Smarter travel is designed to show how we can reverse current unsustainable transport and travel patterns and reduce the health and environmental impacts of current trends and improve our quality of life. Actions are aimed at influencing overall travel demand and reducing emissions in both urban and rural areas. Key actions include the following:

Actions to reduce distance travelled by private car and encourage smarter travel, including

- focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment and the use of pricing mechanisms or fiscal measures to encourage behavioural change,
- Actions aimed at ensuring that alternatives to the car are more widely available, through improved public transport service and investment in cycling and walking,
- Actions aimed at improving the fuel efficiency of motorised transport, and
- Actions aimed at strengthening institutional arrangements to deliver the targets.

2.4.9 National Action Plan for Social Inclusion 2007 - 2016

This National Action Plan for Social inclusion, complemented by the social inclusion elements of the National Development Plan 2007-2013: Transforming Ireland - A Better Quality of Life for All, sets out how the social inclusion strategy will be achieved over the period 2007-2016. The overall goal of this Plan is to reduce the number of those experiencing consistent poverty, eliminating consistent poverty by 2016.

2.4.10 National Heritage Plan 2002

The National Heritage Plan sets out a clear and coherent strategy and framework for the protection and enhancement of Ireland's national heritage. The core objective of the Plan is to protect the national heritage as well as promoting it as a resource to be enjoyed by all.

Regional Policy

2.4.11 South Western Regional Planning Guidelines

Prepared by the South West Regional Authority to provide a broad canvas to steer the sustainable growth and prosperity of the region in line with the key principles of national strategy. Planning Authorities are required to have regard to the guidelines in the discharge of their functions.

2.4.12 Cork Area Strategic Plan 2020 (CASP) and CASP Update 2008

The Cork Area Strategic Plan and its update were prepared jointly by the City and County Councils and provide a non-statutory planning framework for the greater city area. CASP plays a significant role in the planning of the Cork Gateway and it aims to secure regeneration of Cork City as the engine of the region and to focus development in Cork.

2.4.13 South West River Basin District Management Plan

This Plan has been prepared on foot of the EU Water Framework Directive to create an integrated approach to managing water quality on a river basin basis. It requires that management plans be prepared on a river basin basis in six year cycles and specifies a structured approach to developing those plans with the first plans to cover the period 2009 to 2015. The South West River Basin Management Plan is the mechanism for protecting and improving Cork's water resources and ensures that development permitted meets the requirements of the relevant River Basin Management Plan and does not contravene the objectives of the EU Water Framework Directive.

2.4.14 Waste Management Plan

The most recent plan is the Cork City Waste Management Plan 2004 - 2009. This plan will be replaced by a new Southern Regional Plan, scheduled for completion in 2014. Waste minimisation is a key element of the 2014 Plan and includes a number of measures including waste prevention, reduction at source, reuse, recycling and recovery and is achieved through the use of bring sites, civic amenity sites, waste transfer stations, authorised transfer facilities and material recovery. All of these have a role to play in achieving national recycling targets.

Local Policy

2.4.15 Cork City Biodiversity Action Plan 2009-2014

The aim of the Cork City Biodiversity Action Plan is to promote the appreciation and enjoyment of Cork City's biodiversity amongst the people of the city and to identify, understand and conserve the biodiversity of the city for future generations. Implementation of the plan will contribute to achieving national and international targets for the conservation of biodiversity.

2.4.16 Cork City Heritage Plan 2007-2012

The overall aim of the Cork City Heritage Plan is to secure the Heritage of Cork City, to enrich the lives of its people and to ensure that the care of our Heritage; past, present and future is at the heart of the development of the City.

2.4.17 Cork City Landscape Study 2008

The Cork City Landscape Study is a compilation of unique studies, designed to review and evaluate

existing policies at national and local level, relating to the built and natural environment, to identify the existing landscape assets in Cork, and provide insight for the potential management and growth of the city and its resources, striving for a sustainable future. The results of the individual studies are condensed into the Landscape Strategy. The overall document aims to assist in the development of landscape policy in revisions to the Cork City Development Plan, 2004 by providing a comprehensive report outlining areas of improvement.

2.4.18 Cork City Development Plan 2009-2015.

The city plan is of relevance because the city is the main economic and retail focus for the county as a whole and the focus of public transport services within the metropolitan area. The formal review of the plan commenced in April 2013 with the publication of an issues paper. The issues paper includes a population target for the city of 150,000 by 2022 and emphasises the potential for the development of 'brownfield' lands in the City Centre, Docklands, Mahon and Blackpool to cater for the sustainable growth of the city.

2.5 Legislative Context

The Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) and its transposed Irish legislation, including amendments form the legislative framework for the SEA process, including its documentation in the form of an Environmental Report. The Planning and Development Act, 2000 (as amended) also forms an integral part of SEA and additional guidance from a European context and national context. Additional key pieces of legislation pertaining to environmental considerations include:

- EU Birds Directive (79/409/EEC)
- EU Habitats Directive (92/43/EEC)
- The Wildlife Act, 1976 (as amended)
- The Flora (Protection) Order 1999
- UN Convention of Biological Diversity 1992 (ratified 1996)
- Convention on Wetlands of International Importance (Ramsar Convention 1971)
- European Communities (Birds and Natural Habitats) Regulations, 2011
- Urban Waste Water Treatment Regulations, 2001 and 2004 and Amendments (2010)
- Water Services Act, 2007
- Water Services (Amendment) Act, 2013
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009
- European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009
- European Communities Environmental Objectives (Groundwater) Regulations, 2010
- EU Nitrates Directive (91/676/EEC)
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010
- EU Bathing Water Directive (2006/7/EC)
- Bathing Water Quality Regulations, 2008
- Bathing Water Quality (Amendment) Regulations, 2011
- Shellfish Waters Directive (2006/113/EC)
- European Communities (Quality of Shellfish Waters) Regulations, 2006
- European Communities (Quality of Shellfish Waters) (Amendment) Regulations, 2009
- Waste Water Discharge (Authorisation) Regulations, 2007
- European Communities (Environmental Liability) Regulations, 2008
- Air Quality Standards Regulations, 2011
- Environmental Noise Regulations, 2006
- The European Landscape Convention, 2000

CHAPTER 3 BASELINE ENVIRONMENT

3.1 Introduction

The environmental baseline of Cork City is described in this section. The baseline data is the existing state of the City's environment. This baseline together with the Strategic Environmental Protection Objectives, (EPOs) outlined in Chapter 4, is used to identify, describe and evaluate the likely significant environmental effects of implementing the City Development Plan and the alternatives, and to determine a baseline from which future monitoring data can be measured.

The impacts of the city development plan can be estimated as the difference in environmental conditions with or without implementation of the plan. Cork city's existing environment is characterised by way of a description of the environmental receptors as set out in SEA Directive i.e.

- Population, Human Health
- Biodiversity, Flora and Fauna
- Water
- Air & Climate
- Soil
- Material Assets
- Cultural Heritage
- Landscape.

[Under the Habitats Directive, an Appropriate Assessment of the ecological implications of the Development Plan is required. This Appropriate Assessment has been conducted by RPS Consultants and is contained in Volume 4 Part 4].

3.2 Population and Human Health

3.2.1 Population

The National Development Plan 2007-2013 identifies Cork as a national gateway, a priority growth area. The National Spatial Strategy 2002- 2020 reinforces this role. The population target for Cork is set out at a regional level in the National Population Projections NSD Regional Population Targets 2010-2022 issued by the Department of Environment, Heritage and Local Government, January 2009 and the 'Gateway and Hub Population Targets' October 2009.

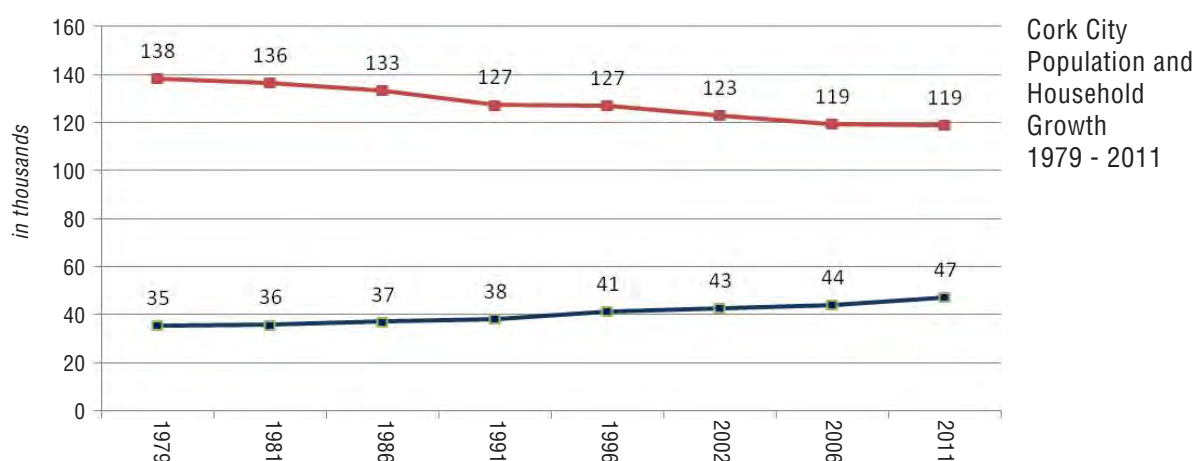
Under the current Regional Planning Guidelines, the population of the Region is forecast to increase by 127,500 persons to 795,000 persons during the period 2010 - 2022. The population targets were apportioned by the Regional Authority by agreement with the three local authorities (Cork County Council, Kerry County Council, Cork City Council) through the adoption of the South West Regional Planning Guidelines 2010 - 2022. The target population for Cork City is 150,000 persons, an increase of 30,478 from the recorded population of 119,522 persons in the 2006 Census. The 2011 Census recorded the Cork City population at 119,230 persons.

[Note that the CSO Statistical Release, December 2013 projected a population of 733,000 persons for the South - West Region by 2031. This equates to an increase of 71,000 persons or a 0.5% increase per annum for period 2011 - 2031.]

3.2.2 Population change 2006 - 2011

The population of the South West Region has increased substantially from 621,130 persons in 2006 to 664,539 in 2011. However, the population of Cork City has slightly decreased from 119,418 in 2006 to 119,230 in 2011, (a fall of 0.1%). The population has effectively stabilized following a prolonged period of decline since the 1979 peak of 138,000 persons. The population of the entire County of Cork was 519,032 in 2011. Whereas, the population of the County excluding Cork City was 399,802, an increase of just under 38,000 persons (10.5%) from the 2006 figure of 361,877.

Table 3.1 Cork City Population and Household Trends



The reasons for the decline in the City's population is in part due to lack of appropriate 'greenfield' sites in the City; new households moving to cheaper locations in the County; and declining household size in the City. A reversal in the trend of population decline in Cork City will require significant investment in infrastructure; measures to encourage and facilitate development in the City, and greater control of development in the County.

3.2.3 Population change within Cork City

There was significant variation in population change around Cork city between 2006 and 2011, with the City Centre and the South East increasing population while the North side, South West and South Centre declined. Despite the overall fall in population in the city, the number of households has been gradually increasing (see Table 3.1). There was a net gain of 3,650 households between 2006 and 2011, although average household size is continuing to fall.

Family life cycle is also a significant factor and areas which are developed at a particular time tend to have a large percentage of households at the same stage of the family cycle. Areas go through a cycle of growth and decline and then begin to increase again, as they move through the family cycle. This may lead to increases in population in some established areas of the city which are at the stage where new families are moving in.

Table 3.2 Population Change by Geographical Sector 2006 - 2011

City Plan Sector	Population 2006	Population 2011	Population Change	%
City Centre	12,060	13,487	1,427	12
North East	23,218	22,522	-696	-3
North West	23,443	23,404	-39	-0.2
South Centre	17,842	17,168	-674	-4
South East	24,433	25,549	1,116	5
South West	18,422	17,100	-1,322	-7
Cork City	119,418	119,230	-188	-0.2

3.2.4 Housing Stock

In line with the City's population target of 150,000 persons by the year 2022, the number of households has increased from 43,939 in 2009 to 47,163 in 2011. At this rate a further 17,792 households will be formed if the population target of 150,000 persons is reached.

However, the average household size within the city has fallen from 2.61 persons per household in 2006 to 2.45 persons per household in 2011, and is predicted to continue to fall in line with national trends. Therefore, an increased number of housing units is required in the region of 20,032 units, (The Joint Housing Strategy, Cork Planning Authorities, January 2013). Although there is sufficient zoned land within the City to accommodate the 2016 population target, the longer term challenge is to zone adequate lands to support the 2022 population target.

Table 3.3 Cork City Population, Households and Housing Unit Targets

Population			Households			Housing Units
Population target for 2022	Census 2011	2011-2022 population increase	Total households 2011	Total Households 2022	Total new households 2011-2022	Net housing units required 2011-2022
150,000	119,230	30,770	47,163	64,955	17,792	20,032*

**Allowing for 15% frictional vacancy, etc. and excludes completed but vacant units in unfinished housing estates.*

3.3 Human Health

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Availability of spatial data on human health is limited.

Human health has the potential to be impacted upon by environmental vectors including water, soil and air. Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land-uses, for example. These factors have been considered with regard to the description of the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the plan and the alternatives.

The impact of development on human health is influenced by the extent to which development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil. Soil in some areas of the City has been polluted and contaminated by development which has not followed environmentally friendly practices and/or which has not been serviced by the appropriate infrastructure. The findings of the 2007 South Docklands Contamination Study show that areas within the Docklands have been contaminated to the extent that under certain circumstances they may pose a risk to human health. As other sites within the wider Cork City area have in the past been host to land uses similar to the heavy industry and fuel generation/ storage depots uses of the South Docklands, additional contaminated sites may exist. The contaminants in such soils may pose risks to human health arising from contact with the soils or contact with water into which the contaminants have been released.

Cork City is very vulnerable to adverse effects from small changes in sea level combined with changes in the occurrence of severe rainfall events and associated flooding of the River Lee and a number of smaller urban streams such as the River Bride. Flooding is an environmental phenomenon which in certain circumstances could pose a risk to human health.

Although air quality in Cork City meets current standards there are traffic 'hotspots', located along the main road routes especially at intersections, give rise to a harsh sensory environment which may impact upon human health. Traffic hotspots in low lying areas that have surrounding high buildings are likely to be more stressful environments due to air pollution and noise levels.

There are a number of locations within Cork City where dangerous substances are handled in quantities above specified thresholds for which a high level of protection for people, property and the environment is required under the Seveso II Directive. When considering planning applications within a certain distance of the perimeter of such sites the City Council will take into account technical advice from the Health and Safety Authority.

Access to clean water, air and soil are basic necessities for human health and are discussed later in this Chapter.

Deprivation is frequently associated with poor health. Those who experience economic, social or education disadvantage are more likely to have poor health. The Deprivation Index of Ireland has compiled a map for the entire country and categorises DEDS into a number of categories ranging from "Extremely Disadvantaged" to "Extremely Affluent". Social disadvantage is still spatially concentrated in certain parts of the city. Cork City is characterised by disadvantaged areas in much of the northside and the south central area, with affluent areas concentrated in the western part of the city and south eastern wards. The majority of the city is categorised as marginally above average.

The RAPID (Revitalising Areas through Planning Investment and Development) programmes continue to play a very important role in tackling disadvantaged areas. There are four RAPID areas in the city, three are located on the Northside (Knocknaheeny/ Hollyhill/ Churchfield; Blackpool/ The Glen/ Mayfield; Fairhill/Gurranabraher/ Farranree) and the fourth is on the Southside (Togher/ Mahon).

3.4 Issues relating to Population and Human Health

The key objective of the National Spatial Strategy and the National Development Plan is to achieve balanced regional development and economic, social and environmental sustainability and deliver a better quality of life for the population as a whole. The development of Cork City as the economic engine for the region has a very significant role.

In this context, the divergence from the planned settlement strategies in the current City and County Development Plans and the Regional Planning Guidelines from what has emerged in the 2011 Census, represents a significant challenge, namely, high rates of growth in rural areas and lower than expected growth in the City and Metropolitan Cork.

If this pattern continues it will reduce the performance and competitiveness of the City to attract inward investment, thus impacting on economic prosperity, human health and quality of life issues. Furthermore, a dispersed population will continue to drive 'car dependency' and inhibit the provision of viable public transport services with the added benefit of lower traffic related emissions and noise levels.

New development and supporting infrastructure needs to be utilized to maximum effect to support human health and quality of life. Adequate wastewater treatment systems, water supply and storage facilities must be in place to sustain a growing population without creating adverse impacts on the population and the receiving environment.

There is sufficient 'Residential' and 'Mixed-Use' zoned lands and identified brownfield land for future redevelopment by way of local area plans within the City to accommodate an additional 20,000 housing units and a population target of 150,000 persons by 2022. It is essential that the Council makes adequate provision for housing supply to meet growing demands, including an appropriate variety of dwelling type and mix of tenure to reflect the changing needs of the population as a result of decreasing household size. Quality of housing must be supported by adequate community facilities and services and quality robust open spaces to support an increasing density of population. Greater co-ordination with Cork County Council is required to respond to shared regional issues outlined above.

3.5 Evolution of Population and Human Health in the absence of a City Development Plan

Development in environmentally stressed areas can result in adverse effects on populations and their health. As the City population increases over the coming years, there is a need to direct growth towards the most robust environments, (lands) and away from the more sensitive areas.

In the absence of a Plan there would be no strategy to manage the sustainable growth of the City. Development would occur in an ad-hoc manner, without an integrated framework for the provision of essential infrastructure and services, resulting in an increased risk of adverse impacts on human health by deteriorating air quality, water quality and noise, loss of environmental and visual amenities, habitats and biodiversity, resulting in a less attractive City. The Plan identifies strategies for development of brownfield land. In the absence of the plan the development would go to alternative less sustainable locations on green field sites.

3.4 Biodiversity, Flora and Fauna

3.4.1 Introduction

Biodiversity refers to the variety of life on Earth and includes the variety of species, plants, animals and micro-organisms found on earth, and the places (habitats and ecosystems), where these organisms live. Flora and fauna refers to plants and animals.

Biodiversity is a primary indicator of the health of our surroundings. Biodiversity gives us many of the essentials of life, oxygen, water, food, clothing and health. It is fundamental to human existence and is essential to human survival.

Biodiversity is protected by European and Irish legislation, in particular the EU Habitats and Birds Directives, the EU (Natural Habitats) Regulations 2011, and the Irish Wildlife Acts 1976 and 2000. The requirements of the Habitats and Birds Directives have been incorporated into planning law in the Planning and Development (Amendment) Act, 2010.

The National Biodiversity Plan (2011-2016) underlines the principle that environmental concerns should be integrated into all relevant sectors and, that policies and decisions should take consideration of ecological principles, which recognise the conservation, enhancement and sustainable use of biological diversity in Ireland and contribute to conservation and sustainable use of bio-diversity globally. The aim of the Cork City Biodiversity Plan (2009-2014) is to promote the appreciation and enjoyment of Cork City's biodiversity amongst the people of the city and to identify, understand and conserve the biodiversity of the city for future generations.

Natural features and processes are strong determinants of Cork City's form and function. The City's development on wetlands between steep hills has dictated a street layout that is shaped by many bridges and roads. These circumstances mean that natural processes such as tides and floods continue to exert an influence on plans and projects in the City. The River Lee runs west to east through the heart of the City interacting with both the natural and built heritage to give a unique and distinct character. The River Lee flows into Lough Mahon and subsequently Cork Harbour, both of which are designated ecological areas of national importance.

Cork City's natural heritage consists of features with physical and biological origins, e.g. undisturbed natural features such as rivers, estuaries, salt marshes, reedbeds, intertidal mudflats, amenity views, urban woodland, ridges, fauna and flora, etc. Watercourses add to the biodiversity value of the City, from the River Lee to the smaller Curragheen, Bride, Twopot, Glasheen, Glenamought (Glen) and Tramore. Some of these watercourses have been modified by man over the years yet they still provide the freshwater environment that is essential for many species to live or feed in, such as the Dipper, Grey Wagtail and Grey Herons and a unique corridor for the movement and migration of species, of which the very survival of some, such as salmon and lamprey depends on. The protected Otter breeds and rears its young alongside the Lee in the very heart of the City as does the introduced Mink. One of the City's five Bat species, Daubenton's Bat feeds along watercourses, and river bank habitats support a range of plant species that are unique and reliant on the aquatic environment and in turn provide feeding habitats for many other species such as insects.

Freshwater marsh habitat occurs in waterlogged areas and is found close to Curragheen River and within the Lee fields and the Glen Recreation Area. These areas are often small and scattered but support water loving plants that are unique to this habitat type, together with species that live or feed upon them. These habitats are often remnants of what existed before the City's development and as such are remnants of extremely valuable habitat.

Man-made habitats within the City boundary are also important biodiversity areas. Gardens provide habitats for a range of wildlife including various bird species, invertebrates such as Bees and Butterflies and mammals such as Hedgehogs, Mice, Rats and Foxes. These species move around between gardens using hedgerows and vegetated areas. These urban green spaces are important as they form part of a network of green spaces across the City including gardens, parks, graveyards, amenity walks, old railway lines and patches of woodland and scrub within which animals and plants continue to thrive.

'Alien' or introduced species can often gain a foothold in these environments and if successful can out-compete local and native species. Japanese Knotweed, Himalayan Balsam and others have become part of the City's flora and are difficult to control. Cork City supports many species that are classified as protected under international or national legislation or because their populations are threatened or rare. These species are listed in the City's Biodiversity Action Plan.

3.4.2 CORINE Land Cover Mapping

Much of the habitats of Cork City have been impacted by man over time. CORINE Land Cover is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface. The most up to date mapping for Cork is from 2006. The 2012 dataset is to be published in 2014.

The CORINE land cover mapping for the area which classifies land cover under various headings indicates that the majority of the area is covered by 'man-made' surfaces; 'continuous urban fabric' is found in the city centre and this is surrounded by discontinuous urban fabric.

Along the northern and western edges of the city boundary the CORINE mapping indicates 'pastures' among the land uses. Discontinuous urban fabric extends beyond the city's southern boundary while the intertidal flats of the Douglas River, Mahon Golf Course and pastures are found in at the south eastern boundary.

CORINE land cover mapping for Cork City for the year 2006 is shown on Figure 3.1. Landcover differences between the CORINE 2000 data and 2006 data (Figure 3.2) show that lands attributed with natural / semi-natural landcover categories, such as pastures at the City's northern and southern boundaries have experienced development with land uses of discontinuous urban fabric and construction sites now attributed to these areas.

The differences between CORINE Land Cover Maps 2000 and 2006 indicates a cumulative loss of remaining areas of natural/ agricultural vegetation and associated habitats - and their flora and fauna - at the City fringes.

Differences within the wider city include new urban fabric at Douglas, Donnybrook and Rochestown and Mahon within the south eastern suburbs; construction sites in Mahon. Settlements to the east and south of the city, such as Passage West, Rushbrook (Cobh), Carrigaline, Little Island and Carrigtohill indicates strong growth of urban fabric and Industrial development. To the west of the city there is strong growth in the urban fabric of Ballincollig / Killumney / Ovens and the Bishopstown suburb at Twopot Bridge. Tivoli and Glanmire has also witnessed urban development.

In short, there is a process of expansion of the city and the metropolitan area beyond the existing city boundary, in particular along the Commuter Rail-line to the east of the city.

Figure 3.1 CORINE Land Cover 2006

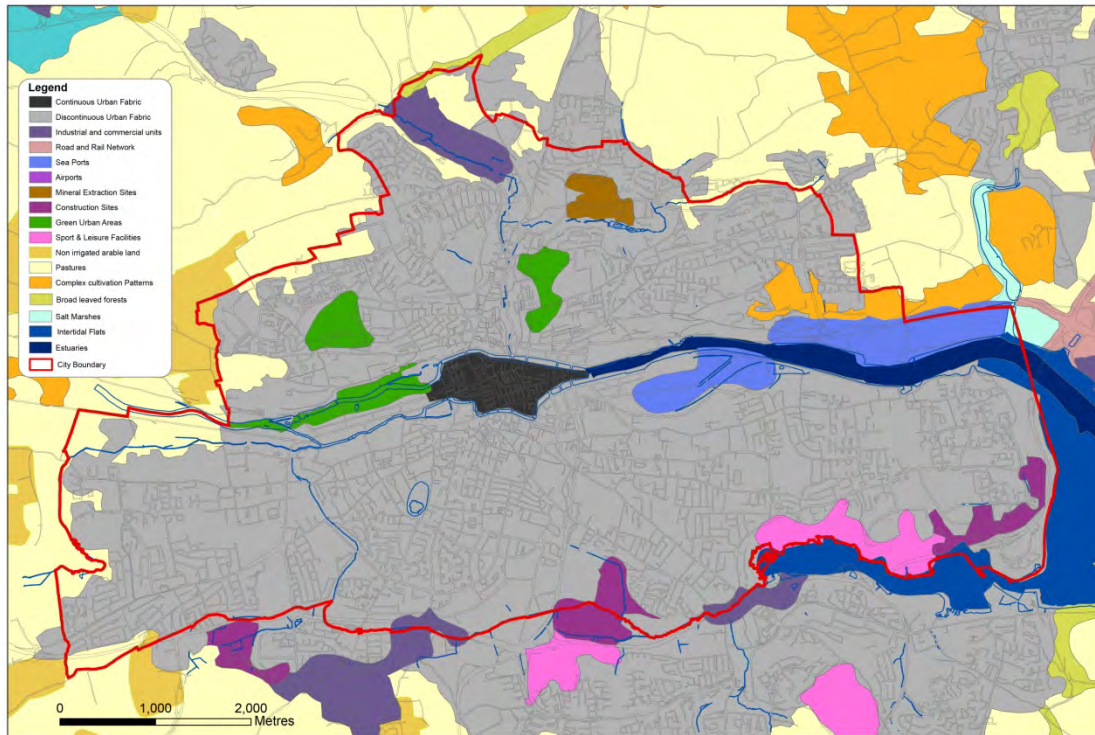
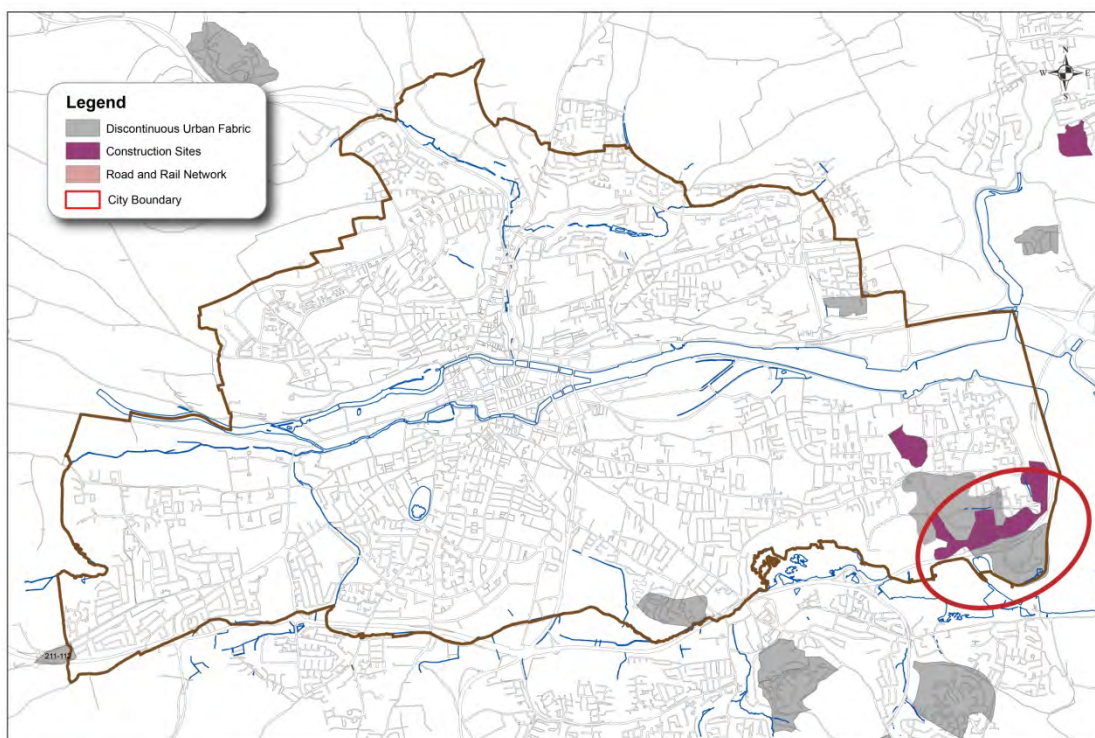


Figure 3.2 CORINE Landcover changes 2000 - 2006



3.4.3 Ecological Networks

The EU Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife under Article 10 and requires that ecological connectivity and areas of ecological value outside the Natura 2000 Network are maintained and managed in land-use planning and development policies.

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as tree-lines, hedgerows, rivers and streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds.

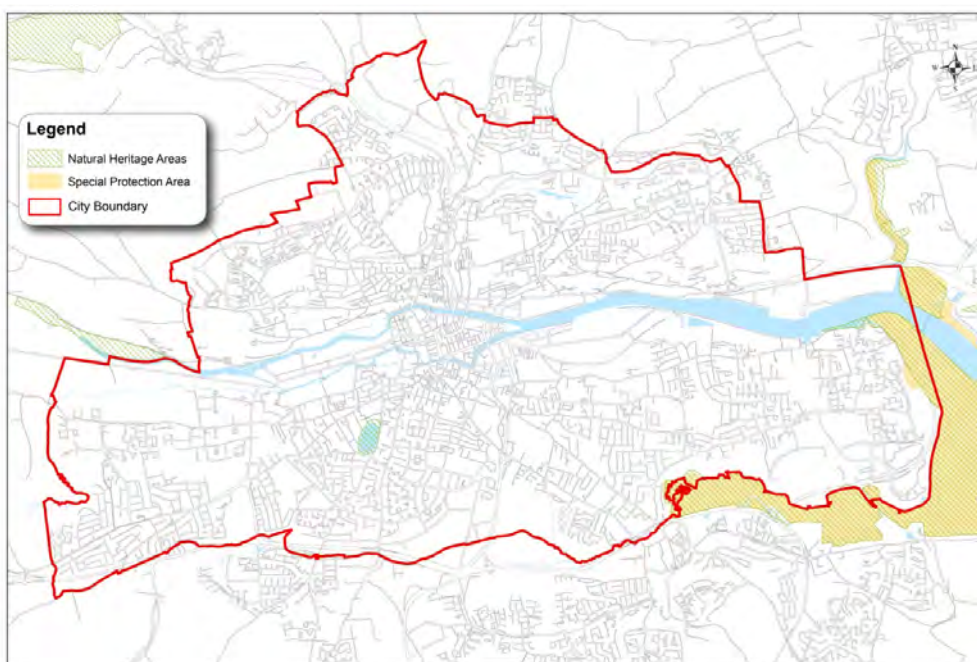
The River Lee, the tributaries of the River Lee, the banks of these waterways, hedgerows and lands used for agriculture especially at the fringes of the City boundary and the wider Cork Harbour area contribute to the ecological network of which Cork City is part, facilitating linkages both between and within designated ecological sites, the non-designated surrounding countryside and the more urban areas of the City.

3.4.4 Designations

Cork City is located within close proximity to a number of designated ecological sites: Cork Lough Natural Heritage Area (NHA) is located within the City boundary; Cork Harbour Special Protection Area (SPA), Douglas River Estuary NHA, Dunkettle Shore NHA and Lee Valley NHA are located partially within or adjacent to the City boundary; and a number of sites by virtue of their ability to support bird populations are located in the wider Cork Harbour area.

It is noted that the majority of these ecological sensitivities discussed below and associated potential for environmental impacts occur at or beyond the fringes of the Cork City Council administrative area. They are included however to ensure that areas which could be impacted as a result of implementing the plan are identified and assessed.

Figure 3.3 Designated Sites in Cork City



3.4.5 Candidate Special Areas of Conservation

The Habitats Directive provides for the protection of biodiversity through the designation of Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. These sites are proposed or designated for protection because they support habitats and /or populations of plant and animal species that have been identified to be rare or threatened at a European level. The sites are candidate sites because they are currently under consideration by the Commission of the European Union.

The habitats for which sites can be proposed for designation include coastal habitats such as sand dunes, upland habitats such as blanket bog and heath, freshwater habitats including lakes and rivers, and a number of different woodland types. The species for which such sites are proposed includes plants and animals including Otter and Salmon. Many sites support more than one protected habitat type and they may also support protected species. These sites are selected because they support the best national examples of important habitats, and/or they support important populations of protected species. Legal protection applies to both proposed and designated Special Areas of Conservation.

Great Island Channel Candidate Special Area of Conservation

Great Island Channel cSAC (Site Code: 001058) is located around 3 kilometres to the east of the City boundary. The site stretches from Little Island to Midleton, with its southern boundary being formed by Great Island. The Owennacurra and Dungourney Rivers, which flow through Midleton, provide the main source of freshwater to the Channel. The water from the channel flows into Cork Harbour to meet with the water flowing from the River Lee and Douglas River. Great Island Channel cSAC is mapped on Figure 3.6 Designated Ecological Sites in the wider Cork City/Cork Harbour area. The Site Synopsis for this cSAC is included in the Appendix A1.

3.4.6 Special Protection Areas

Sites designated under the Birds Directive are called Special Protection Areas, (SPAs). SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC), due to their conservation value for birds of importance in the European Union. The Birds Directive provides for the protection of sites used (for breeding, roosting or feeding) by species of birds that are rare, vulnerable or in danger of extinction. It also provides for the protection of areas that are particularly important for migratory birds, where they congregate in significant numbers, such as wetlands and coastal estuarine sites.

Cork Harbour Special Protection Area

Cork Harbour SPA (Site Code: 004030) covers much of the large sheltered, bay system into which the River Lee which passes through Cork City flows. The designation covers sites at several river estuaries, principally those of the Rivers Lee, Douglas and Owenacurra. The SPA site comprises most of the main intertidal areas of the Harbour, including all of the North Channel, the Douglas Estuary, the inner Lough National Parks and Wildlife (2001) Site Synopsis for Great Island Channel candidate Special Area of Conservation Dublin: Government of Ireland Mahon, Lough Beg, Whitegate Bay and the Rostellan Inlet.

The designation covers a small amount of land within the Cork City area to the east of Blackrock and is adjacent to much of the City's south eastern boundary where it covers Lough Mahon and the Douglas River estuary outside of the Cork City area.

Cork Harbour is of major ornithological significance, being an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl, for which it is amongst the top five sites in the country. Of particular note is that the site supports an internationally important population of Redshank as well as a nationally important breeding colony of Common Tern. A further fifteen species have populations of national importance, as follows: Great Crested Grebe, Cormorant, Shelduck, Wigeon, Gadwall, Teal, Pintail, Shoveler, Redbreasted Merganser, Oystercatcher, Lapwing, Dunlin, Black-tailed Godwit, Curlew and Greenshank. Several of the species which occur regularly are listed on Annex I of the EU Birds Directive, including Whooper Swan, Golden Plover, Bar-tailed Godwit, Ruff and Common Tern. The site provides both feeding and roosting sites for the various bird species that use it.

Owing to the sheltered conditions, the intertidal flats of the Harbour are often muddy in character. These muds support a range of micro-invertebrates which provide food for the birds. Cordgrass has colonised the intertidal flats in places, especially where good shelter exists. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Some shallow bay water is included in the site. The Site Synopsis for the SAC is included in Appendix A1.

3.4.7 The Natura 2000 Network

On its designation, the Great Island Channel SAC together with the Cork Harbour SPA will form part of the Natura 2000 Network of Protected Areas throughout the EU, established under the Habitats Directive. This network includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), as well as sites that are proposed for designation as SACs or SPAs. The sites are also known as Natura 2000 sites or European Sites. Proposed developments affecting or potentially affecting such sites must be assessed by the Planning Authority and developments which would adversely affect the integrity of these sites, cannot generally proceed, except in very exceptional circumstances. The designation of sites at a national level is the responsibility of the Department of the Arts, Heritage and the Gaeltacht, (DAHG). There are 30no. designated Special Areas of Conservation (SACs) and 18no. Special Protection Areas (SPA's) across the County of Cork, which together make up the Natura 2000 Network.

3.4.8 Natural Heritage Areas

Natural Heritage Areas (NHAs) and proposed NHAs are designated under the Wildlife (Amendment) Act 2000, due to their national conservation value for ecological and/ or geological/ geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. The City Development Plan provides protection for these sites, and as such, the Planning Authority must have regard to the potential for any development proposal to impact on such sites during the planning assessment process.

Ten NHAs are located within or adjacent to the Cork City boundary or within the wider Cork Harbour area. All NHAs are mapped on Figure 3.4. The Cork Harbour SPA and many of the NHAs overlap to an extent with a number of the other designated sites identified in this section. As bird populations within Cork Harbour tend to be mobile, each of the NHA sites located in the harbour to the east of the City must be considered as integral parts of the harbour which is of international importance for various bird species and therefore should not be considered in isolation. The Site Synopses for NHAs are included in Appendix A1.

(i) Lee Valley pNHA

Lee Valley pNHA (Site Code: 000094) occupies five separate sections of the valley of the River Lee, upstream of Cork City. The diverse range of intact semi-natural habitats in the Lee Valley makes this a

site of regional conservation importance. One of the five sections of the site is located immediately to the west of the Cork City boundary. This section is located along the northern banks of the River Lee to the south of Mount Desert Wood and is identified on both the Roque 6 inch maps and the Office of Public Works' floodmap database as being liable to flooding.

(ii) Cork Lough pNHA

Cork Lough pNHA (Site Code: 001081) is a small lake situated in the north-west of Cork City, 1 km north of the River Lee. In 1972 An Foras Forbartha noted it as an important place to observe wildfowl and gulls due to its close proximity to a large human population. The site is a NHA of local importance for its bird community. In addition to Cork Lough's designation as a NHA it is designated a Wildlife Sanctuary under the Wildlife Act 1976.

(iii) Glanmire Woods pNHA

Glanmire Woods pNHA (Site Code: 001054) occurs on the east bank of the Glashaboy River, immediately south of Glanmire village in East Cork. The following description of the site is largely based on the 1986 An Foras Forbartha County Report. The main habitat of interest is mixed broad-leaved woodlands dominated by oak, Beech and Sycamore with a few conifers, especially European Silver-fir. The ground flora is particularly rich and includes two grasses, Wood Fescue and Wood Millet, which are thought to indicate ancient woodland. More commonly occurring species include Primrose, violets, Wood Anemone and Lords-and-ladies. The tidal river below the wood adds to the diversity of the site with patches of saltmarsh. The recent NHA survey indicates that no damaging activities occur within the wood at present. However in the past the wood has been much modified by planting and felling. This site is of interest because this type of woodland is rare in east Cork.

(iv) Douglas River Estuary pNHA

Douglas River Estuary pNHA (Site Code: 001046) is a large site situated in the north-west corner of Cork Harbour, stretching from Blackrock to Passage West. The site is adjacent for the most part to the south east of the Cork City area with the designation slightly extending into the area at two locations. The site consists of extensive mudflats, formed from fine silts, bisected by the Douglas River. Damp grassland occurs on part of the southern side, extending to some low islands which are inundated in extreme tides. This site is of interest because it is an essential part of the Cork Harbour complex and contains much higher densities of waders than would be expected from its relative size. It is ranked as the second most important area within the harbour.

(v) Dunkettle Shore pNHA

Dunkettle Shore pNHA (Site Code: 001082) is located at the mouth of Glashaboy River, where it meets the Lee estuary, to the east of Cork City. A section of the site is adjacent to the eastern City boundary. The main habitat is mudflats which, within the Cork harbour area, are often covered in algal mats with some growth of cord-grass. Generally, they are rich in invertebrates which attract large numbers of wintering waders. Weedy waste ground as a result of land reclamation is a feature of this site and has some importance as a high tide roost. The site is of value because its mudflats provide an important feeding ground for waterfowl and it acts as a significant roost for birds in the upper harbour.

(vi) Great Island Channel NHA

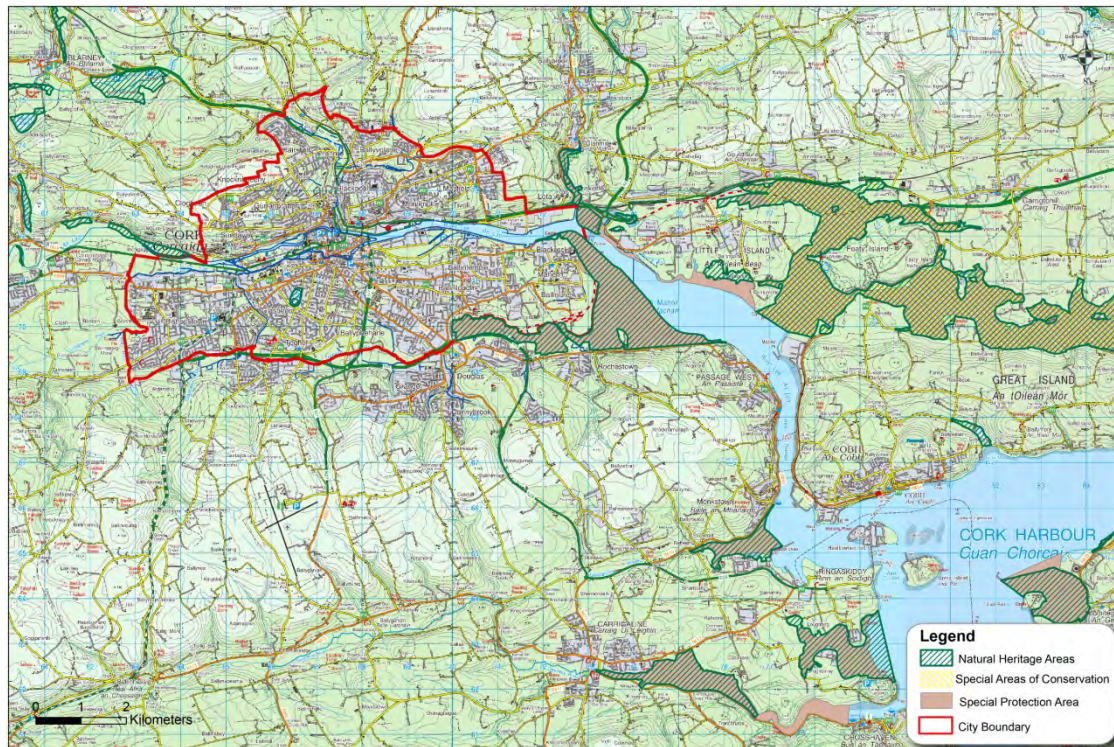
Great Island Channel NHA (Site Code: 001058) located around 3 kilometres to the east of the City boundary shares its boundaries, its designation merits and its Site Synopsis with the Great Island Channel cSAC.

(vii) Rostellan Lough, Aghada Shore and Poul nabibe Inlet NHA

Rostellan Lough, Aghada Shore and Poul nabibe Inlet NHA (Site Code: 001076) occupies the north-east

corner of Cork Harbour, west of Saleen and Rostellan, and around 20 kilometres to the east of the plan area. Although the site itself is seen to support only moderate numbers of waterfowl, the area forms an integral part of Cork Harbour.

Figure 3.4 Designated Sites within 15km of Cork City



(viii) White Gate Bay NHA

White Gate Bay NHA (Site Code: 001084) is situated in the south-east corner of Cork Harbour, immediately to the west of Whitegate in County Cork. Whitegate Bay is integral to Cork Harbour's ability to support bird populations and is an NHA of local significance for its waterfowl.

(ix) Monkstown Creek NHA

Monkstown Creek NHA (Site Code: 001979) is situated between Monkstown and the major seaport of Ringaskiddy on the western shores of Cork Harbour. Within this system, Monkstown Creek is a tidal inlet composed of mudflats, with limestone along the southern shore. A brackish lake also occurs, separated from the sea by a sluice gate. The area is of value because its mudflats provide an important feeding area for waterfowl and it is a natural part of Cork Harbour which, as a complete unit, is of international importance for waterfowl.

(x) Owenboy River NHA

Owenboy River NHA (Site Code: 001990) is the most southerly of the estuaries in Cork Harbour on the western side and runs from Carrigaline to Crosshaven. It consists of two expanded sections with extensive mudflats at low tide, separated by a much narrower channel. Only the upper part is included in the NHA because it is here that the great majority of birds congregate in winter.

(xi) Blarney Bog NHA

Blarney Bog NHA (Site Code: 001857) is a small area of reed grass fen, situated in the flat valley floor of the River Blarney. It is located around 4.5 km North West of Cork City.

3.4.9 Ramsar Sites

Ramsar sites are designated and protected under the Convention of Wetlands of International Importance, especially as Water Fowl Habitat, which was established at Ramsar in 1971 and ratified by Ireland in 1984. The Convention on Wetlands is an Inter-governmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. Ireland has 45 no. sites designated with surface areas of 66,994 hectares, of which 5 no. sites are within the County of Cork.

Cork Harbour Ramsar Site

Cork Harbour (Rostellan Lough, Aghada Shore and Poul nabibe Inlet) Site No. 837 was designated a Ramsar Site on 11 June 1996 and provides 1,436 hectares of Wetlands of International Importance. The harbour consists of several limestone basins separated from the sea and from each other by sandstone ridges. Vegetation is dominated by rushes and includes algae, wet woodland, and wet grassland. The site supports various breeding waterbirds, internationally important numbers of wintering and spring staging waterbirds, and provides important feeding areas for waders. Human activities include industrial and urban development, recreation and shooting.

3.4.10 Nature Reserves

A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. Nature reserves include land, inland waters or foreshore areas forming the habitat of a species or community of flora and fauna of scientific interest, which would benefit from protection measures, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000. There are 6 no. nature reserves in Cork County but none in Cork City.

3.4.11 Refuges for Fauna

Refuges for Fauna are designated by Ministerial order under Section 17 of the Wildlife Act 1976 as amended by Section 28 of the Wildlife (Amendment) Act 2000. The objective of this designation is the protection of a named species of wild animal (vertebrate or invertebrate). There are 3 no. refuges in Cork County but none in Cork City.

3.4.12 Wildfowl Sanctuaries

These sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. Shooting of game birds is not allowed in these sanctuaries. There are 68no. sanctuaries in the State, 5no. sanctuaries in County Cork.

3.4.13 Protected Aquatic Habitats

All aquatic ecosystems are important, supporting a variety of habitats and a wide range of species, as well as providing vital water resources for people. EU Regulations provide for the protection/maintenance of prescribed water quality standards in certain rivers or coastal waters, for particular species that are of value from a biodiversity and commercial perspective as follows:

(i) Shellfish Waters

These waters are protected under the Shellfish Waters Directive, which aims to protect or improve such waters in order to support shellfish life and growth. The directive is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth. The Directive sets physical, chemical and microbiological requirements, that shellfish waters must either comply with or endeavour to improve. There are 68 no. designated shellfish waters afforded protection in the State. The Great Island North Channel, Rostellan North, South & West are located in Cork Harbour.

(ii) Designated Salmonid Waters

The main channel of the River Lee from its source to the Cork City waterworks at Lee Road is designated and protected as a Salmonid Water under the European Communities (Quality of Salmonid Waters) Regulations 1998 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

3.4.14 Non-Designated Areas

It is important to realise that the natural heritage and biodiversity of Cork City is not just contained within designated areas alone but is found throughout the city. Many areas which do not have formal protection under legislation, have a local natural heritage value in terms of the urban environment in which they are located, the plant and animal life that they support and the biodiversity that lies within them. There is a need to conserve these non-designated areas which support wildlife species and habitats. Non-designated areas of natural heritage include hedgerows, tree lines, rivers, streams, private gardens, parks, sports grounds and urban green spaces. Other areas which serve as areas of biodiversity importance in the city include graveyards, cemeteries and the green spaces of institutional lands e.g. convents, monasteries, hospitals, schools and universities. Non-designated areas of natural heritage importance in the city include areas such as Beaumont Quarry, parts of areas in and adjacent to the Glen, and the Curraheen River, the Lee Fields, Murphy's Farm and the Marina.

Protecting areas in isolation from each other is neither appropriate nor effective. It is important that significant wildlife habitat areas and corridors should be preserved to protect and conserve the flora and fauna of the city. It is through the conservation of ecological infrastructure such as hedgerows and riparian corridors that we can develop a network of sites.

Rivers and waterways add greatly to the biodiversity value of the city, from the River Lee to the smaller Curragheen, Bride, Twopot, Glasheen, Glenamought and Tramore rivers. Some of these watercourses have been modified over the years yet still provide the freshwater environment that is essential for many species to live or feed. In addition they provide a unique corridor for the movement and migration of species on which the survival of some depends. Important species include the Dipper, Grey Wagtail, Grey Heron, salmon, lamprey, otters and bats. Freshwater marsh habitats occur in waterlogged places and is found close to the Curragheen river and within the Lee fields and the Glen. They often support water loving plants and species which feed on them. Alien or introduced species can also gain a foothold in these environments and if successful can out-compete local and native species. In this way species such as Japanese Knotweed, Himalyan Balsam and others have become part of the city flora and are very difficult to control.

Rivers and waterways play an important role in the layout and structure of the city and are an integral element of the city's landscape character. The River Lee runs west to east through the city splitting into the North and the South Channels as it does so. These channels enclose the Mardyke area and the City Centre itself, giving it a distinct "island" character. The landscape character of the southside is defined through a network of waterways that enclose the area on all sides i.e. River Lee, Lough Mahon, Douglas River, Douglas Estuary, Tramore River and Curragheen/Twopot River. The northside of the city is characterised by ridges and valleys, traversed by the River Bride and the Glenamought River.

River corridors in the City Centre function as both waterfront and quayside amenity areas but also have a biodiversity value. Within the Suburban Areas of the city waterway corridors are generally natural or naturalistic and their conservation as landscape, natural heritage and recreational assets is a key priority for Cork, particularly as the rivers provide opportunity for the creation of real Linear

Parks extending along the River Lee and all of its tributaries.

Proposals for development in waterside locations should dedicate buffer zones from riverbanks to preserve its biodiversity value and provide ecological corridors

3.4.15 Trees

Trees make a valuable contribution to the biodiversity, local visual amenity and landscape value of Cork City. Trees can help to absorb pollutants, filter dust, reduce noise, produce oxygen and reduce carbon dioxide as well as enhancing the aesthetics of the built environment and public realm thus benefiting Cork City's environmental and economic wellbeing. The Landscape Strategy 2008 identifies important trees and tree groups within the city which are worthy of protection under local and/ or national legislation. Their value is generally based on their contribution to the broader landscape but may also be due to their ecological and cultural significance.

(i) Tree Preservation Orders

A Tree Preservation Order (TPO) enables local authorities to preserve any single tree or group of trees and brings them under planning control. Tree preservation orders are only made if it appears that a tree or group of trees need to be protected in the interests of amenity in the environment. The Planning and Development Acts outlines the legal framework and procedures to make a TPO.

(ii) Hedgerows

Hedgerows and scrub can be viewed as small patches of woodland and are an important feature in the Irish agricultural landscape, providing ideal habitat for many species as well as 'wildlife corridors' that provide safe passage from one place to another. Woodlands and hedgerows are important habitats for many bat species; while mature trees may provide safe roost sites it is known that bats follow linear feature such as hedgerows when foraging at night.

3.4.16 Wetlands

Wetlands are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by shallow water.

Wetland habitats occur where the water table is at or near the land surface, or where the land is periodically covered by shallow water. They include a range of different habitat types including marshes, fens, reedbeds, bogs and wet woodlands. These areas tend to have high biodiversity value, as well as serving other functions relating to the protection of water quality and protection from flooding. While many protected areas include wetlands, most occur outside protected sites. Works involving the drainage or reclamation of a wetland generally require planning permission and may be subject to Environmental Impact Assessment.

3.4.17 Register of Protected Areas

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas, (RPA). The River Lee stretching from Ballincollig to Sunday's Well within the City is listed on the RPA for Habitats Rivers while sections of the Cork Harbour SPA have been listed on the RPA for Species SPA.

3.4.17 Protected Species

Cork supports a diverse range of native species associated with terrestrial, freshwater, coastal and marine habitats. Some plant and animal species are protected by national or international legislation

as they are considered to be rare in a national or international context. Most native Irish mammals, amphibians and birds, and some native fish and invertebrate species are protected. Of particular relevance are plant species listed in the Flora Protection Order 1999 and animals and birds listed in the Wildlife Act, the Habitats Directive and the Birds Directive.

The planning process seeks to protect and enhance species protected by law and their habitats. This can often be achieved through planning conditions such as carrying out works at certain times of the year, planting native species or providing alternative habitats. Examples of protected species that occur in Cork City include bats, otters, peregrine falcons and the plant little robin. There are 139 no. protected species within the County of Cork. List of Protected Species is included in Appendix A2

It is the intention of Cork City Council to carry out surveys of and monitor the habitats and protected species within the city to ensure compliance with the Habitats Directive and the Wildlife Act and so provide an up-to-date baseline for monitoring by habitat types. This information will assist in the management of public parks and open spaces and inform projects and planning applications and local area plans.

3.4.18 Alien Species

Invasive non-native plant and animal species (Alien Species) can represent a major threat to local regional and national biodiversity. They can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. Cork City Council will seek to control invasive species and monitor public lands such as open spaces, verges and river valleys for such species. Preventative measures including ensuring that good site hygiene practices are employed for the movement of materials into, out of and around the site and ensuring that imported soil is free of seeds and rhizomes of key invasive species. Invasive Species include Japanese Knotweed, Himalayan Balsam. Japanese Knotweed can be extremely damaging to infrastructure as it grows through tarmac and concrete and can act as a barrier to important wildlife corridors.

3.4.19 Biodiversity Plan

The National Biodiversity Plan (2011-2016) underlines the principle that environmental concerns should be integrated into all relevant sectors and that policies and decisions should take consideration of ecological principles, which recognise the conservation, enhancement and sustainable use of biological diversity in Ireland and contribute to conservation and sustainable use of bio-diversity globally. The aim of Cork City Biodiversity Plan 2009-2014 is to promote the appreciation and enjoyment of Cork City's biodiversity amongst the people of the city and to identify, understand and conserve the biodiversity of the city for future generations.

3.4.20 Appropriate Assessment

An assessment under Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Fauna (commonly referred to as "The Appropriate Assessment") has been undertaken by RPS on behalf of the City Council. The purpose of this Appropriate Assessment is to determine whether the City Development Plan is likely to have any significant impacts on the conservation objectives or qualifying features of the European Designated Natura 2000 sites identified within a 15 kilometre buffer of City Council's administrative boundary. The Appropriate Assessment Screening Report is attached in Volume 4.

3.4.21 Issues relating to Biodiversity, Flora and Fauna

There are many potential threats to the management of biodiversity, flora and fauna in the City. Habitat loss, fragmentation, and disturbance to wildlife caused by changing land uses, new

development and recreational activity are significant threats.

Climate change with an increasing number of extreme weather events and rising sea levels resulting in increased flooding and erosion is a major threat to river and estuarine biodiversity and habitats.

Inappropriate or inadequate wastewater treatment and discharges to water courses has a significant potential to adversely affect biodiversity and habitats. Aquatic habitats and species are particularly vulnerable to deterioration in water quality, hence the importance of maintaining and restoring river, surface and ground water and coastal water status in accordance with the objectives of the Water Framework Directive.

Inappropriate development within or near Natura 2000 sites may impact significantly on their qualifying interests, directly, indirectly or in combination with other developments, plans for development or projects. The cumulative loss of pasture lands adjacent to the Cork Harbour SPA could adversely impact upon wading bird species for which the site is designated. The cumulative encroachment on, and discharges to wetlands in the south-east of the city, (from Blackrock Castle to the Douglas River estuary), and the cumulative loss of remaining areas of agricultural vegetation and associated habitats and their flora and fauna at the City fringes represent potential problems to biodiversity and flora and fauna.

At a global scale, the spread of invasive species is cited as the second greatest threat to biodiversity after habitat destruction. 'Alien' or introduced species such as Japanese Knotweed and Himalayan Balsam can out-compete native species.

A lack of up-to-date survey and research data limits tools for decision-making in planning for biodiversity. Greater co-ordination is required with Cork County Council to respond to shared regional issues. There is also a need to identify and collect information on all areas of local biodiversity value and ecological corridors in the City and adjoining County through habitat mapping and species' surveys. Baseline information on the location and condition of habitats is fundamentally important for habitat management and conservation. This information is necessary to inform future planning policy and conservation policies, and for creating awareness among the public.

In general, development in Cork City is not significantly impacting upon designated ecological sites. The Site Synopses for designated sites identifies certain threats to the conservation value of these sites.

- The Great Island Channel SAC identifies threats from road works, infilling, sewage outflows and possible marina developments.
- The Cork Harbour SPA and pNHA identifies threats from industry, port-related and road projects, further reclamation; water quality, oil pollution from shipping; recreational activities.
- The Lee Valley NHA located immediately to the west of the Cork City boundary is identified as being liable to flooding, threatened by agricultural improvements and infringements and spread of Sycamore and river engineering works.
- The Douglas Estuary NHA identifies water pollution, sewage, tidal littering and the spread of non-native grass species which damage the feeding habitat of waders; road developments and the development of a marina could lead to loss of mudflats.

- The Dunkettle Shore NHA identifies that it is heavily industrialised and substantially modified by infilling and reclamation for industry and road developments.
- The Rostellan Lough, Aghada Shore and Poul nabibe Inlet NHA identifies that the whole Cork Harbour area is under pressure from industrial and urban development, pollution and from recreational usage and that drainage or reclamation and excessive growth of cord-grass (Spartina species) threatens to obscure parts of the mudflats.
- The White Gate Bay NHA identifies that the area is under pressure from industrial and urban development, pollution and from recreational usage and that run-off from the surrounding rich agricultural land poses a further pollution threat; sewage is discharged directly into Whitegate Bay from the town of Whitegate; and excessive growth of cord-grass (Spartina species) threatens to obscure parts of the mudflats.
- The Monkstown Creek NHA identifies that the main potential threat is water pollution arising from small craft and major industry adjoining the site; agricultural run-off and industrial and municipal effluents.
- The Glanmire Wood NHA indicates that modification to the wood by new tree planting and felling would threaten its ecological value.

3.4.22 Evolution of Biodiversity, Flora and Fauna in the absence of a City Development Plan

The Development Plan promotes the proper planning and sustainable development of the City including the protection of biodiversity, flora and fauna. In the absence of a Plan, development would occur on an ad-hoc basis, resulting in increasing development pressures on biodiversity, flora and fauna to develop Greenfield sites, sites adjacent to sensitive designated and non designated sites and waterways.

There would be no strategic or co-ordinated approach to protect and enhance biodiversity, flora and fauna in accordance with requirements of the Habitats Directive and other National and European Legislation and would result in the loss and degradation of habitats.

In the absence of a Plan there would be a lack of integration of ecological protection measures as required by the Habitats Directive with the planning and development management of vulnerable areas.

In the absence of a Plan, natural or semi-natural habitats would be replaced with artificial surfaces, resulting in the loss and or fragmentation of habitats and species of importance and increasing risk of flooding.

In the absence of a Plan there would be an increased risk of flooding and pollution of water bodies and an adverse impact upon aquatic biodiversity and flora and fauna including salmonid species and other species protected under the Habitats Directive.

3.5 Water

3.5.1 Introduction

Water within and surrounding Cork City has many functions; it provides drinking water to the City's population; it sustains the biodiversity and flora and fauna; and it is an integral part of the landscape both within the City and across the wider Cork Harbour area. Water is both a receptor and pathway of environmental pollution and hence its importance as an environmental consideration.

3.5.2 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- discharges arising from diffuse or dispersed activities on land;
- abstractions from waters; and,
- structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from waste water treatment plants, licensed discharges from industrial activities, landfills, contaminated lands and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

3.5.3 Water Framework Directive

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all member states implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving good status by 2015. All public bodies, including Cork City Council, are also required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted; and improve polluted water bodies to good status by 2015.

The Directive is unique in that it establishes a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation. It requires governments to take a new holistic approach to managing their waters and it applies to rivers, lakes, groundwater, estuaries and coastal waters.

The WFD aims to:

- protect/enhance all waters (surface, ground and coastal waters)
- achieve "good status" for all waters by December 2015
- manage water bodies based on river basins (or catchments)
- involve the public
- streamline legislation

The Water Framework Directive requires the status of water bodies to be classified as high, good, moderate, poor or bad. Water bodies are rivers, lakes, estuaries, coastal waters to one nautical mile, and groundwater. Status is defined with respect to its biology, chemistry, quantity and morphology.

3.5.4 River Basin Districts and Water Bodies

For the purpose of implementing the WFD, Ireland has been divided into eight river basin districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine / coastal areas. The management of water resources will be on these river basin districts. The majority of Cork County is located within the South West River Basin District (SWRBD). Cork City is within the Lee/ Harbour Catchment, one of five units that make up the South Western River Basin District (RBD).

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies.

3.5.5 European Communities Environmental Objectives (Surface Waters) Regulations 2009

The European Communities Environmental Objectives (Surface Waters) Regulations 2009 introduced further environmental quality standards in relation to all surface waters, including lakes, rivers, canals, transitional waters, and coastal waters; and provide, inter alia, for:

- The establishment of legally binding quality objectives for all surface waters and environmental quality standards for pollutants;
- The examination and where appropriate, review of existing discharge authorisations by Public Authorities to ensure that the emission limits laid down in authorisations support compliance with the new water quality objectives/standards;⁷⁰
- The classification of surface water bodies by the EPA for the purposes of the Water Framework Directive;
- The establishment of inventories of priority substances by the EPA, and;
- The drawing up of pollution reduction plans by coordinating local authorities (in consultation with the EPA) to reduce pollution by priority substances and to cease and/or phase out discharges, emissions or losses of priority hazardous substances.

In addition, the Regulations require that a public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the chemical status or ecological status (or ecological potential as the case may be) of a body of surface water. In order to satisfy the overall WFD objective of 'good status', a surface water body must achieve the requirements of the good ecological and chemical status.

3.5.6 WFD Risk Assessments

In order to achieve the objectives of the WFD it is necessary:

- to assess the risk that water bodies may not achieve good quality status;
- to identify the pressures from human activities causing this risk; and,
- to develop strategies and management plans to minimise the risk.

Risk assessment procedures were developed at national level and applied across all River Basin Districts in order to analyse the impact of the pressures. The risk assessments were predictive, i.e. they examined each pressure and predicted the magnitude which would be likely to have a negative impact.

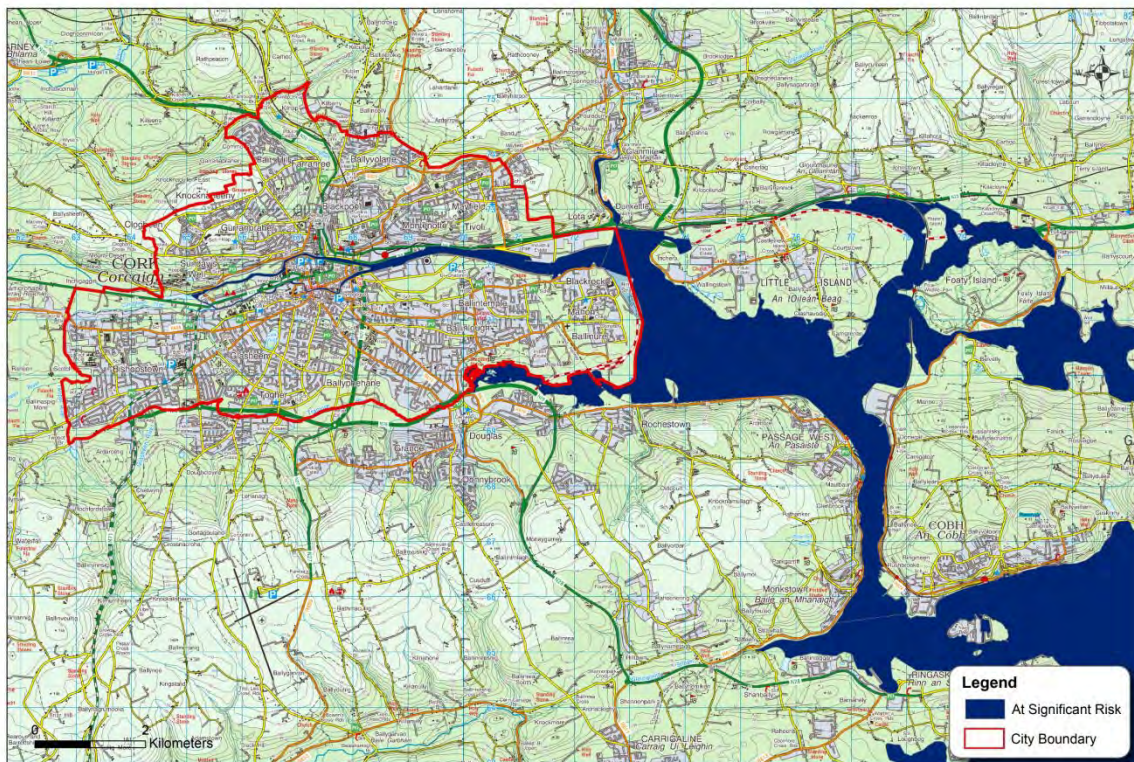
Each water body has been assessed, on the basis of human activity, whether it is at risk or not at risk of failing to achieve the WFD's objectives by 2021.

The classifications used for reporting this assessment are:

- At Significant Risk: water body is at risk of failing to meet good status;
- Probably at Significant Risk: water body is thought to be at risk of failing to meet good status pending further investigation;
- Not at Significant Risk: the water body is expected to meet good status;
- Probably Not at Significant Risk: water body is expected to meet good status, pending further investigation.

Water bodies placed in At Significant Risk category will need improvement to achieve the required status while water bodies in the Probably at Significant Risk category are likely to need improvement in order to achieve the required status. WFD at risk categories (all water bodies are classified as at risk of not achieving good status).

Figure 3.5 Water Framework Directive Risk Assessment



3.5.7 WFD Registers of Protected Areas

In addition to these assessments, the WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species e.g. salmonid areas; Special Areas of Conservation (SACs); and, Special Protection Areas (SPAs).

3.5.8 Recent Improvements in Water Quality

As a result of the Cork Main Drainage Scheme which has been in operation since 2004, the City's waste water effluent is now achieving a level of treatment which is far in excess of what is required under the EU Wastewater Directive. It is likely that this level of treatment has resulted in an improvement in the water quality in the River Lee and in Lough Mahon.

3.5.9 Rivers

The River Lee flows through Cork City from west to east and into Cork Harbour and enters the Atlantic Sea, south of Roches Point. The Lee is transitional up to Sunday's Well in the west of the City. A number of small urban streams flow into the River Lee. Rivers are a very important habitat and are also an important source of drinking water.

3.5.10 Monitoring

The water quality of the River Lee is categorised as 'Poor', whereas, the Glashaboy River which forms part of the eastern boundary of the City at Tivoli is categorised as 'Good.'

Issues: Many rivers such as the Bride, Tramore and Curragheen are not monitored, whereas the River Lee is monitored at a site 3km upstream of Cork City.

The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the EPA.

3.5.11 Risk Assessment

River Lee Surface Water Catchment. In terms of achieving the WFD's objectives, the risk assessment for the River Lee is currently classified as being (1a) at significant risk of failing to achieve the WFD's objectives (see Figure 3.5). The transitional surface water bodies at Cork City and Cork Harbour are also classified as being (1a) at significant risk of failing to achieve the WFD's objectives.

3.5.12 Transitional (Estuarine) and Coastal Waters

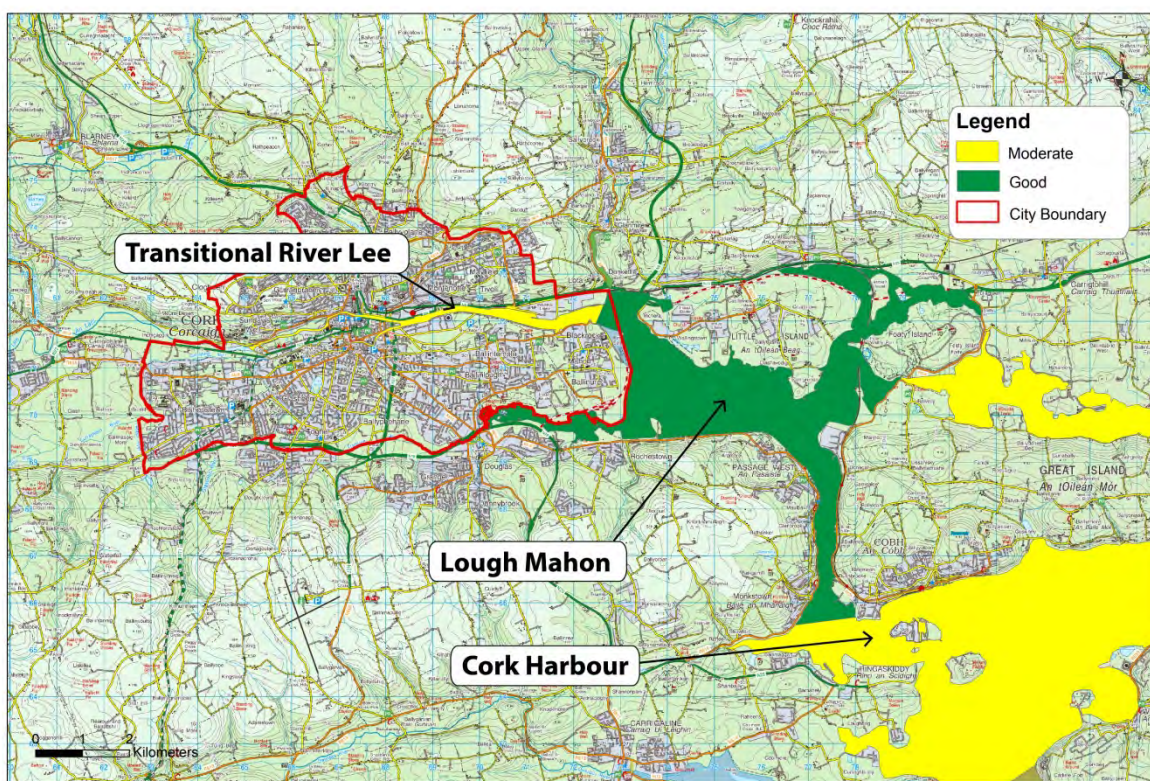
Estuarine or Transitional waters are surface waters near river mouths which are saline as a result of being beside coastal waters, but which are influenced by fresh water flow. Coastal waters under the WFD, are defined as surface waters up to one nautical mile from the coast.

The estuarine and coastal environment is subject to a wide variety of pressures. These include inputs of organic matter, nutrients and contaminants from urban wastewater, industrial discharges, riverine

inputs and accidental spillages. Local impacts can also arise from dredging and aquaculture. The quality of Ireland's tidal waters is determined by the North East Atlantic and the degree to which this is altered by the inputs outlined above.

The River Lee is transitional up to Sunday's Well in the west of the City. There are a number of pollutant streams which emanate from the City and are drained into Cork Harbour via the River Lee. The water from the River Lee meets in Cork Harbour with the water flowing from the Owennacurra and Dungourney Rivers, which flow through the Great Island North Channel and the Douglas River. The waters of Cork Harbour support a variety of birdlife which sustain a flow of nutrients into these waters. Lough Mahon water area categorised as good whereas, Cork Harbour are categorised as Moderate. (See Figure 3.6)

Figure 3.6 Water Framework Directive Status 2007 – 2009. Transitional and Coastal Status



3.5.13 Monitoring

The Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI) System is used by the EPA in order to classify the quality status of transitional waters. Categories of criteria for nutrient enrichment, accelerated growth, and undesirable disturbance are used by the ATSEBI in order to classify the estuarine and coastal waters.

The classifications are as follows:

- Eutrophic waterbodies are those in which each of the criteria are breached, i.e. where elevated nutrient concentrations, accelerated growth of plants and undesirable water quality disturbance occur simultaneously.
- Potentially Eutrophic waterbodies are those in which two of the criteria are breached and a third falls within 15 per cent of the relevant threshold value/values.
- Intermediate waterbodies are those which do not fall into the Eutrophic or Potentially Eutrophic classes but in which breaches one or two of the criteria occur;
- Unpolluted waterbodies are those which do not breach any of the criteria

Good status as defined by the Water Framework Directive can be attained by estuarine and coastal waters through the achievement of Unpolluted status.

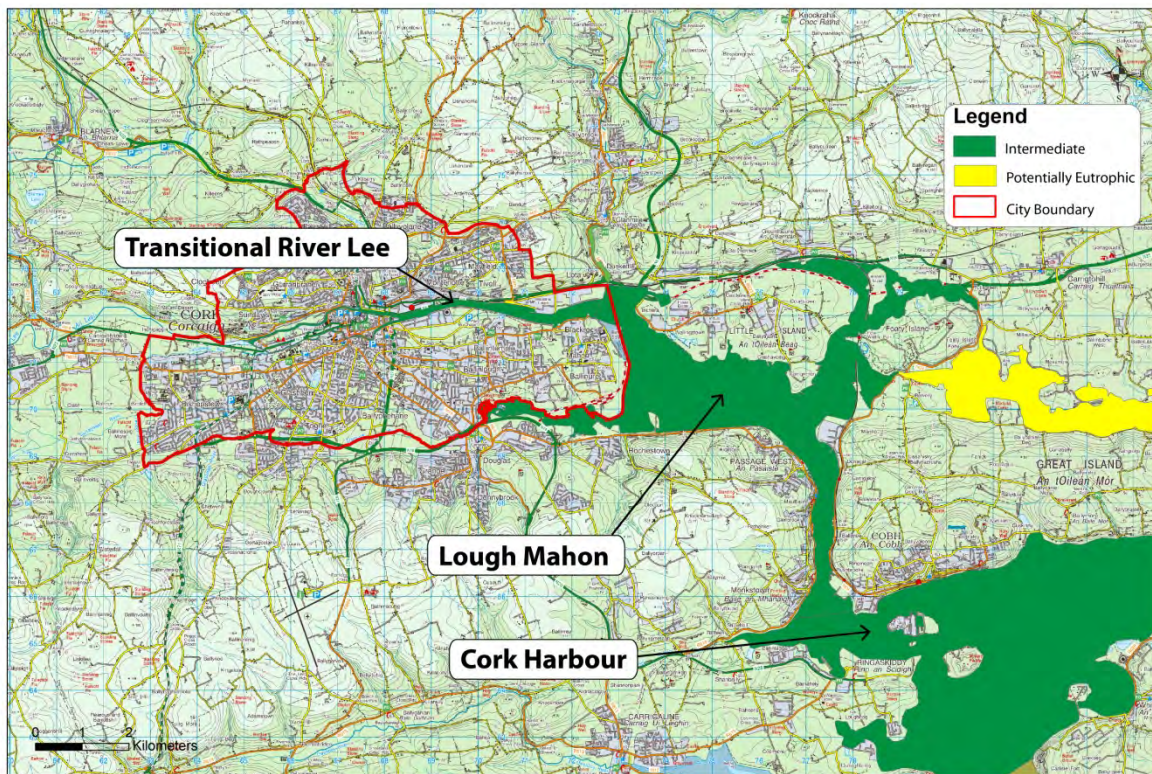
There are 43 estuarine water bodies identified within the SWRBD. Of relevance to Cork City is that Lough Mahon, Cork Harbour and the Outer Cork Harbour have an 'Intermediate' status and that the Great Island North Channel has a 'Potentially Eutrophic' status. (See Figure 3.7)

Water quality in Lough Mahon has steadily improved from 'Eutrophic' status in the period 1999- 2003 to 'Potentially Eutrophic' status in the period 2001-2005 to 'Intermediate' status in the period 2007 – 2009.

3.5.14 Quality Assessment

Figure 3.7 shows the assessment of trophic status for the transitional waters of the River Lee and the wider Cork Harbour area.

Figure 3.7 Surface Water Quality (ATSEBI)



3.5.15 Protected Areas

Under Article 6, 7(1) and Annex IV of the Water Framework Directive, reference is made to a register of protected areas. Essentially, designated areas require special protection of surface water and groundwater or for the conservation of habitats and species directly depending on water are listed and maintained in a register which is kept under review.

Waters used for the abstraction of drinking water

Areas designated to protect economically significant aquatic species: These are protected areas established under earlier EC directives aimed at protecting shellfish (79/923/EEC) and freshwater fish (78/659/EEC)

Recreational Waters: These are bathing waters designated under the Bathing Water Directive (76/160/EEC)

Nutrient Sensitive Areas: These comprise nitrate vulnerable zones designated under the Nitrates Directive (91/676/EEC) and areas designated as sensitive under the Urban Waste Water Treatment Directive (91/271/EEC)

Areas designated for the protection of habitats or species: These are areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection. These are designated under the Birds Directive (79/409/EEC), and the Habitats Directive (92/43/EEC).

3.5.16 Bathing Water

The legislation governing the quality of bathing waters is set out in the new Bathing Water Quality Regulations 2008 (SI No. 79 of 2008) which transposed the new EU Directive on bathing water (2006/7/EC) that came into force on 24 March 2006. Transitional measures are in place until the 2008 Regulations are fully implemented in 2015.

Overall, while the vast majority of Ireland's identified bathing waters meet the current minimum standards, the stricter criteria set out in the 2006 Directive (2006/7/EC) will require local authorities to make even greater efforts to improve the water quality and to tackle potential sources of pollution. There are 13 Designated Bathing Waters in County Cork, and none in Cork City. However, of relevance to Cork City is Ringabella Bay, (Myrtleville) at the mouth of Cork Harbour, which has a 'poor' quality status.

3.5.17 Dredging

Dredging is undertaken regularly within Cork Harbour periodically to remove excessive levels of silt which may interfere with marine traffic lanes. The dredging process can affect water quality and ecology by releasing toxic contaminants into the water source and altering the hydrology. This is a particular concern in areas close to protected habitats or species and designated Shellfish waters.

However, the Port of Cork Company is licensed under Section 3 (3) the Foreshore Act 1933 to carry out maintenance dredging works to defined foreshore areas from Custom House Quay/ Anderson's Quay to Tivoli Docks to Blackrock as far as Roche's Point. The licensing authority is the Department of the Environment, Community and Local Government.

Furthermore, the Port of Cork Company holds a permit (issued by the EPA, under the Dumping at Sea Acts 1996 – 2009) to dump at sea, dredged material arising from maintenance dredging at a number of locations in the Lee Estuary / Cork Harbour over a six year timeframe, (2014 - 2020). An Appropriate Assessment was undertaken to see if the said activities would have a significant effect on the European Sites of Cork Harbour SPA and Great Island Channel SAC. The Natura Impact Statement (AA) concludes that there would be no significant impacts from the proposed activities on any protected habitats or species. The EPA is satisfied that the activities will not cause any disturbance to those species or any deterioration in their conservation status; and that there is no reasonable scientific doubt as to the absence of such effects.

3.5.18 Groundwater

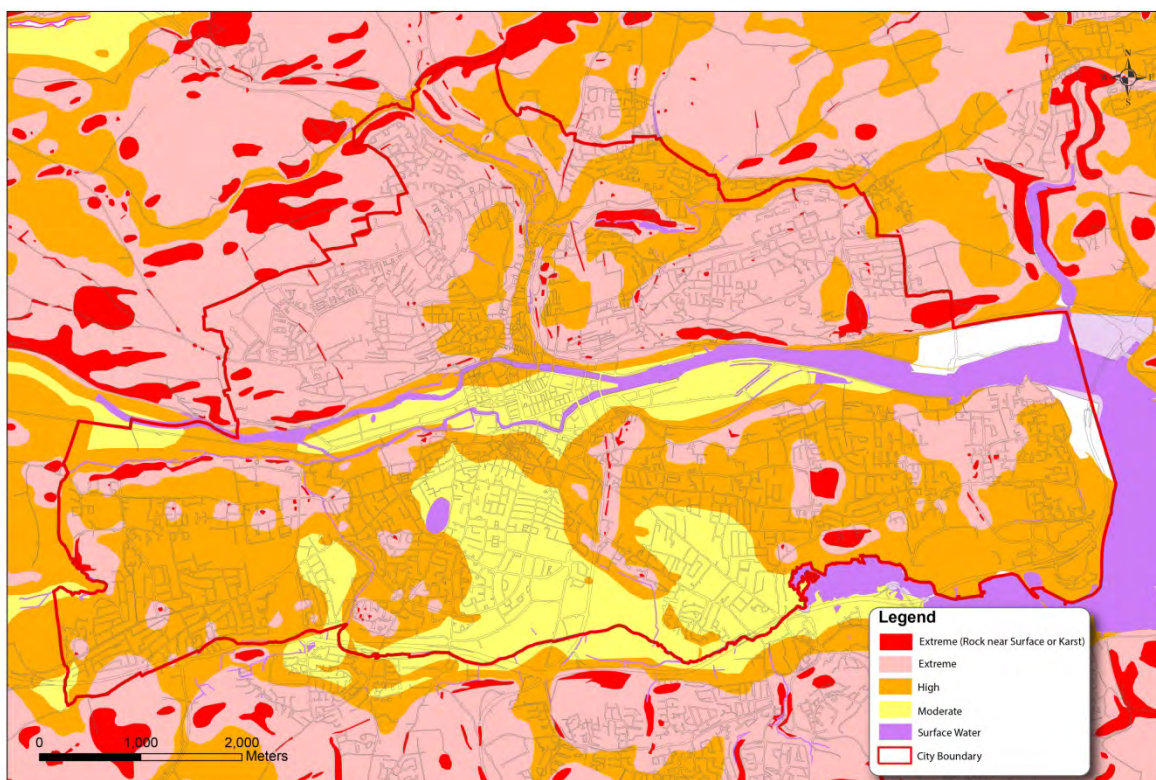
Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the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

Groundwater quality is protected under the European Communities Environmental Objectives Groundwater Regulations 2010, (S.I. No. 9 of 2010), which gives effect to the requirements of the Water Framework Directive (2000/60/EC), and the Groundwater Directive (2008/118/EC). These regulations established environmental objectives to be achieved in groundwater bodies, groundwater quality standards and threshold values for the classification of groundwater and the protection of groundwater against pollution and deterioration in groundwater quality.

3.5.19 Aquifer Vulnerability

The Geological Survey of Ireland (GSI) rates aquifers according to their vulnerability to pollution. Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. Extreme aquifer vulnerability (which can be found underlying most of the higher ground in the City) and high aquifer vulnerability (which is the most common vulnerability to be found in the southern half of the City) are the two classifications of aquifers which are most sensitive to an imposed contaminant load. The majority of the City's ground waters are classified as being either of extreme or high vulnerability.

Figure 3.8 Geological Survey of Ireland Ground Water Vulnerability



3.5.20 Risk Assessment

All of the groundwater bodies underlying the Cork City boundary and surrounding area is currently classified as being at risk of not achieving good status. This assessment identifies that groundwater in Cork City is at risk from diffuse sources including leaking urban sewerage systems and point sources including contaminated land, municipal waste and water treatment plants. The completion of the Cork Main Drainage Scheme will have resolved a number of problems in this regard. In the wider Cork context, ground water is at risk from contamination by nitrates and phosphates from diffuse sources such as agricultural activity which can lead to eutrophication of surfaces waters and impact on the quality of water abstracted for drinking water.

Urban pressures are location-specific, depending on such factors as land use patterns, degree and

nature of industrial activity, sewer systems, and local hydrogeology. Industry, Manufacturing, Waste disposal, Transport activities, Road and building run-off, Amenity land uses and Sewerage are risks to groundwater quality in an urban context. Pollution sources and pathways are complex, and sources of pollution are difficult to control.

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3.5.21 Goundwater Quality

Goundwater quality is monitored by the EPA's groundwater monitoring programme. Ground water quality in Cork City is of 'good' status. There is an area of 'poor' status to the east of the City including Little Island, Fota, Carrigtwohill.

Groundwater Protection Schemes are county based schemes undertaken jointly by the GSI and each local authority, incorporating land surface zoning and groundwater protection responses. The Geological Survey of Ireland (GSI) has compiled a Groundwater Protection Scheme for Cork County which includes:

- Assessment and categorisation of the vulnerability of Groundwaters.
- Mapping lands in accordance with their vulnerability categorisation.
- Development of Protection Response Matrices.

The catchment area around a groundwater source, which contributes water (Zone of Contribution) to a borehole or spring, is known as a Source Protection Zone. The EPA have prepared Groundwater Source Protection Reports for the monitoring points in Cork in the EPA's National Groundwater Monitoring Network. Unfortunately there are no Groundwater Source Protection Reports for the majority of public water supplies in County Cork at present.

3.5.22 Register of Protected Areas

A number of water bodies in and around the Cork City area have been listed on the WFD Register of Protected Areas (RPAs) as follows:

- Two overlapping stretches of the River Lee are listed on the WFD Registers of Protected Areas (RPAs): Section stretching from Ballincollig, upstream of Cork City to a stretch south of Sunday's Well, within the City has been listed on the RPA for Habitats Rivers; Section stretching from Carrigrohane, upstream of Cork City to a stretch south of Sunday's Well, within the City has been listed on the RPA for Drinking Water Rivers.
- The transitional section of the River Lee stretching from Sunday's Well to West Passage has been listed on the RPA for Nutrient Sensitive Lakes and Estuaries.
- Areas of the Cork Harbour SPA have been listed on the RPA for Species SPA.

- Groundwater underlying and surrounding Cork City is listed on the RPA for Drinking Water, Ground Water.

3.5.23 Water Supply

From 2014, drinking water for Cork City is provided by Uisce Éireann / Irish Water. Cork City has two sources of drinking water; The Lee Road Waterworks, which extracts water from the River Lee, provides around 70% of the city's total water supply, (the city centre and northern suburbs); and the eastern, western, and southern suburbs served by the Cork Harbour and City Water Supply Scheme, which extracts water from the Inniscarra Reservoir. The construction of a new treatment plant at Lee Road and two new interconnectors further connecting the two schemes will help ensure security of supply.

Water supply capacity will impose no constraints on development in Cork City. The two schemes have adequate capacity to serve 'Metropolitan Cork' through 2071 with regard to population targets set out in the Core Strategy of the Plan; treatment capacity, abstraction limits, and a reduction in "unaccounted for water" i.e. primarily leakage. The completion of the interconnector from Glashaboy Reservoir to the City Centre will also ensure an adequate supply to serve Docklands; all other areas identified for strategic redevelopment also have adequate supply available.

Increased water production by increased abstraction has the potential to impact on existing water bodies which are classified as being 'at risk of not achieving good status.' Therefore, the need for increased production will need to be very carefully assessed and Conservation measures adopted / promoted.

3.5.24 Water Conservation

Strategic Objectives of the Plan include:

- To protect existing and potential water resources in accordance with EU directives, such as the Water Framework Directive; the European Communities (Water Policy) Regulations 2003 (as amended); European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended); European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended); South Western River Basin Management Plan 2009-2015; Pollution Reduction Programmes for Designated Shellfish Areas; Groundwater Protection Schemes, Urban Wastewater Treatment Directive and Urban Waste Water Treatment Regulations 2001).
- To ensure an adequate, sustainable and economic supply of good quality water for domestic, commercial and industrial needs for the lifetime of the Plan
- To ensure that development would not have an unacceptable impact on water quality and quantity including surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters.

3.5.25 Wastewater Treatment

From 2014 waste water infrastructure and treatment facilities for Cork City is provided by Uisce Éireann / Irish Water. Cork City is served by two main sewerage schemes; the Cork Main Drainage Scheme (completed 2004) is the primary scheme; while the Tramore Valley scheme serves the south eastern portion of the city. The waste water treatment plant at Carrigrennan, Little Island to the east of the City treats the majority of Cork City's wastewater.

Based on current usage rates the plant has adequate capacity to serve the city region through 2020 with regard to population targets outlined in the Core Strategy. A detailed capacity analysis was undertaken in 2013. The existing treatment plant will be expanded on a modular basis during the

lifetime of the Development Plan, if required. It is anticipated that some capacity may be regained through addressing infiltration (i.e. the leakage of groundwater into foul or combined sewers) and inflow (storm water connection to foul sewers). Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive is also under assessment. There are no plans for the construction of any major infrastructure within the City administrative area through 2021.

Of the 28 main towns in County Cork, only nine towns have sufficient waste water infrastructure capacity to meet the demands of population growth targets. Of relevant to Cork Harbour, Carrigaline and Carrigtwohill are at capacity and require investment, whereas Midleton has only limited capacity for growth.

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the receiving environment.

The treatment of wastewater is relevant to the Water Framework Directive which requires all public bodies, including Cork City Council, to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and restore less than good water bodies to good status by 2015, (extended to 2021).

Under the terms of the Waste Water Discharge (Authorisation) Regulations 2007 waste water discharges from agglomerations greater than 500pe (population equivalent) require a waste water discharge license. Discharges from agglomerations of less than 500pe require a certificate of authorisation. The EPA is the licensing authority and also carry out monitoring and enforcement.

One of the principal requirements of the 2001 Urban Waste Water Regulations is to monitor the outflow from treatment plants. For most treatment plants BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand) and TSS (Total Suspended Solids) require monitoring. Secondary Treatment is mandatory for Urban areas >2,000 pe (population equivalent) discharging to freshwater or estuaries and >10,000pe discharging to coastal waters. Smaller urban areas below these thresholds require 'appropriate treatment such as to allow the receiving waters to meet the relevant water quality objectives and provisions of European Directives.

For urban areas with a population greater than 10,000 there is a requirement to provide nutrient reduction in addition to secondary treatment where there are discharges to sensitive waters. This is still awaited at Carrigrennan WWTP serving Cork City.

In order to protect water that may be at risk from eutrophication the Directive specifies additional requirements on certain nutrients in effluent discharging to sensitive areas from urban areas with >10,000pe. In particular the Directive sets limits on total phosphorus and total nitrogen. With respect to Nitrogen, Cork City, (Carrigrennan) discharges is a concern as it has failed the standards in 2011.

3.5.26 Carrigrennan Waste Water Treatment Plant

Carrigrennan WWTP (Wastewater Treatment Plant) is located at Little Island, Co. Cork. The plant treats wastewater from Cork City and surrounding areas in the County including the City Environs, Glanmire. Commissioned in 2004 it has a load capacity of 413,000 pe (population equivalent). The plant was designed to ensure compliance with the Urban Wastewater Directive. It provides primary

and secondary treatment. Treated wastewater from the plant is discharged through a 500m long outfall pipe to Cork Harbour at Lough Mahon. The design of the existing plant did not include for nutrient removal or disinfection.

Since commissioning, the upper harbour has been designated a sensitive area under the Urban Wastewater Treatment (Amendment) Regulations 2004 (SI 440/2004). Current discharges from the plant do not comply with these regulations. Furthermore, there are several shellfish waters designated within Cork Harbour at Rostellan. The plant needs to be upgraded. The City Council has commissioned a preliminary report to identify necessary works to meet compliance into the future.

3.5.27 IPPC Licensed Discharges

Other urban waste water discharges are controlled by IPPC licenses and licences for discharges to waters under the Water Pollution Acts. IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. 173no. IPPC licences have been issued in County Cork, 7no. licences in Cork City, (and 3no. Licences abutting the city boundary). The majority of licenses authorise the discharge of effluent to water courses and require ongoing monitoring to ensure water quality is protected.

IPPC Licences within the City boundary

- Dulux Paints Ltd (2)
- Heineken Ireland
- Beamish & Crawford plc (closed)
- ESB
- Fronville Ltd
- Galco Cork Ltd

IPPC Licences Adjoining the City Boundary

- Irish Pioneer Works, Tramore Road
- Brooks Haughton Ltd, Togher
- Irish Oxygen Co. Ltd. Two Pot Bridge, Bishopstown

3.5.28 Storm Water

Storm water is water that originates during precipitation events. As 'Greenfield' lands are developed with hardstanding and buildings, the water holding capacity diminishes. Rainwater that does not soak into the ground becomes surface runoff which either flows directly into surface waterways or is diverted into sewers. Run-off from impermeable surfaces increases and may be contaminated by pollutants such as oils, detergents, trace metals, pesticides and herbicides.

The majority of development in Cork City currently uses traditional methods of handling rainwater; runoff from impermeable surfaces (such as roofs, roads, and carparks) is collected and redirected to drainage systems. This approach can cause a number of problems. Drainage systems can become overloaded and contribute to flooding and/ or result in higher waste water treatment costs. Rivers can become polluted by contaminants (such as oil from carparks) contained in the runoff. Rivers' ability to recharge naturally is also affected.

Sustainable Urban Drainage Systems, (SuDS) is an alternative approach that helps alleviate these problems by mimicking natural drainage systems. During the lifetime of the Development Plan, Cork City will prepare a storm water management plan specific, including specific development standards for Cork City. In the interim, developments should comply with criteria set out in Irish SuDS: Guidance and Tools.

Objectives of the Plan include:

- The preparation of a Storm Water Management Plan for the City.
- The management of stormwater through SuDS; and
- The installation of petrol/oil interceptors on all significant road schemes.

3.5.29 Flooding

There is growing scientific consensus that global warming is occurring as a result of human activity, namely, greenhouse gas emissions. Climate change will result in rising sea levels and more frequent and more severe rainfall events and will significantly increase the risk of flooding and coastal erosion.

Climate change will result in rising sea levels and more frequent and more severe rainfall events and will significantly increase the risk of flooding and coastal erosion. Cork City has experienced a number of flood events in recent years, and is at particular risk of flooding from the River Lee, its tributaries and Cork Harbour. As the risk to property is increasing, the need to incorporate flood risk assessment and management into the land-use planning process is becoming more apparent.

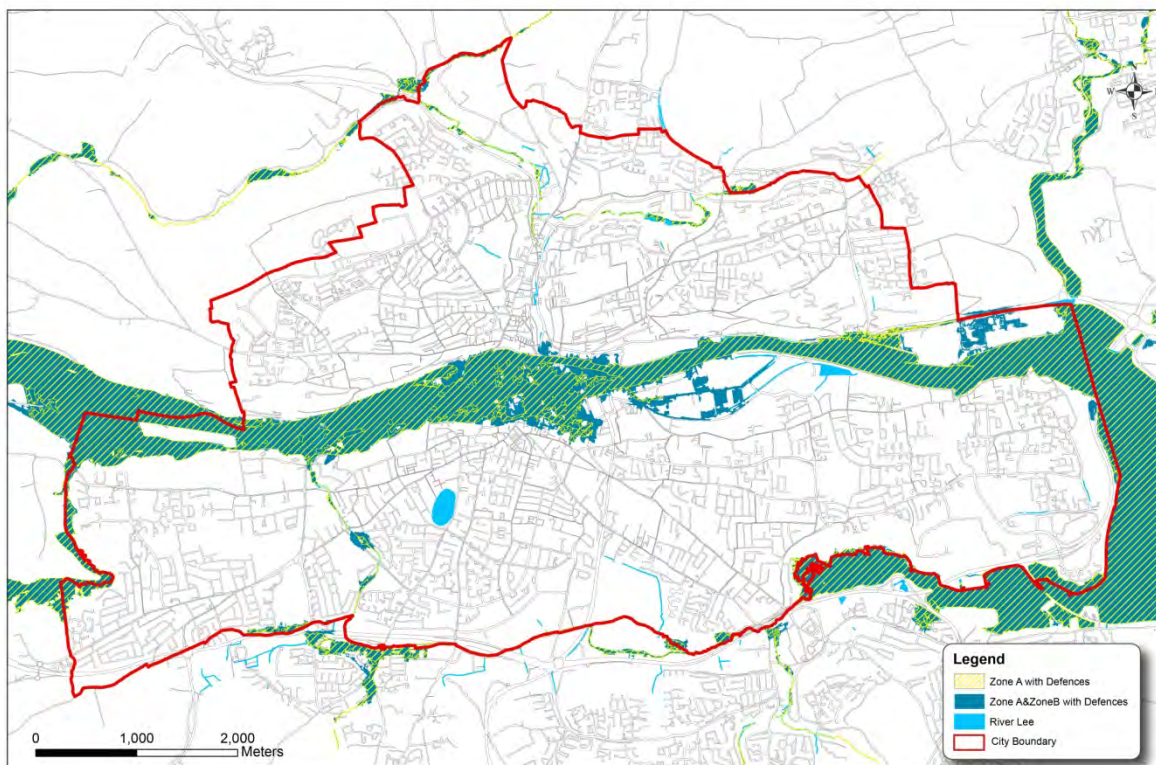
Flood Events in Cork City since 1988

Extracted from Summary Local Area Report, OPW National Flood Hazard Mapping

- Centre Park Road Jan. 1988
- Douglas Street Jan 1988
- Cork City Centre Dec. 1989
- Victoria Cross Feb. 1990
- University Ath Grds Feb. 1990
- Glasheen River Feb. 1994
- Cork City Jan. 1996
- Victoria Cross Nov. 2000
- Blackpool 2002
- Cork City Oct. 2004
- Cork City Nov. 2009
- Commons Road Jun. 2012
- Blackpool Jun. 2012
- Watercourse Road Jun. 2012
- Dublin Street Jun. 2012
- Spring Lane Jun. 2012
- Ballyvolane Jun. 2012
- Turner's Cross Jun. 2012
- Cork City Oct. 2012
- Cork City Dec. 2012
- Cork City Feb. 2014

The 'Floods Directive 2007/60/EC' requires Member States to undertake a national preliminary flood risk assessment by 2011 to identify areas where significant flood risk exists or might be considered likely to occur. The Directive requires the preparation of catchment-based Flood Risk Management Plans (FRMPs), by 2015, which will set out flood risk management objectives, actions and measures. The OPW is responsible for the overall implementation of the Floods Directive.

Figure 3.9 City Flood Zones



3.5.30 Catchment Flood Risk Assessment and Management (CFRAM)

The National CFRAM Programme, or CFRAM (commenced in 2011) is central to the medium to long-term strategy for the reduction and management of flood risk in Ireland. The CFRAM Programme was developed to prepare Flood Maps and Flood Risk Management Plans, focusing on areas where the risk is understood to be most significant such as Cities and Environmental Protection Areas. These areas of focus (Areas of Further Assessment / AFA) are identified through the Preliminary Flood Risk Assessment (PFRA).

The CFRAM Studies scheduled to produce detailed Flood Maps for the AFAs in 2013; and Flood Risk Management Plans in 2015 will set out a long-term strategy and defined and prioritised measures, to reduce and manage the flood risk.

Implementation of the requirements EU Floods Directive is coordinated with the requirements of the EU Water Framework Directive and the current River Basin Management Plans. In this instance, The Lee / Cork Harbour Catchment one of five units that make up the South Western River Basin District (RBD) which includes most of County Cork and parts of Limerick, Kerry, Tipperary and Waterford.

3.5.31 Lee Catchment Flood Risk Assessment and Management Study (Lee CFRAMS)

Under the Floods Directive, Cork City Council has a responsibility to assess and manage flood risks through the development of flood risk management plans. In response, The Lee Catchment Flood Risk Assessment and Management Study, (Lee CFRAMS) was undertaken by the Office of Public Works, Cork City Council and Cork County Council. The Lee CFRAMS was the first pilot CFRAM Study for the new Flood Risk Assessment and Management Programme. The Lee CFRAMS is a subset of the South-West CFRAMS.

The key objectives of the study are to:

- Assess flood risk, through the identification of flood hazard areas and the associated impacts of flooding;
- Identify viable structural and non-structural measures and options for managing the flood risks for high-risk areas and the catchment as a whole;
- Prepare a Strategic Catchment Flood Risk Management Plan (CFRMP) setting out measures and policies to achieve the most cost effective and sustainable management of flood risk within the Lee catchment.

The Draft Lee Catchment Flood Risk Management Plan was completed in December 2011. However, Cork City was subsequently designated as an Area for Further Assessment in March 2012 and as such Cork City is subject to further assessment through the CFRAM study setting out a long-term strategy and defined and prioritised measures, to reduce and manage the flood risk. The target date for completion is September 2015.

3.5.32 Lower Lee Flood Relief Scheme

In 2013, the OPW engaged consultants to prepare the Draft Lower Lee Flood Relief Scheme. The scheme is an implementation project intended to address the flood risks to Cork City highlighted in the LeeCFRAMS. i.e. to develop a viable, cost-effective and sustainable Flood Relief Scheme to alleviate flooding in the lower reaches of the River Lee and specifically the River Bride in Blackpool and Ballyvolane. It is due to come into effect in 2016.

In the interim, the content and recommendations of the Draft Lee CFRAMS will be integrated into the Draft City Development Plan and revised accordingly, when the updated study maps and recommendations of South West CFRMP / Lee CRFMP (River Catchment Framework Management Plan) are made available.

3.5.33 Assessment of Development in Flood Risk areas

National policies in respect of flood risk are set out in The Planning System and Flood Risk Management: Guidelines for Planning Authorities (2009). In considering development proposals, the Guidelines advocate the Sequential approach, namely, to avoid development in areas at risk of flooding; and if this is not possible, to consider substituting the land-use to one less vulnerable to flooding; and only where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks.

Secondly, proposals for vulnerable types of development in areas of moderate and high flood risk should be examined against the criteria set out in the Justification Test, in order to demonstrate an overriding strategic planning need and that flood risk can be adequately managed without causing adverse impacts elsewhere.

In order to minimise flood risk, the City Council will adopt a precautionary approach, namely, to avoid development in floodplains, wetlands and coastal areas prone to flooding and so preserve these natural defences that hold excess water until it can be released slowly back into river systems, the sea, or seep into the ground; and to invest in infrastructural works such as flood protection and stormwater attenuation.

Where development has to take place in identified flood risk areas, the type or nature of the development needs to be carefully considered and the potential risks mitigated and managed through on-site location, layout and design of the development to reduce flood risk to an acceptable level.

Developments will be assessed in accordance with the provisions of The Planning System and Flood Risk Management: Guidelines for Planning Authorities (2009). Where flood risk is considered to be a potential issue, applicants will be required to carry out a flood risk assessment, appropriate to the scale and nature of the development and the risks arising.

Development proposals shall be required to be planned, designed and constructed to reduce and manage flood risk and be adaptable to changes in climate; and required to incorporate Sustainable Drainage Systems, (SuDS) into the design and formulation of development proposals.

Applicants shall be required to include a brief assessment of the risk of flooding to demonstrate there is no resulting adverse impact or impediment of a watercourse, floodplain or flood protection and management infrastructure.

The following principles have been incorporated into the Draft City Development Plan:

- To avoid development in areas at risk of flooding, and to retain existing 'Greenfield' lands at a risk of flooding, in their existing state in order to maintain water holding capacity and function and help reduce flooding.
- Where this is not possible, to consider substituting 'vulnerable' land uses to less vulnerable land uses, i.e. to avoid development other than 'water compatible development' in areas where there is a high probability of flooding, (flood zone A); and to avoid 'highly vulnerable developments' in areas where there is a moderate probability of flooding, (flood zone B) (see Figure 3.9 above).
- Where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks, i.e. to retain the land-use zoning where an overriding strategic need can be demonstrated and that flood risk can be adequately managed without causing adverse impacts elsewhere, namely, satisfy the Justification Test.
- On completion of the South West / Lee CFRAMS Management Plan, to incorporate the updated 'flood extent maps' and recommendations of the management plans into the City Development Plan.

3.5.36 Issues relating to Water

The River Lee surface water catchment, most of the areas groundwater, and the transitional waters of the River Lee and Cork Harbour are currently classified as being (1a) at significant risk of failing to achieve the WFD's objectives of good status by 2021.

Two lengths of the River Lee, the groundwater underlying the area, the transitional section of the River Lee and various areas within Cork Harbour are listed on the Registers of Protected Areas under the Water Framework Directive.

Notwithstanding the status of the water bodies within and in the vicinity of Cork City, the said water bodies are highly vulnerable to a number of factors such as land use. Many of these factors are outside the control of City Council.

The main sources of pollution in the surrounding Cork County area includes discharges from agricultural activity, peat extraction, forestry, domestic septic tanks and urban waste water treatment systems, pesticides, aquaculture, landfills, etc. Discharges from the treatment plant in Ballincollig flows into the River Lee, classified as "poor" status. The River Lee is the major source of drinking water for Cork City. Waterbodies receiving discharges from the WWTPs serving the main settlements of the County are also classified as being at risk.

Wastewater treatment capacity is a major issue for the wider region, but not currently for the City. The performance of wastewater treatment plants and licensed plants discharging to waterbodies requires careful management and monitoring in order to protect the status of water bodies.

Therefore, greater co-ordination and co-operation between Cork City Council, Cork County Council and Irish Water is required to effectively manage the supply, treatment, storage, delivery and quality of water; in order to meet statutory obligations under the Water Framework Directive, etc.

The main pressure on water quantity is abstraction, where water is taken from a water body to provide a drinking water supply. Water Conservation measures incorporated into the plan will reduce the levels of unaccounted for water which will help cater for the increased demand associated with an increasing population.

In Cork City, leaks from the wastewater collection system; improper domestic connections to storm-water systems rather than the foul-sewage system; and incidental diesel /oil spills from roads or construction or industry pose a threat to water quality and ecosystems. Policies relating to installation of interceptors incorporated into the Plan will mitigate such issues.

Existing and future developments should not have a detrimental impact on the ecological status of the river systems traversing the City, (or downstream). The plan should incorporate the widespread use of Sustainable Urban Drainage Systems (SuDS), to intercept pollutants and control surface water run-off.

Flooding is a long-established environmental phenomenon in Cork City that gives rise to significant economic and social effects. Flooding also has the potential to disturb harmful/ toxic sediment in the River Lee such as heavy metals. The magnitude and occurrence of these events is increasing and impacts exacerbated by previous developments on flood plains. The Plan should adopt the principles set out in the Ministerial Guidelines to avoid developing vulnerable land-uses in flood risk areas, thus safeguarding the water holding capacity of the flood plains and so reducing flood risks.

3.5.37 Likely Evolution of Water in the absence of the City Development Plan

The Development plan provides a framework for the sustainable development of the City, with targeted growth at strategic locations in tandem with the provision of necessary key infrastructure. In the absence of the development plan, development would be ad-hoc and piecemeal with the potential of adverse impact on the water resources of the City and adjoining County.

Based on the current risk assessment, that the majority of waters in the area are at significant risk of failing to achieve the WFD's objectives of good status by 2021; it is not unlikely that a number of water bodies in Cork City would fail to meet the commitment, and significant adverse impacts upon the biodiversity and flora and fauna of the City and wider Cork Harbour together with significant adverse impacts upon the City's drinking water supplies and human health as a result of poor water quality would be likely to occur.

In the absence of a Development Plan Greenfield flood plains within the City would be likely to come under increasing development pressure, and if developed then the risk of flooding on surrounding sites would be likely to increase.

3.6 Soil

3.6.1 Introduction

Soil is defined as the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. Soil is extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen.

Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance.

Soils are the result of the interaction of various factors, such as parent material, climate, vegetation and human action. The parent material of soils in Cork City consists of a mantle of glacial drift. This drift has been overlain in places by peatlands.

Soils are a fragile resource and are particularly vulnerable to contamination, compaction and erosion by wind or water. Issues such as climate change threaten to increase this fragility and may possibly reduce soils' ability to accommodate change without significant or lasting damage.

Soil also stores, filters, transforms and acts as a buffer to substances that are introduced to the environment. This is particularly important in the production and protection of water supplies and for regulating greenhouse gases. Soil is also a fundamental component of our landscape and cultural heritage.

There is no specific legislation for the protection of soil resources. However, the Habitats Directive (1992/43/EEC) includes soil types for many of the Annex 1 habitats, as they influence the range of vegetation types associated with them. The Water framework Directive (2000/60/EEC) includes issues related to soil such as increased siltation in waterways and water contamination.

3.6.2 Soil Types

The most dominant soil types in the County of Cork are Brown Podzolics and Grey Brown Podzolics. These soils derive from the calcareous glacial drift deposits and are located in the southern and eastern parts of the county, in particular. Brown Podzolics display good physical characteristics and are usually devoted to cropping and pasture production. Grey Brown Podzolics are good all purpose soils.

Along the shores of the River Lee there is a prevalence of Acid Brown Soil (Earth) which are derived from alluvial deposits (i.e. coarse textured gravels and sands) and Mineral Alluvium. These soils are free draining subject to flooding and are best suited to grass production but also support good crops of cereal.

Within the City, the majority of soils are urban soils (see Figures 3.11 and 12). Urban soil is soil that has been disturbed, transported or manipulated by man's activities in the urban environment and are often overlain by a non-agricultural, man-made surface layer that has been produced by mixing, filling, or by contamination of land surfaces in urban and suburban areas.

Urban soils have a combination of characteristics that differ from natural soils. These characteristics are due to alterations in both physical and chemical soil properties that cause long term deviation from the natural state. Natural soil profiles generally tend to gradually change from one horizon to the next; however, urban soils show abrupt changes from one horizon to another depending on the construction history of the soil. Layers may drastically differ in structure, pH, texture, and properties important to plant growth such as aeration, drainage and water holding capacity. A soil's aeration and water drainage capabilities are negatively affected by compaction which occurs as a result of overlying conditions which include traffic and building.

3.6.3 Geology

The underlying bedrock of County Cork consists primarily of sandstone with a granite-sandstone mix prevailing to the west and Lower Avonian Shale Glacial Till to the south. West cork also reveals areas of high and low level Blanket Peat and Sandstone Glacial Till. Along the Lee and Blackwater Valleys, Sandstone is found with Limestone Glacial Till. The southern part of the City lies on carboniferous limestone and shales; to the north of the city are bands of upper Devonian brown grey sandstone and greystone and grey green sandstone and red purple mudstone. The present River Lee floodplain overlies a buried valley or "gorge", which was formed in the Carboniferous and Devonian rock during the Pleistocene glaciation,

3.6.4 Sites of Geological Interest

The Geological Survey of Ireland identifies sites of geological interest which are Natural Heritage Areas under legislation, and are protected by their inclusion in the Development Plan. There are 143 sites of geological interest in County Cork. The two sites within Cork City are:

- St. Joseph section located to the south of the N22 Lee Road, north of Bishopstown. This feature illustrates the transition from Devonian to Carboniferous time and proposed as a NHA under IGH10 Devonian Theme.
- Blackrock Diamond Quarry, located in the Docklands area. This quarry shows amethyst and is proposed as a NHA under IGH6 Mineralogy Theme.

Figure 3.10 Sites of Geological Interest

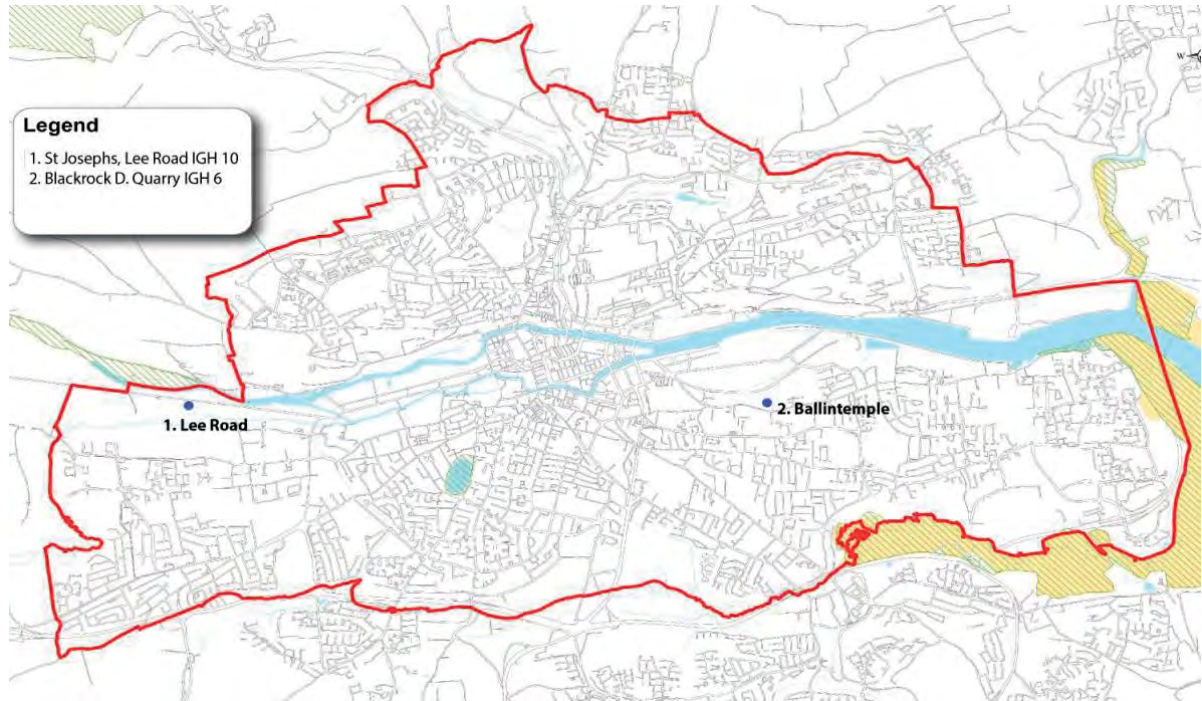


Figure 3.11 Soils of Cork City

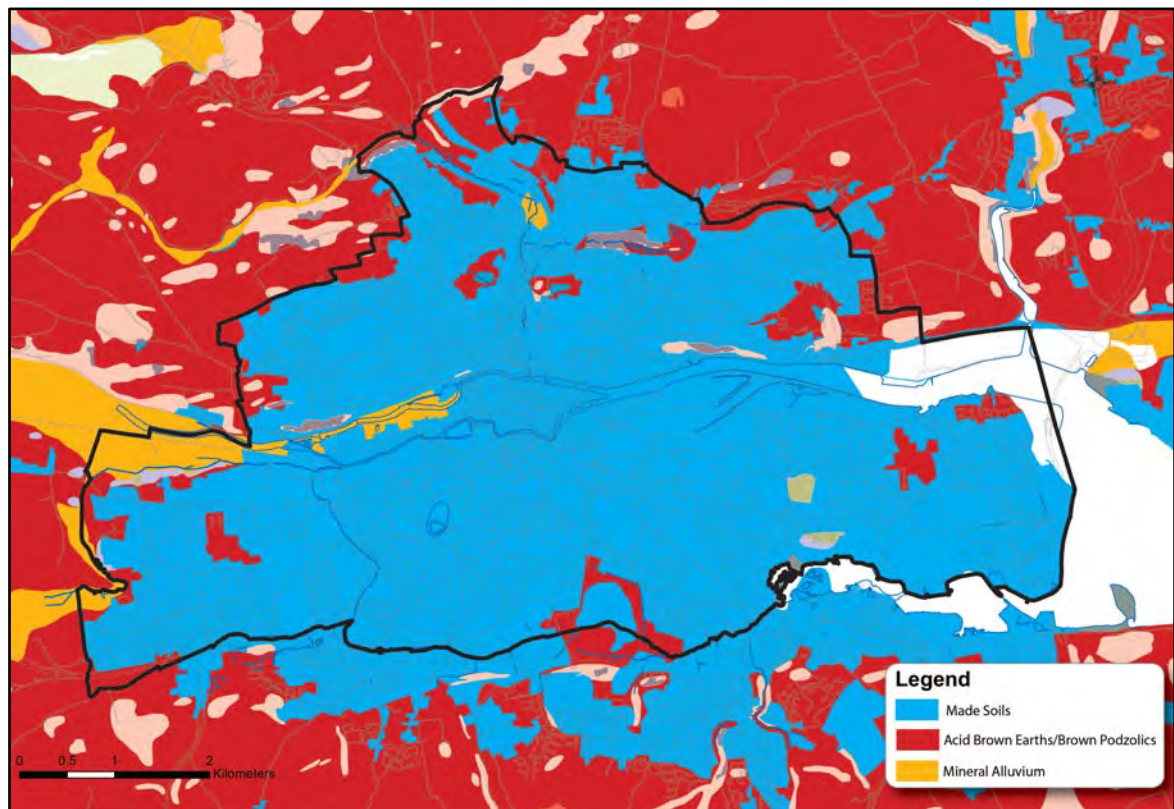
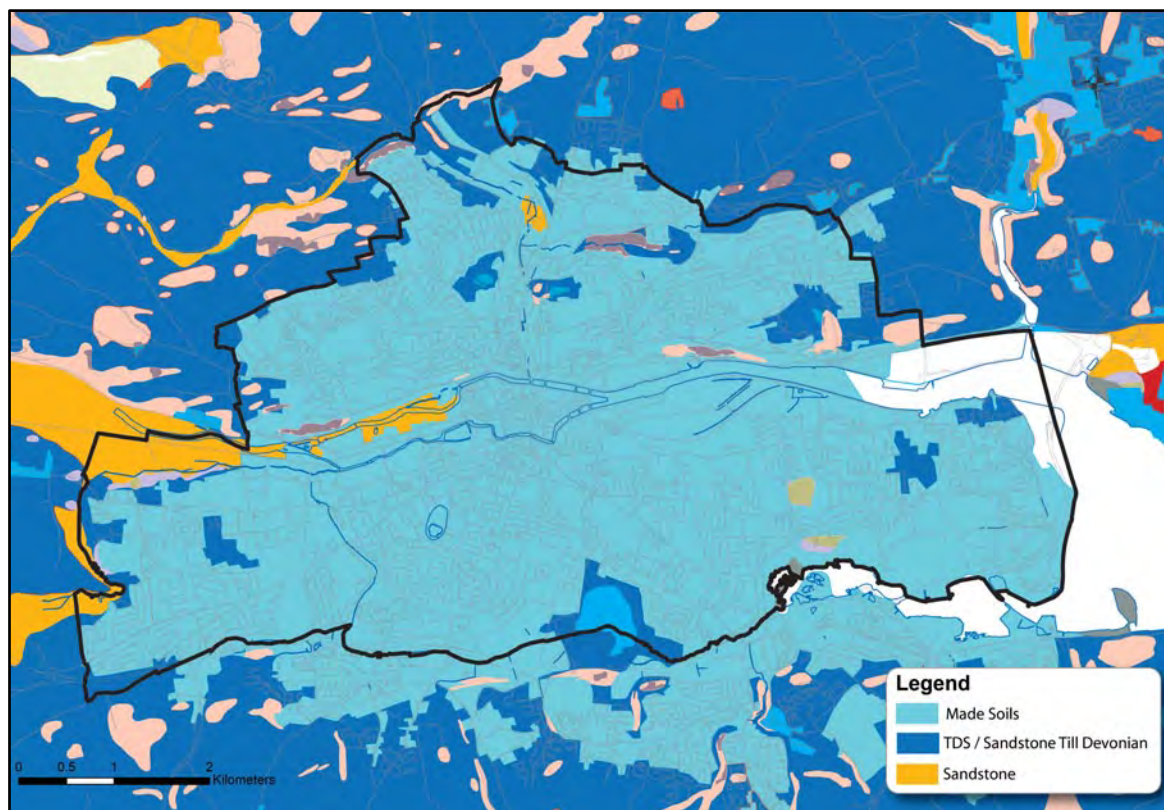


Figure 3.12 Sub-soils of Cork City



3.6.5 Quarries

There are no active quarries in Cork City, but 65 no. registered quarries operating within the County of Cork, primarily engaged in sand, gravel and stone quarrying.

3.6.6 Limestone

Much of the valley floor, where the majority of the City's main infrastructure is located, and where new developments are likely to be located is underlain by limestone. In a number of places this geological formation has been the subject of slow chemical processes that have led to the decomposition of rock and the formation of 'solution features' such as cracks, fissures and occasional cavities or caves.

These features can adversely interact with new developments in two principal ways. Firstly, the introduction of new loads on the surface due to development can cause the underlying rock to become overloaded and settle with resultant structural degradation overhead. The works that are incidental to development such as the diversion, concentration or removal of surface or groundwaters can also lead to structural failure. The consequences may be more severe due to extreme rainfall events related to climate change.

3.6.7 Contaminated Soils

Cork City, in the past, has been host to heavy industry and fuel generation / storage depots, particularly in the port area. In some cases, the soil in these sites has been contaminated. Redevelopment leads to opportunities to remediate these sites through the planning process. The removal and disposal of in-situ hazardous materials is potentially significant due to the quantities of material involved. Significant contaminated sites include the former 'Goulding' site, Blackpool; and the Centre Park Road area of South Docks.

A requirement of the Environmental Liabilities Directive 2004/35/CE is the management of identified contaminated lands within the plan area. Appropriate mitigation measures should be established to address the remediation and management of contaminated soils in areas proposed for development.

Sites that are likely to be contaminated will be considered with regard to the nature of, and quantity of contamination which may have to be removed and disposed of. The sediment in the River Lee is potentially contaminated and may be exposed by dredging or construction of Docklands infrastructure such as proposed Bridges.

3.6.8 South Docks Study

Cork City Council commissioned a contamination study in 2005 as part of the preparation of the South Docks Local Area Plan. The study included the objective 'to identify possible soil and groundwater contamination by various substances of the various sites and to outline strategies for dealing with the sites.' The findings of this study were presented in the South Docks Contamination Study Final Report.

Phase 1 consisted of a desk-top study on the historical uses since the early 1900s was completed in 2006. Phase 2 was a detailed site investigation to determine the extent and level of contamination with a report on the potential solutions and options with associated costs, was completed in 2007.

The study identified that VCH contamination is most hazardous, but, it may not be necessary or cost effective to remediate all contamination. The preparation of a land management plan is recommended to ensure optimum remediation solutions are identified and implemented.

Although the study only relates to part of the City, the findings of the study may be indicative of the contamination of other sites which have in the past been host to land uses similar to the heavy industry and fuel generation/ storage depot uses.

The SEA Environmental Report of the South Docks Local Area Plan 2008-2014 identifies that remediation will have beneficial impacts in the long term, removing or stabilising the contamination and ensuring that no further contamination takes place. The Environmental Report also includes measures which aim to mitigate against the potential for adverse effects associated with contaminated soils. Here follows a summary of environmental results.

3.6.9 Oil

Seven zones (in total 8 out of the 100 study area hectares) in the South Docks proved to be considerably contaminated with oil. This contamination is generally related to (bulk) fuel storage and transshipment activities. Although oil polluted groundwater was found locally, the aquifer appears not to be significantly affected by oil components. As poisonous derivatives were not found in big quantities, health risks from the oil pollution appear limited however such pollution would cause nuisance for certain land uses, such as gardens.

3.6.10 Volatile chlorinated hydrocarbons

Four spots with elevated concentrations (>DIV14) of dichloroethene and/or vinyl chloride were identified. Generally concentrations of these substances above DIV involve health risks in buildings with ground floors, unless ground membranes are introduced in the floor slabs. Likely significant contaminant sources are present in the soil as fill and clay. Most probably these hydrocarbons are products of the degradation of perchloroethylene and trichloroethylene. These substances may have been used for degreasing activities.

3.6.11 Dredging

Cork Harbour can be divided into two distinct areas; the Lower Harbour is the deepwater section from the entrance to West Passage; and the Upper Harbour as far west as the the City Quays. The Lower Harbour is a well sheltered, virtually land locked basin embracing some 3,500 hectares of water with two large islands, namely Haulbowline Island of 26 hectares and Spike Island of 42 hectares. This part of the Harbour is a natural deepwater channel except at a small number of locations where dredging is carried out to increase the available depth.

The Upper Harbour comprises the waters of the River Lee as it leaves the City including the Lough Mahon area and contains a large number of port facilities which are located at the City Quays and Tivoli. The entire navigation channel of the Upper Channel which extends five miles upriver from Lough Mahon is man-made with dredging since 1840. The dredged material is disposed of at sea.

The Harbour is a comparatively stable system in regard to estuary dynamics with only localised areas of erosion and accretion. Siltation arises from the deposition of mud and silt particles which have been carried in suspension down the Lee and its tributaries into the shipping channels and berths; the erosion of mudflats adjacent to shipping channels by physical contact with ships or by their propeller and bow thrusters as they enter and exit berths; and the erosion of fairway slopes and mudflats as a result of severe winter storms.

Prior to 1996 maintenance dredging within the Port was carried out by in-house plant owned by the Port Authority. During this period the approximate annual dredging requirement was 129,000 cubic metres. From 1997 to 2001 dredging was generally carried out to 50cm below the advertised navigational depth thus providing a buffer to cater for future siltation and for bed levelling of high spots between campaigns. This gave an overall annual dredging requirement in the harbour of approx 170,000 cubic metres. Since 1997 it has become a biannual operation.

The Port of Cork Company, through its Environmental Management System seeks to reduce its impact on the environment, such as minimising dredging activities and thus reduce the volume of material for disposal at sea.

3.6.12 Issues relating to Soil

Greenfield development involves the building upon and thereby sealing off of non-renewable subsoil as well as topsoil. The majority of soils in the Cork City area have been sealed preventing the soils from performing certain functions such as drainage.

Soil in some areas of the City has been polluted and contaminated by development which has not followed environmentally friendly practices and/or which has not been serviced by the appropriate infrastructure. The findings of the 2007 South Docks Contamination Study show that areas within the Docks have been contaminated to the extent that, under certain circumstances, they may pose a risk to human health. As other sites within the wider Cork City area have in the past been host to land uses similar to the heavy industry and fuel generation/ storage depots uses of the South Docks, additional contaminated sites may exist.

The removal and disposal of hazardous material (from land and water) due to reclamation works in areas within the City - especially within dock areas is potentially a significant problem because of the quantities of material involved.

Development that takes place without sufficient surveying and assessment of the potential for the presence of karsified limestone under or adjacent to the site has the potential to give rise to problems

both for the structures and for the receiving environment, particularly if storage or piping infrastructure is caused to leak by a geological collapse.

Change in soil characteristics can result from natural processes and human activity such as industrial activity. Increasing pressure to accommodate a growing population (new housing and infrastructure); and climate change pose a threat to the quantity and quality of greenfield land / soil within the city and surrounding areas. Managing the impact of construction and development on soil functions, such as absorbing rainwater is vital.

Climate change has the potential to increase soil erosion rates through hotter, drier conditions that make soils more susceptible to wind erosion, coupled with intense rainfall incidents that can wash soil away. Soil erosion can also have off-site effects which result from the movement of sediment and agricultural pollutants into watercourses. This can result in increase silting of watercourses, disruption to ecosystems and contamination of drinking water supplies.

Recreational uses can result in pressures on soils and their habitats, including erosion.

3.6.13 Evolution of Soil in the absence of the City Development Plan

In the absence of a Development Plan for Cork City, development would be haphazard without due consideration to the soil characteristics of the city. The evolution of soil within the city would be dependent on the development. As a result greenfield development would be likely to occur on an increased basis - both within and outside of the plan area – and would result in the building upon and thereby sealing off of the non-renewable subsoil and soil resources.

National Planning Policy recommends the re-use of brownfield land and to reduce pressure on Greenfield lands in line with sustainable principles. However, in the absence of a City Development Plan there would be no framework to direct development to appropriate brownfield sites within the City. Development of brownfield sites - especially on those former heavy industry and fuel generation / storage depots would need to be carefully planned in order to avoid any adverse impacts arising out of contaminated or hazardous material. The remediation and reclamation of such sites would be likely to require the removal and disposal of hazardous and/or contaminated material from both land and water - this is a potentially significant issue because of the quantities involved.

Flooding could cause varying amounts of sediment to arise from the River Lee some of which could contain high levels of heavy metals, thus potentially leading to water quality problems.

In the absence of a Plan there would be no framework for the provision of infrastructure - such as waste water treatment plants, and the lack of such plants would result in the potential pollution or contamination of land / soil.

3.7 Air and Climatic Factors

3.7.1 Introduction

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

The principles to this European approach are set out under the Air Quality Framework Directive (96/62/EC) as transposed into Irish law under the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999 (SI No. 33 of 1999).

Four daughter Directives lay down limits or thresholds for specific pollutants. The first two of these directives cover: sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead; and carbon monoxide and benzene. Two more daughter directives deal with: ozone; and polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

In order to comply with these directives, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, the Cork conurbation is location in Zone B, as per the Air Quality Standards Regulations 2002 (SI No. 271 of 2002).

3.7.2 Air Quality

Cork City is served by the existing multi-element monitoring station at Old Station Road, and an urban background station monitoring at Heatherton Park. Cork City Council operates these stations and produces an Annual Report. The most recent report was published in 2011 with 2010 data. Air quality is monitored in the County at Glashaboy and at Passage West.

The “Air Pollution in Cork City 2011 Report” describes air quality in Cork City through an assessment of the monitoring data generated by Cork City Council for the calendar year 2010. The pollutants are generated through fuel combustion in space heating, traffic, electricity generation and industry. They are the pollutants present in significant amounts in the air that could affect the well being of the city inhabitants and they are the pollutants chosen in other European cities to describe air quality.

There is general compliance with air quality standards (in relation to sulphur dioxide, nitrogen dioxide, ozone, lead, carbon monoxide, benzene, but slight non compliance in particulates) and a trend of air quality improvement in the city as measured from the two monitoring stations at Old Station Road and the Kinsale Road landfill site.

The biggest threat to air quality in Cork city is from vehicular emissions. Intensification of development within the city may generate air quality issues but may result in lower carbon emissions by reducing car journey dependence. Investment in public transport solutions coupled with higher density development has the potential to alleviate air quality issues.

3.7.3 Potential Point Sources of Emissions

3.7.4 IPPC Licensed Facilities

The EPA has been licensing certain large-scale industrial and agriculture activities since 1994. Originally the licensing system was known as Integrated Pollution Control (IPC) licensing, governed by the Environmental Protection Agency Act, 1992. The Act was amended in 2003 by the Protection of the Environment Act, 2003 which gave effect to the Integrated Pollution Prevention Control (IPPC) Directive. Detailed procedures concerning the IPPC licensing process are set out in the EPA Acts 1992 to 2007 and the associated licensing regulations.

IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPPC licence is a single integrated licence which covers all emissions from the facility and its environmental management. All related operations that the licence holder carries in connection with the activity are controlled by this licence. Before a licence is granted, the EPA must be satisfied that emissions from the activity do not cause a significant adverse environmental impact.

There are IPPC licensed facilities spread across the City. The locations of these facilities are mapped on Figure 3.13 Three IPPC licensed facilities are located adjacent to the City’s southern boundary and various others, including pharmaceutical industries are located to the east of the City at Little Island.

3.7.5 IPPC Licensed Discharges

Other urban waste water discharges are controlled by IPPC licenses and licences for discharges to waters under the Water Pollution Acts. IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. There are 7 no. IPPC licences in Cork City; and 173 no. licences in County Cork, (of which 3no. licences about the city boundary). The majority of licenses authorise the discharge of effluent to water courses and require ongoing monitoring to ensure water quality is protected. There are 25 no. licenses discharging into Cork Harbour, including a cluster of 8 no. licenses in Little Island, to the east of the city.

IPPC Licences within Cork City

- Dulux Paints Ltd (2)
- Heineken Ireland
- Beamish & Crawford plc (closed)
- ESB
- Fronville Ltd
- Galco Cork Ltd

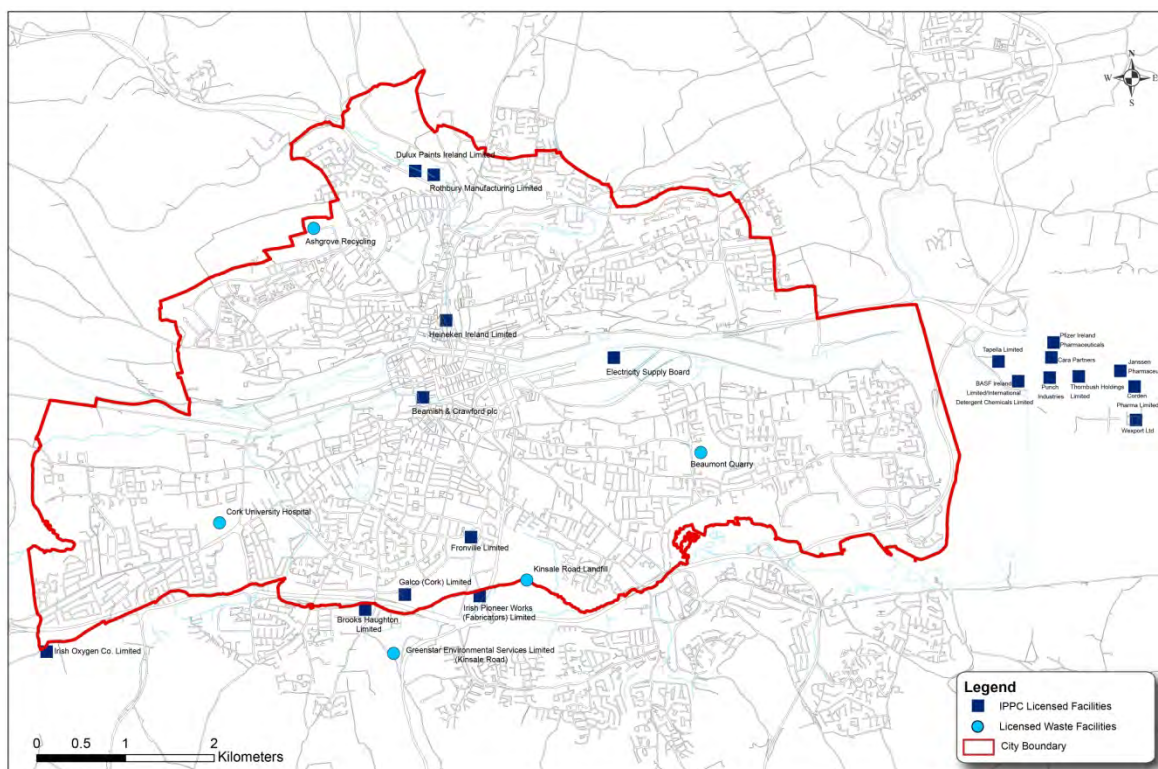
IPPC Licences adjacent to the City, (within the County).

- Irish Pioneer Works, Tramore Road
- Brooks Houghton Ltd, Togher
- Irish Oxygen Co. Ltd. Two Pot Bridge, Bishopstown

3.7.6 Waste Licensed Facilities

In 1996 the EPA began licensing certain activities in the waste sector. These include landfills, transfer stations, hazardous waste disposal and other significant waste disposal and recovery activities. A waste licence is a single integrated licence dealing with emissions to all environmental media and the environmental management of the facility. All related waste operations connected to the activity are considered in determining a licence application. The EPA must be satisfied that the activity will not cause environmental pollution when carried on in accordance with the licence conditions. Detailed procedures on processing waste licence applications are set out in the Waste Management Act, 1996 which was amended by the Protection of the Environment Act, 2003 and associated regulations. There are three waste licensed facilities located within the Cork City area (see Figure 3.13), namely, Ashgrove Recycling, Fairhill; Beaumont Quarry, Ballintemple/ Ballinlough; and the Kinsale Road Landfill. There are 49 no. licensed facilities in County Cork.

Figure 3.13 IPPC Licensed Facilities and Waste Licensed Facilities



3.7.7 Seveso II Sites

The control of major accident hazards involving dangerous substances Directive, also referred to as the Seveso II or COMAH Directive aims to ensure that, at locations where dangerous substances are handled in quantities above specified thresholds; there will be a high level of protection for people, property and the environment. This is to be achieved by: preventing or minimising the risk of a major accident; and, taking all the necessary measures to limit the consequences of such an accident, should it occur.

The Directive is transposed into Irish law through the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006 (SI No. 74 of 2006) implement Council Directive 2003/105/EC (amending Directive 96/82/EC).

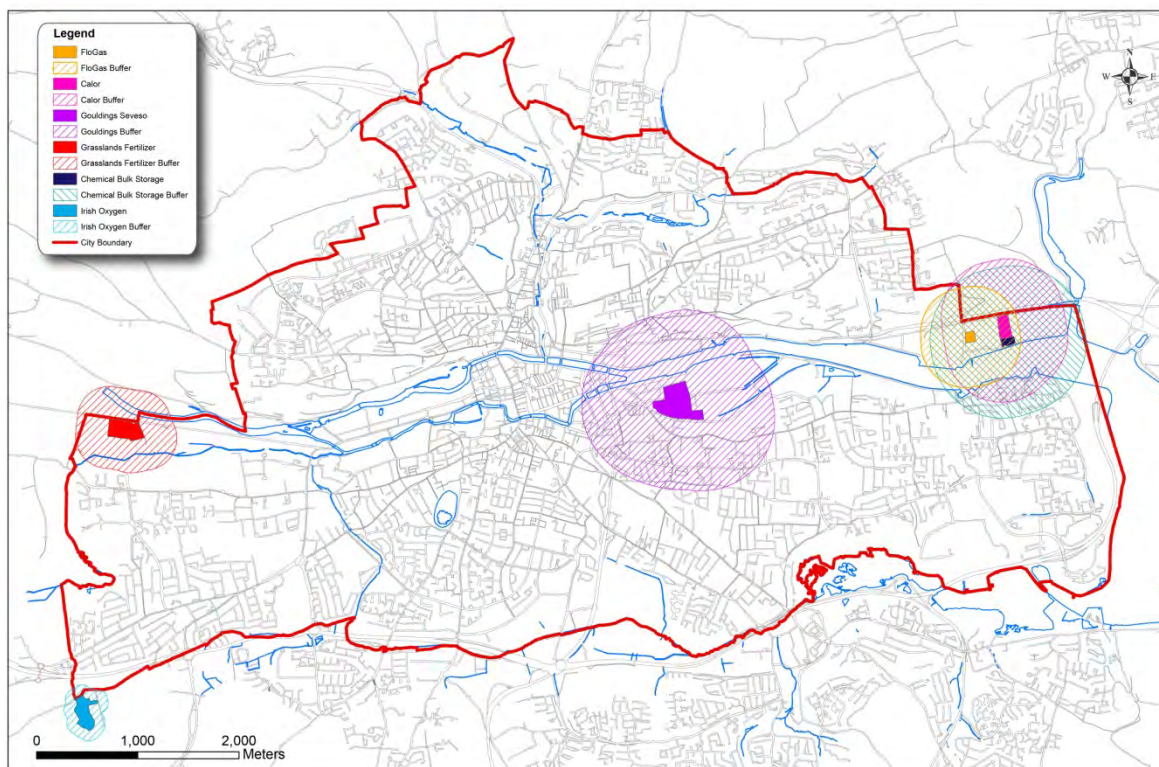
The Seveso II Directive includes provisions in relation to land use planning. Article 12 of the Directive requires member states to ensure that the objectives of preventing major accidents and limiting the consequences of such accidents are taken into account in land use policies and/or other relevant policies.

These objectives must be pursued through controls on the siting of new establishments; Modifications to existing establishments; Development in the vicinity of an establishment which, by virtue of its type or siting, is likely to increase the risk or consequences of a major accident. There are 4no. Seveso II sites within the city and 1no. site immediately abutting the south-western city boundary, and 3no. sites to the east of the city on Little Island.

Where appropriate, the Health and Safety Authority provides advice in respect of planning applications within a certain distance of the perimeter of Seveso sites. Cork City Council takes HSA technical advice into account in the consideration of applications for planning permission. The 5 no. Seveso II sites which directly affect Cork City are as follows:

- Calor Gas, Tivoli
- Flogas, Tivoli
- Gouldings, off Centre Park Road
- Grassland Fertilizer, off N22 Carrigrohane
- Irish Oxygen, Waterfall Road, Cork County

Figure 3.14 Seveso II Sites in Cork City



3.7.8 Noise

Noise can have a significant effect on the environment and on the quality of life enjoyed by individuals and communities. There is a need to minimise the adverse impact of noise without placing unreasonable restrictions on development, and to avoid future conflicts likely to lead to demands for restrictions on airport operations.

The Environmental Noise Directive (Directive 2002/49/EC) relates to the assessment and management of environmental noise. The aim is to “define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise” and to provide a basis for developing measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery.

The Directive was transposed into Irish Law by the Environmental Noise Regulations 2006. The Directive requires Cork City Council to produce Strategic Noise Maps for major roads, railways, airports and agglomerations, using harmonised noise indicators Lden (day-evening-night equivalent level) and Lnight (night equivalent level).

These maps will be used for monitoring purposes and to assess the number of people annoyed and sleep-disturbed respectively; and to address local noise issues through Action Plans to reduce noise where necessary and maintain environmental noise quality where it is good. The directive does not set any limit value, nor does it prescribe the measures to be used in the action plans

The over-riding noise source in Cork City is from vehicular traffic and to a lesser extent trains on the Cork Commuter rail-line and aircraft using Cork Airport. Intensification of uses / development would be likely to increase noise levels. The promotion and development of alternative modes of transport and detailed design solutions will play a role in mitigating noise issues.

The Draft Joint Cork City and Cork County Noise Action Plan 2013 to 2018 has been prepared by the National Roads Office for the city and suburbs of Cork, focusing on the major road network, rail-lines and Cork Airport. It identifies areas at significant risk of noise pollution. The City Council through the planning system can minimise adverse impacts of noise, by guiding development to the right locations and where necessary, specifying design and layout solutions, planning authorities can limit the overall number of people exposed to potential noise effects. Further consideration should be given to the implications of the Noise Action Plan when completed.

3.7.9 Climate Change

The prevention of climate change through global cuts in greenhouse gases is a central focus of the EU’s climate change policy. The National Climate Change Strategy 2007-2012 sets out Ireland’s commitments to reduce greenhouse gas (GHG) emissions in accordance with the Kyoto Protocol.

Under the Kyoto Protocol, Ireland has agreed to limit the net growth of GHG to 13% above its 1990 levels. Ireland ratified the UN Framework Convention on Climate Change in 1994 and the Kyoto Protocol in 1997.

The EU 2008 Climate and Energy Package commits its Member States to an overall reduction of GHG emissions by 20% by 2020 relative to 1990 emissions levels. The EU has also committed to raise this to a 30% emission reduction in the context of a global agreement involving comparable effort by other developed countries and major emitters.

In Ireland, the agricultural sector produces the highest proportion of emissions at 30.5% and this is projected to increase in line with increased agricultural output. Emissions from the Energy sector (power generation & oil refining) is at 21.8% and Transport at 18.9%, Industry and Commercial at 14.6%, the Residential Sector at 12.7% and Waste at 1.4%.

In line with the National Climate Change Adaptation Framework, 2012 and the Planning & Development Amendment Act 2010, the Development Plan includes the mandatory objective ‘for the promotion of sustainable settlement and transportation strategies in urban and rural areas including the promotion of measures to reduce energy demand and man-made greenhouse gas emissions and address the necessity for adaptation to climate change, having regard to location, layout and design of new development.’

The Framework provides a strategic policy focus to ensure adaption measures are taken across different sectors and levels of government to reduce Ireland’s vulnerability to the negative impacts of climate change. The framework looks at national vulnerability to climate change and the development and implementation of sectoral and local adaption action plans as part of a comprehensive national response to the impacts of climate change. The Council has to ensure that the development plan adequately addresses adaptation to climate change.

The core strategy (chosen development scenario) of the development plan is underpinned by principles such as consolidating existing urban centres, re-using brownfield lands and integrating land-use and transportation in order to mitigate and minimize emissions. Furthermore, objectives relating to energy efficiency in buildings and renewable energy measures are incorporated into the Plan.

3.7.10 Energy Efficiency and Renewable Energy

Reducing greenhouse emissions to combat climate change means reducing energy demand and producing energy from sustainable resources. Approximately, 1200MW of electricity is generated in County Cork from burning fossil fuels. 25% of the State’s energy production takes place in Whitegate, off Cork Harbour. Whereas, the Inniscarra / Carrigadrohid hydro-electric dam to the west of the city, produces 27MW of renewable electricity.

There is little opportunity to expand renewable energy production within the City. A Renewable Energy Strategy has not been prepared for Cork City to date. Should such a strategy be carried out, any land-use requirements identified in the Strategy will be translated into the Development Plan. In the interim, the usage of micro-renewables can be promoted via the planning process and carried out as pilot projects in City Council schemes (for example, micro turbine street lights).

There is a national target to reduce energy usage by 20% across the whole economy by 2020 (Delivering a Sustainable Energy Future for Ireland 2007-2020). There is also a national target to aim to supply 16% of national energy demand from renewable sources by 2020. (No specific figures are available for Cork City.)

The three key biggest users of energy are transportation, heat production, and electricity. Reducing transport emissions by a reduction in the number of single-occupancy car trips is addressed in the Transportation chapter of the Plan. Energy use for heating purposes relates to both minimising heat loss (through energy efficient new construction and the retrofitting of existing buildings) and the use of alternative heat sources is addressed in the Environmental Infrastructure chapter of the Plan.

3.7.11 Flooding

Cork City is very prone to the adverse effects of flooding. Changes in sea level and/or changes in the occurrence of severe rainfall events as a result of climate change would be likely to increase the occurrence and magnitude of flooding events. River basin management provides an effective mechanism to prepare for and adapt to climate change by incorporating adaptation into the programme of measures. The Water Framework Directive monitoring programme collects information that improves our understanding of climate change. A Strategic Flood Assessment has been carried out as part of this SEA report. The assessment informs the proposed land-use zonings of the plan.

3.7.12 Erosion

The major effects of a sea level rise are loss of land as a consequence of increased erosion (due to changes in coastal currents and sedimentation rates) and inundation and increased risk of flooding (both at the coast and inland along major river networks during storm surge events). Coastal floodplains are especially at risk on occasions when a high tide and storm surge couple with a period of intense rainfall lead to a breach in the carrying capacity of the drainage network. Areas potentially vulnerable to erosion include Mahon - Jacobs Island.

3.7.13 Biodiversity

Salt marshes and sand dunes are ecological strongholds providing a variety of habitats for a range of different species. Many of the marsh systems in Ireland provide over-wintering feeding grounds for many species of migratory birds. The loss of these habitats could present major problems for species numbers and diversity, aspects dealt with in the previous chapter. Rising sea levels could lead to the covering of many of Cork Harbour's habitats which are important to bird populations. As the hinterland in the Harbour slopes upward steeply from the shore, the potential for habitats to migrate inland is limited. This could impact on waterfowl roosting as well as feeding areas, by reducing or eliminating roosting areas, or making them more liable to human disturbance.

3.7.14 Issues relating to Air and Climate

Monitored air quality in Cork City meets current standards and is relatively good. However, our high rate of reliance on the private car will continue to be a problem unless measures are introduced to reduce car use and emissions from vehicles.

Traffic hotspots within the City are likely to have elevated levels of air pollution and noise due to traffic congestion. Traffic hotspots are located along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health. Traffic hotspots in low lying areas that have retaining high buildings are likely to provide for harsher sensory environments with regard to air pollution and noise levels.

Localised air pollution and noise pollution are both likely to occur when demolition/ construction takes place if suppression techniques are not introduced, and when traffic is queuing for long periods of time.

Minor changes in climate can result in higher probability of droughts in summer resulting in water shortages and increased flooding events in winter. Of increasing concern is the issue of flooding of rivers and estuaries.

Changes in sea level and/ or changes in the occurrence of severe rainfall events as a result of climate change could adversely impact upon the city's population, its biodiversity and its economy. Changing climatic factors can have serious implications on the carrying capacity of the drainage network and can threaten critical infrastructure such as transport corridors, bridges etc.

Cork City is very vulnerable to adverse effects of rising sea levels, coupled with the increased occurrence of severe rainfall events and associated flooding of the River Lee and smaller urban rivers Bride.

3.7.15 Evolution of Air and Climatic Factors in the absence of a City Development Plan

An intensification of uses in low land areas would bring about air quality and noise problems. Increases in the use of catalytic converters, cleaner fuels, better engine technology and maintenance is generally reducing the pollution omitted per motor vehicle. The ever increasing number of cars / journeys made by car is resulting in increasing GHG emissions and noise pollution.

If development within the plan area was unregulated, it would result in increasingly adverse impacts on air quality and noise levels, with consequent impacts on human health. In the absence of a City Development Plan, the realisation of objectives relating to energy efficiency, renewable energy and a reduction in transport related emissions contained within the Plan would be made more difficult.

The Plan is an opportunity to provide for the regeneration of under-utilised / declining areas within Cork City and to integrate land use and transportation, to lessen the inherent culture of dependency on the private car. In the absence of the Plan, regeneration of these areas may not be achieved and GHG emissions may increase. There would also be missed opportunities relating to energy efficiency and renewable energy.

3.8 Material Assets

3.8.1 Introduction

Material assets are defined as the critical infrastructure essential for the functioning of society, (Environmental Protection Agency). Water Supply and Waste Water Treatment is dealt with in Section 3.5). This Section will focus on with Waste Management and Transportation.

3.8.2 Waste Management

Cork City Council has a responsibility to ensure that the collection, treatment and disposal of waste within its functional area is undertaken in a controlled manner by an authorised operator such that it does not pose a risk to human health or the environment.

Council policy is set out in the Cork City Waste Management Plan 2004 - 2009, which was reviewed in April 2009 in accordance with the requirements of the Waste Management Acts 1996 - 2009 and the Waste Management (Planning) Regulations 1997. The Plan was subsequently varied to extend its period of application beyond 2009 and evaluated in 2012. Some targets and objectives of the Waste Management Plan were considered no longer in compliance with current waste management legislation which sets more onerous waste diversion targets and requires compliance with the waste management hierarchy.

National policy on Waste Management is set out in “A Resource Opportunity - Waste Management Policy in Ireland” DECLG, (July 2012) and this sets out the measures through which Ireland will continue to meet targets in reducing, reusing and recycling waste.

In line with national policy, a new Regional Waste Management Plan will be prepared for the ‘Southern Region’ consisting of the whole of Munster and the Counties of Kilkenny, Carlow and Wexford. Work was to commence in 2013 on the new plan. The current Cork City Waste Management Plan will remain in place until the new Southern Region Waste Management Plan is drafted and adopted by all local authorities in the Region (expected in 2014). The SRWMP will be incorporated into the Plan when adopted.

The Kinsale Road Landfill has ceased operations. The City's waste collection service was transferred to a private operator in August 2011. The redevelopment of the site as a 50 hectare public park and leisure facility through the Tramore Valley Park Masterplan was launched in August 2012.

Waste minimisation is a key element of Council's Waste Management Plan and includes a number of measures, including waste prevention, reduction at source, reuse, recycling and recovery. Under the waste management hierarchy, minimisation, re-use and recycling are the preferred options to landfill.

These options are part of National and EU policy and are reflected in the City Councils' 2012. Currently the city has 42 no. bring sites and 1 no. Civic Amenity Centre at the former Kinsale Road Landfill site. These sites accept a variety of goods for recycling. In addition there is a facility at the Civic Amenity Centre for acceptance of green waste.

3.8.3 Transportation

Cork is largely car dependent with 69% of workers in the City driving to work; compared to the national average of 60%. The public transport share is 7%, cycling is 2%, whereas walking accounts for 13%.

The framework for transport objectives is set at national level by the National Transport Authority, (NTA). The NTA has established three key objectives for transport in Cork City as follows:

- Increased walking and cycling for local trips (work, education, retail, and leisure);
- Increased public transport usage to employment centres; and
- Enhanced safety, especially for vulnerable road users.

Key infrastructure for the long term development of the city includes a Bus Rapid Transit Route on an east-west corridor and the continued expansion of the suburban commuter rail-line between Mallow and Cobh/ Midleton; and City and Suburban bus routes and Park & Ride facilities such as Carrigrohane Road.

The redevelopment of Docklands will require significant transport infrastructure as follows:

- Key transport infrastructure projects for the Docklands Local Area Plan include:
- Eastern Gateway bridge and associated road network
- Water Street Bridge and associated road network
- Public transport bridge at Mill Road
- Local roads infrastructure
- Rapid Transit Link with the City Centre
- The raising and upgrading of Centre Park Road and Monaghan' Road

Vehicular circulation in Cork City is provided through primary, secondary and main streets or roads. Traffic hotspots are found within the City along the main roads, at intersections and result in detrimental impact environment of noise and poor air quality. The maintenance and improvement of the national road network is the responsibility of the National Roads Authority.

The main primary roads are as follows:

- N8 (which begins on Merchants Quay on the south of the River Lee: from McCurtain Street and Penrose Quay running east along the north bank of the River Lee.
- N20: from Camden Quay, running north and north-east to the New Mallows Road and Old Youghal Road.
- N27 (South City Link Road): connects the N8 from Penrose Quay and runs south to the South Ring Road (N40), Kinsale roundabout and onto Kinsale.
- N22: links the N8 on Merchant's Quay and runs south-west through the City and then west along the Lee River Corridor.

- N71 (Wilton Road): connects the N22 near County Hall and runs south to the Sarsfield Road roundabout to the South Ring Road, moves west, then south again onto the Bandon Road and continues south along the Glasbeen River Corridor. N25 (South Link Road): runs along the southern perimeter of the City limits, from east to west.
- To the west, the N22 leads to Ballincollig. There are four major linkages to the south of the county via the Bandon Road, Sarsfield and the Kinsale Road roundabout.
- The Bloomfield interchange to the east at the Douglas Estuary Bridge, connects with the N28 to Carrigaline, and northeast to the Jack Lynch Tunnel (N40), under The River Lee and onto The Dunkettle Interchange.
- At Dunkettle on the north-eastern outskirts of the City, the N8 merges with the N25 the route to Little Island and Midleton.

The N8 road connects with the N20 Limerick Road via the Northern Ring Road (R635) through the northern city suburbs of Mayfield and Blackpool. The absence of a Northern Ring Road, beyond the city boundary is to the detriment of the city's northern suburbs. There are capacity issues at the Dunkettle Interchange & Jack Lynch Tunnel, the Mahon Point Junction of the N40; and the N28 linking Ringaskiddy.

3.8.4 Port of Cork / Cork Harbour

The National Ports Policy (2013) identifies three ports in Ireland, namely, Dublin, Cork and Shannon-Foynes as the Ports of National Significance. Dublin as Ireland's largest port handles 43% followed and Shannon - Foynes which handles 20% of overall seaborne tonnage in the State. The Port of Cork handles approximately 19% of all seaborne trade in the State. In 2012 the total volume through Cork was 9.05 million tonnes, up from 8,434 million tonnes in 2011. The Port of Cork's Strategic Development Plan Review, 2010 outlined the long term goal to relocate commercial trade to the lower harbour at Ringaskiddy. The continued commercial development of these three Ports of National Significance (Tier 1) is a key objective of National Ports Policy.

3.8.5 Issues relating to Material Assets

Given the privatisation of the waste collection services in the City, and the closure of Kinsale Road Landfill and the absence of the proposed 'Southern Region Waste Management Plan,' the City Council's responsibilities to ensure that the collection, treatment and disposal of waste within its functional area is undertaken in a controlled manner by an authorised operator such that it does not pose a risk to human health or the environment and therefore targets in relation to waste prevention, reduction at source, reuse, recycling and recovery are difficult to monitor let alone to achieve.

Although there is some high quality public transport infrastructure within the city, such as the cork commuter rail-line and inter-city services, these do not constitute a realistic alternative for the majority to the private car as a mode of transport. Given the high dependency on the private car there is a conflict between the need to tackle congestion on the road network as opposed to facilitate road space to alternative modes such as public transport and cycling.

In order to optimise investment in high quality public transport such as a Bus Rapid Transit, the Council must facilitate the redevelopment of lands along the route in a manner that supports the infrastructural investment in terms of appropriate land use and density of development.

3.8.6 Evolution of Material Assets in the absence of a City Development Plan

In the absence of a City Development Plan, there would be no framework to provide or facilitate the necessary and essential infrastructure to serve the City, such as transport infrastructure, waste management, waste water treatment plants and water supply infrastructure, etc.

Failure to provide sufficient infrastructure for development would be likely to result in significant adverse impacts. For example, failure to upgrade and provide new waste water infrastructure would be likely to adversely impact upon water quality and indirectly significantly adversely impact upon biodiversity and flora and fauna, drinking water supplies and human health.

The City Development Plan promotes a shift away from private car use towards more sustainable forms of transport, and the redistribution of road space away from the private car to accommodate this. In the absence of the plan, it is likely that parts of the city will continue to be congested by private cars, with associated noise and air pollution. The absence of the plan would result in the failure to affect modal shift towards public transport, cycling and walking, which in turn would contribute to deteriorating air quality.

3.9 Cultural Heritage

3.9.1 Introduction

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes aspects of our heritage such as language, music, genealogy, folklore, sport, traditional food and local history, our accents, turns of phrase, local customs and collective memories.

Our cultural heritage links us to where we come from, gives our everyday lives a clearer focus and shapes an understanding of our city as a unique and special place. It is cultural heritage which makes Cork City an attractive vibrant place to live, work, study and visit. The protection of our heritage can result in environmental benefits, such as enhancing the quality of life of people and the economic benefit of providing tourism assets for visitors to enjoy.

The City Council acknowledges the importance of cultural heritage through the actions of the Cork City Heritage Plan. The Plan acknowledges the importance of the city's artistic life and cultural heritage and aims to protect and encourage its development.

Cork's built heritage contributes significantly to the city's identity and the richness and diversity of its urban fabric. The street pattern, local architectural buildings, the form of buildings and spaces, civic buildings, the Georgian urban extension, and areas of Victorian architecture that were a product of industry and provisioning activity, all contribute to creating the sense of place appreciated by the city and its proud culture.

As a growing / expanding city, there is a continuing need to balance day to day operations with the protection of cultural resources or fabric of the City. Historic buildings can define localities and communities within the City and can become a focus of community identity and pride.

This section will focus on the, built heritage of the city, namely, archaeological and architectural heritage. Within the City, there are a number of methods to protect the integrity of cultural assets including appropriate zonings, Architectural Conservation Areas (ACAs), Record of Protected Structures (RPS) and Record of Monuments and Places (RMPs), Zones of Archaeological Interest.

3.9.2 Archaeological Heritage

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. All remains and objects and any other traces of humankind from past times are considered elements of our archaeological heritage. Only through an understanding of the past obtained from the study of archaeology, history and cartography can the factors (topography,

location at a point where the River Lee formed a number of waterways, built fabric etc) which have influenced the shape of the city be appreciated. Archaeology in its various forms ranging from fragmentary buried remains to the fabric and contents of industrial buildings is a vital component of the culture, conservation and redevelopment of the city.

Archaeological remains are a non-renewable resource and so it is essential that they are properly safeguarded and managed. Most of these remains are fragile and vulnerable to current construction methods.

In the absence of standing buildings from the earlier periods of Cork's history the buried archaeological remains take on increased significance. A presumption in favour of the retention of the existing built environment is the best way of protecting the buried archaeological strata. This is most effectively achieved by the refurbishment of existing buildings, in situations where it is possible to retain the greater part of existing structures without the need for new foundations.

There are few surviving ancient monuments in Cork and most of the buildings are of 18th - 20th century date. In the absence of standing buildings from the earlier periods of Cork's existence, buried archaeological remains take on increased significance. Most of these remains are fragile and vulnerable in the face of current construction methods.

Above ground there are only a few surviving medieval and early post medieval structures such as Red Abbey Tower (15th Century), Elizabeth Fort (early 17th Century). Far more numerous are components of medieval buildings, incorporated into the walls of later buildings. The potential for the occurrence of elements of ancient structures within more modern buildings necessitates pre-development architectural survey and vigilance in demolition works.

3.9.3 Cork's medieval street pattern

The medieval street pattern of Cork is an intrinsic part of the city defining in large measure its unique layout and form. The laneways are of special significance to the character of the medieval core. In addition to their historic interest, the laneways are of immense value in terms of aiding permeability in the city centre by providing routes through larger city centre blocks. These lanes also provide a sense of discovery and interest to the visitor and help give a human scale to the city centre. The retention and enhancement of existing laneways within new developments will be encouraged. The preservation of the post-medieval streetscape (including traditional laneways) will also be promoted. The physical integrity of the medieval core should be respected through the retention of plot sizes which can be achieved by the refurbishment of existing buildings.

3.9.4 Cork's Medieval City Wall

Sources from the late sixteenth century show the medieval walled city of Cork as an impressive elliptical area characterized by towers and battlements. As evidenced by various archaeological excavations, the below ground level preservation of the city wall is unique and this stems from Cork's location in an estuarine marsh. Cork City Council is a member of the Irish Walled Towns Network (IWTN). The Council completed the Management Plan for the City Wall in 2008.

3.9.5 Burial Grounds

Outside of the historic core, numerous sites, especially church sites and burial grounds, are also of important archaeological significance. New buildings may not be appropriate here or may require extensive archaeological excavations. A Survey of the Burial Places within Cork City was published in 2010.

3.9.6 Protection of Underwater Archaeology

Cork was built on estuarine islands in the marshy valley of the River Lee at a point where it formed a number of waterways. It is possible that archaeological riverine-related features may survive in these areas and they may take the form of walk-ways, fish-traps, timber jetties or simple mooring posts. Under the National Monuments (Amendment) Act 1930-2004 all shipwrecks over one hundred years, underwater archaeological structures, features and objects are protected.

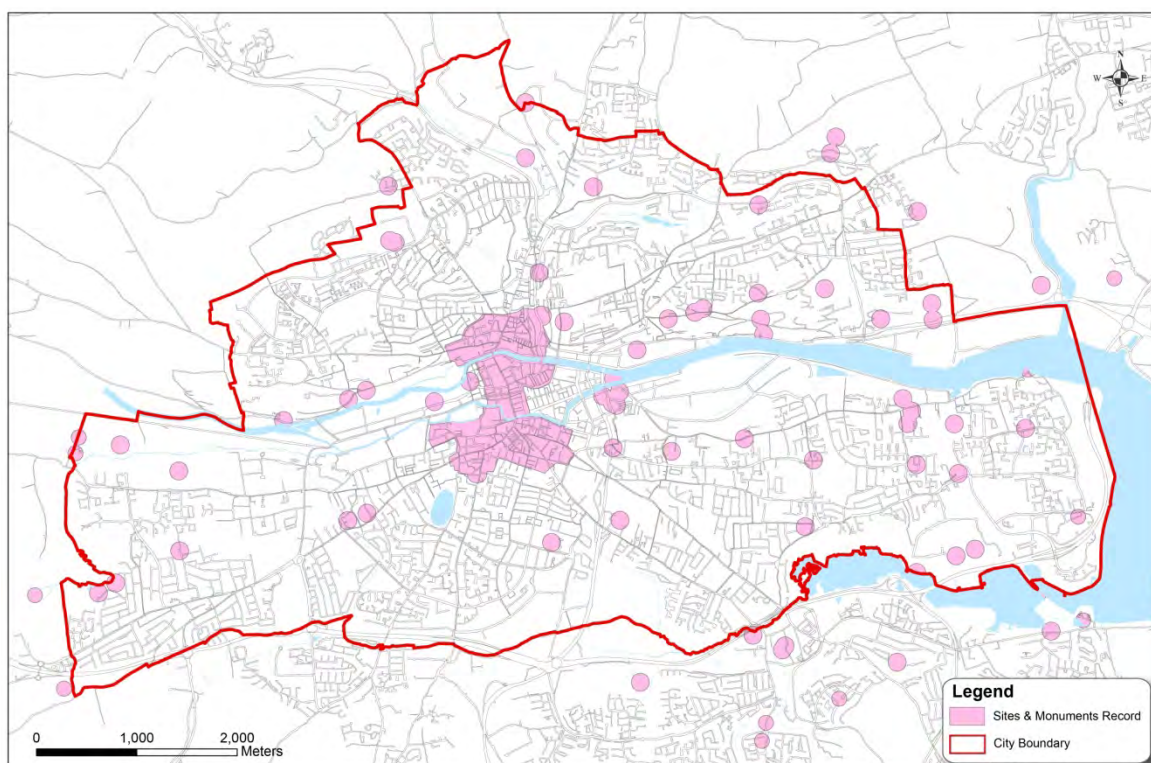
3.9.7 Industrial archaeology

Cork's development as a significant industrial centre in the 18th and 19th centuries has created an important record of historic archaeological remains still surviving in the contemporary city. Today many of the buildings that housed the industries and the associated warehouses, grain-stores, malt-houses, etc. still survive. Associated features, such as millraces, are particularly vulnerable as they may extend for considerable distances from the core building. Intact machinery and fittings rarely survive but structural elements designed to accommodate machinery can be extremely informative.

3.9.10 Record of Monuments and Places (RMP)

Archaeological sites are legally protected by the provisions of the National Monuments Acts, the National Cultural Institutions Act 1997 and the Planning Acts. The Record of Monument and Places (RMP) is a statutory list of all known archaeological monuments and it is maintained and updated by the Archaeological Survey of Ireland. New sites discovered since the publication of the RMP are available on the website www.archaeology.ie The RMP is accompanied by a set of maps on which the monuments are numbered and marked by a circle (Zone of Archaeological Potential). In assessing proposals for development Cork City Council will have regard to the recommendations of the Department of Arts, Heritage and the Gaeltacht.

Figure 3.15 Archaeological Sites



The Zone of Archaeological Potential (CO074-034--001) for the city centre includes the medieval historic core. There are 54 RMP sites located within this Zone and these include the site of the original monastery of Saint Finbarre and the medieval walled defences. In the medieval historic core archaeological remains lie within a metre of the modern surface, particularly in the North and South Main Street area and these strata can be present to a depth of 3 to 4m in places. The city wall also survives beneath the modern street surface and in some places is present less than 30cm below the present ground surface to a depth of 2.5m. Outside the historic core, the Zone of Archaeological Potential covers the un-walled medieval suburbs, known sites of medieval religious houses (Red Abbey), and parts of the city which were developed in the seventeenth and eighteenth centuries when marshes were reclaimed and new streets laid out.

There are 59 RMP sites located outside the Zone of Archaeological Potential for the City.

3.9.11 Architectural heritage

The City Council has a legal duty to protect and promote good custodianship of built heritage assets, including those on the Record of Protected Structures and in Architectural Conservation Areas with the resources that it has available to it.

The state of Cork's built heritage is intrinsically linked to the wider structural issues facing the city and how attractive it is to live, do business and visit the city. This is particularly the case in relation to the City Centre, which is the location for most of Cork's historic buildings. In addition, the state of Cork's built heritage is linked to the economic justification for continual investment in buildings. The re-use, rather than demolition, of older buildings also has wider sustainability benefits. These wider issues have been clearly recognised by preparation of the City Centre Strategy. Ensuring that Cork's built heritage assets have an economic purpose, are occupied and benefit from good custodianship is a key issue that needs to be addressed. This will involve the preparation of a Cork Buildings at Risk Strategy and a Historic Centre Action Plan.

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

Much of the attraction of the central parts of Cork lies in its heritage of 18th and 19th Century buildings. Though often not individually very important, these buildings contribute to the City's acknowledged distinctive character. Collectively, if properly used and maintained, they can make a significant impact on the retention and enhancement of that character. Sympathetic maintenance, adaptation and re-use can allow the architectural heritage to yield aesthetic, environmental and economic benefits even when the original use may no longer be viable. Conservation can be recognised as a good environmental choice as the reuse of buildings rather than their demolition contributes to sustainability through retaining the embodied energy of buildings and reducing demolition waste.

3.9.12 Record of Protected Structures (RPS)

Our architectural heritage is a unique resource and reflects the history of our commercial and social development, and our lifestyles over time, and also demonstrates the different building techniques and materials and designs. Such heritage gives each local area its own character and history. The Planning and Development Acts 2000 - 2006 introduced legislation and methods for protecting the Architectural Heritage and introduced the Record of Protected Structures to ensure that each Local Authority must include policy objectives in its Development Plan for Protected Structures or parts of structures of special interest.

A Protected Structure is a structure which is considered to be of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social, or technical point of view. The Record of Protected Structures (RPS) is a list of buildings held by a Local Authority which contains buildings considered to be of special interest in its operational area.

3.9.13 National Inventory of Architectural Heritage (NIAH)

The Minister for Arts, Heritage and the Gaeltacht has recommended, under the powers given to them by Section 53 of the Planning and Development Acts 2000-2012, that:

- 2,779 structures from a survey of Central Cork completed in 2003 be added to the RPS; and
- 752 structures from a survey of Suburban Cork completed in 2011 should be added to the RPS.

The City Council has a responsibility under the legislation to consider the recommendations of the Minister. As of 2012 the City Council has protected approximately 1,600 of the structures from the first survey by adding them to the RPS or including them within Architectural Conservation Areas (see Figure 3.14). The structures that aren't formally protected benefit from a form of protection through s53 (2) of the legislation, which allows the planning authority to have regard to the Minister's recommendations where a building is subject to a planning application.

Given the scale of the task of protecting these structures by statutory designation by inclusion on the RPS or by ACA designation it is proposed to formalize a policy for protecting these heritage assets, recognizing the limited resources to the City Council and that are available to assess their conservation value and administrate their protection.

3.9.14 Architectural Conservation Areas (ACAs)

Cork's historic areas can be protected by means of Architectural Conservation Areas (ACAs) under Section 81 of the Planning and Development Acts 2000 - 2006. The aim of designating areas is to protect their special characteristics and distinctive features from inappropriate actions. External works that would affect the character as described by the Planning Authority will require planning permission, whereas repair or refurbishment which does not materially affect the external character will not require planning permission.

The City Council as planning authority has a legal duty to seek the conservation and enhancement of Architectural Conservation Areas designated in the city by the Development Plan. Thirty-two Architectural Conservation Areas are protected under the current Plan. The draft Plan proposes an additional ACAs at Sunday's Well, The Mardyke, University College Cork, The Marsh/North Mall, Blackrock Road, Albert Quay and the former Ford Factory, Centre Park Road.

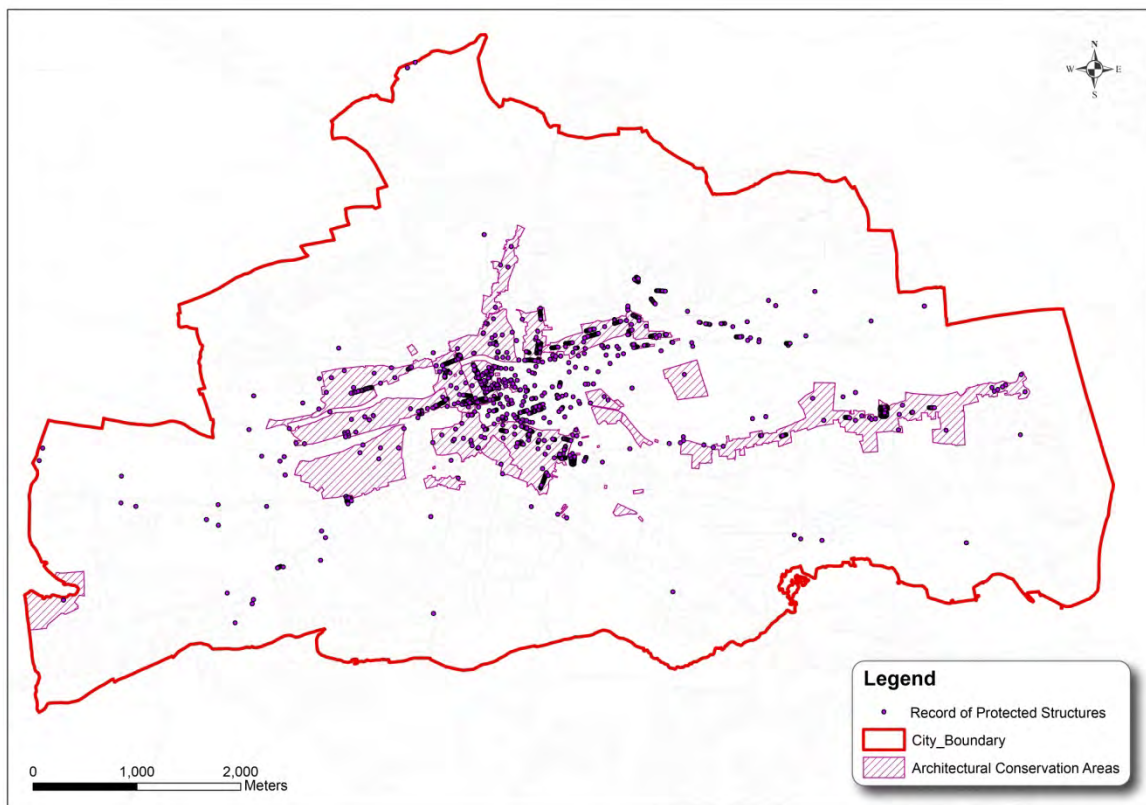
3.9.15 Historic Street Character Areas

Historic Street Character Areas include a number of older residential areas outside of the City Centre. The areas have street frontages and groups of buildings of architectural and social interest in terms of their group value, building volume, roof pattern and elevations / facades. The areas are generally urban vernacular of the following types: historic village nuclei, historic city approaches or groups of historic housing.

3.9.16 Other Elements of Built Heritage

Many non-structural elements such as curtilage features, historic gardens, stone walls, historic ironwork, historic plaques and street furniture contribute to our built heritage. These items are often an integral part of the urban landscape or provide significant historic references which contribute to the character of an area. These elements can be vulnerable to needless, partial or total destruction and theft as well as poor reconstruction due to carelessness and a lack of awareness. Of immense importance are the 19th century elements associated with the north and south channel. Important features include quay walls, railings, bollards, kerbing etc.

Figure 3.16 Architectural Heritage



3.9.17 Issues relating to Cultural Heritage

Although many aspects of heritage are protected under legislation, impacts can still occur as a result of development. Increased development pressure raises the potential for impact on the archaeology of the city unless properly assessed, managed and mitigated. Archaeology that is previously unknown can be damaged through development causing ground disturbance. This is particularly relevant within the City's Zone of Archaeological Potential.

Large scale developments in particular, has the potential to adversely impact upon cultural heritage as well as the medieval layout and settlement patterns of the City. Development which involves material alteration or additions to Protected Structures and NIAH buildings and structures within ACAs can detract from the special character of the structure and its setting, and have the potential to result in the loss of features of architectural or historic interest and the historic form and structural integrity of the structure are retained. Development on sites adjoining protected monuments, places or structures can also impact upon the setting of these cultural heritage items.

The National Inventory of Architectural Heritage highlights the scale of the task to protect the built heritage of the city. While these structures have a level of protection, they remain vulnerable to inappropriate alteration, extension or intervention. Many protected structures are threatened by neglect and deterioration where they lie vacant and unused and this can be difficult to address.

3.9.18 Evolution of Cultural Heritage in the absence of a City Development Plan

In the absence of City Development Plan, the city's cultural heritage, archaeology and architecture would be vulnerable to inappropriate development. The Plan provides guidance and direction in relation to balancing the need to facilitate growth within the city with the need to protect its built fabric, cultural character and identity. This would have wider economic implications relating to tourism for example, which relies heavily on built heritage.

3.10 Landscape

3.10 Introduction

Landscape is defined as an area, as perceived by people, whose character is the result of the action and interaction of natural and/ or human factors, (European Landscape Convention, 2000). Ireland as a signatory to the Convention is required to undertake general measures to recognise landscapes in law, establish landscape policies with public participation and to integrate landscape into its existing policies, such as regional and town planning.

Landscape shapes our image of a place, give us a sense of place, an identity and can be a source of pride and inspiration and so influence our well-being and quality of life. All aspects of our natural, built and cultural heritage come together in the landscapes we experience. Landscape is a finite resource but is constantly changing through natural processes and through human activity. Cork's landscape forms a key aspect of the city's character. The challenge is to manage the city's landscape in a manner that facilitates economic growth and development while protecting and enhancing the city's key landscape assets and resources.

3.10.1 Development of the City

Cork City's unique character derives from the combination of its topography, built fabric and its location at a point where the River Lee divides to form a number of waterways. Medieval Cork developed on islands in the River Lee and its original medieval layout survives in the historic core of the City. This layout is largely retained in the modern street plan of the central core. The walled enclosure of the medieval settlement extending from South Gate Bridge to North Gate Bridge was bisected by the long spine of the main street - today's South and North Main Streets. Many laneways and alleys led off the street at right angles, a large number of which still exist with others incorporated into the layout of later buildings providing, for example, access to backyards usually at either side of a pair of houses.

Over time, the medieval City extended in a number of directions. The roads from the south and north were developed at the same time as the walled town. From the later 17th century, the City gradually reclaimed the river marshes to the west and east. The newly reclaimed areas were separated by river channels which were used by the expanding shipping trade. As this trade grew, and as ships grew larger, the port activities moved downriver to the east and many of the river channels were covered over, becoming the wider streets and urban spaces such as St. Patrick's Street, Grand Parade, South Mall, Cornmarket Street and Emmet Place.

In the early 19th century Washington Street was created, cutting through the densely built up former medieval City, to connect the newly developed City Centre with the western suburbs. At the same time, the villas and country houses on the hills to the north and south were giving way to the blocks of terraced Georgian-style houses, many associated with the military barracks and navy.

The mills, warehouses, distilleries and breweries and other industrial buildings which survive in many parts of Cork bear witness to the economic expansion of the 18th and 19th centuries. Many of these buildings, as well as being of industrial archaeological importance, are also of significant architectural and social interest, and contribute greatly to the City's character.

3.10.2 Ridges

Cork City is characterised by dramatic topographical changes and prominent east west ridges, forming a bowl within which the City lies and providing a series of striking viewpoints from which the City can be viewed.

On the northside, the ridges in the Shanakiel, Tivoli and Montenotte areas form dramatic backdrops to the River Lee as it runs through the City. At the northern gateway to the City, there are prominent ridges on both sides of the Blackpool Valley, particularly in the Farranferris and Commons areas.

To the south of the City, the Maryborough Hill/ Rochestown/ Grange Ridge overlooks the Douglas Estuary, just outside the City boundary. A less prominent ridge bounds the northern side of the Estuary along Mahon Golf Course. These ridge landscapes are extremely important to the character of Cork, particularly where they remain as undeveloped green landscapes occupied by trees, tree groups and woodlands, and where they occupy the highest points on the landscape. Where buildings occupy the ridge, trees often make a very important contribution to their character by providing a softening of the slope and the ridges themselves.

3.10.3 Rivers

The City's rivers and their valleys play an important role in the layout and structure of the City and are an integral element of the City's landscape character. The River Lee runs west to east through the City splitting into the North and the South Channels. These channels enclose the Mardyke area and the City Centre itself, giving it a distinct islandlike character.

The landscape character of the southside is defined through a network of waterways - including the River Lee, Lough Mahon, Douglas River, Douglas Estuary, Tramore River and Curragheen/Twoport River - that enclose the area on all sides. The northside of the City is characterised by ridges and valleys, traversed by the River Bride and the Glenamought (Glen) River.

3.10.4 Landscape Strategy

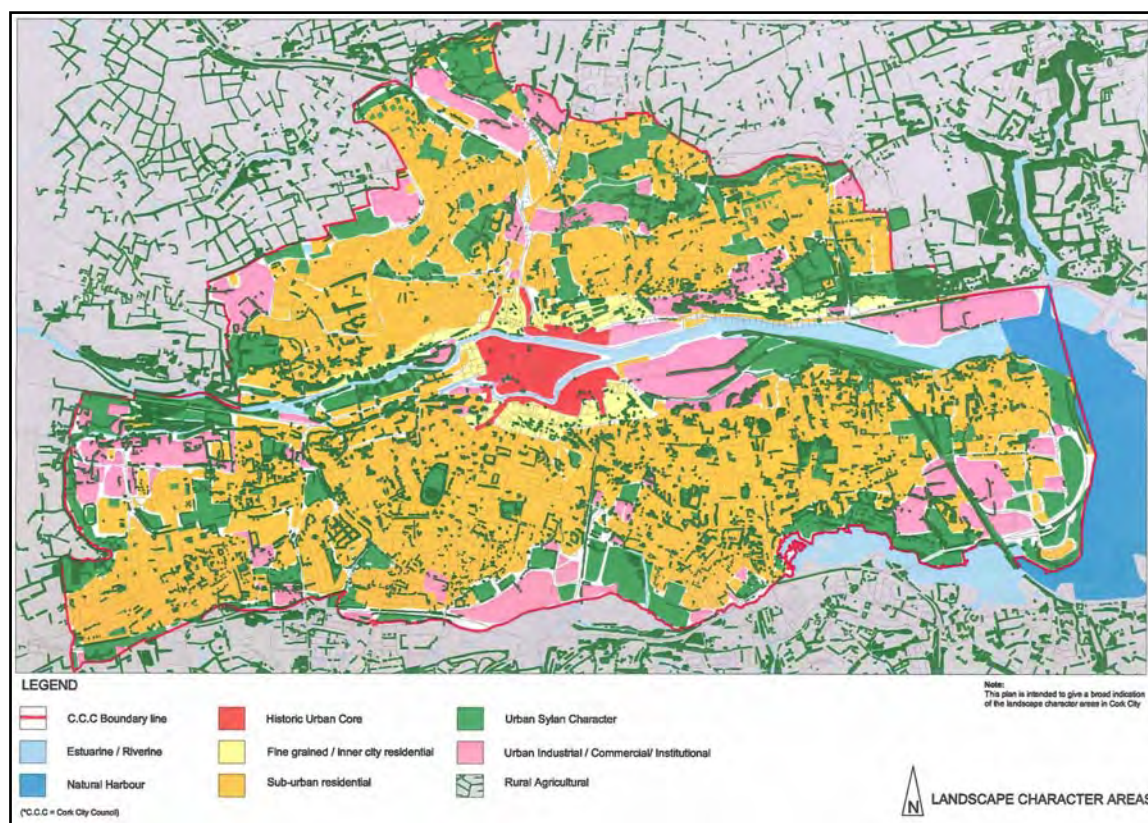
The Cork City Landscape Study 2008 was commissioned by Cork City Council to establish principles and provide the framework for protecting and enhancing the natural environment and positively managing its change, as well as providing the context within which the design of developments can take place in an appropriate manner. The methodology of the Study consisted of a Landscape Character Assessment; an Analysis of the Key Landscape Elements; and the identification of Key Landscape Assets and Formulation of Policy Recommendations.

The Landscape Character Assessment defined 8 no. Landscape Character Areas within the city as follows (see Figure 3.17):

- Estuarine / Riverine
- Natural harbour
- Historic urban core
- Fine-grained inner-city residential
- Suburban residential
- Urban sylvan character
- Urban industrial / commercial
- Rural agricultural.

The landscape strategy informs landscape policy of the City Development Plan. The Council will seek to enhance Cork's landscape through the development management process and through the development of a framework as follows:

Figure 3.17 Landscape Character Areas, (Landscape Study 2008)



3.10.5 Primary Green Links

To develop and enhance the River Lee Corridor (north and south channels), extending from the Lee Fields to Douglas Estuary as a series of public parks and accessible spaces linked by a continual linear park and walkways subject to Ecological Assessment by a suitably qualified Ecologist and AA Screening.

3.10.6 Secondary Green Links

To extend public access along the 'secondary' river tributaries and providing focus for new parks and upgraded landscapes, subject to Ecological Assessment by a suitably qualified Ecologist and AA Screening.

3.10.7 Key Landscape Areas

The development and improvement of key landscape areas in accordance with Landscape and Urban Design Frameworks such as Knocknaheeny Reservoir; The Glen Valley; Tivoli; Custom House Point; Tramore Valley Park; Elizabeth Fort; and Saint Anne's Hospital.

3.10.8 New Urban Woodlands

Tree planting schemes for the areas identified as having very little tree cover and would benefit from such schemes in terms of improved landscape quality and attractiveness. The areas include Cork City Centre / Docklands, Gurrabraher, Knocknaheeny / Fair Hill, Blackpool / Ballyvolane, Tivoli Docks and Industrial Estate, Ballinure / Mahon, South Ring West Business Park and the Municipal Landfill Site.

3.10.9 Landscape Protection

The Council will seek to preserve and enhance the landscape character of the city by protecting the significant landscape elements that are intrinsically important to, or contribute to the general

amenity of Cork City. The Council seeks to achieve this through the designation of Areas of High Landscape Value (AHLV) and Land Preservation Zones (LPZ) and Views and Prospects.

Planning applications within areas / sites benefiting from such landscape protection must demonstrate that there is no resulting adverse impact on the landscape assets and character of the area, by means of a design statement that includes a landscape assessment and visual impact assessment the impact.

3.10.10 Landscape Preservation Zones

Landscape Preservation Zones (LPZs) are areas in need of special protection as their character and amenity value is considered to be highly sensitive to development and as such have limited or no development potential. Typically the landscape character of LPZs combines distinctive landscape assets such as topography / slope, tree cover, setting to historic structures / other types of open spaces and other landscape assets.

The objective of LPZs is to preserve and enhance the landscape character and assets of the sites. There will be a presumption against development within LPZs. In exceptional circumstances, there may be limited scope for development to enable existing occupiers to adapt existing buildings to their evolving requirements, providing that the form or nature of development is compatible with the landscape character of the area.

3.10.11 Areas of High Landscape Value

Areas of High Landscape Value comprise one or more landscape asset identified in the Cork Landscape Study 2008 and typically, combine one of the primary landscape assets (Topography, River Corridor, Tree Cover) with other landscape assets.

Areas of High Landscape Value display an intrinsic landscape character and a special amenity value. Development will be appropriate only where it results in a neutral / positive impact on the landscape. Although many AHLVs consist of a built form and a strong landscape character, typically the built form is secondary to the landscape character.

There will be a presumption against development where it causes significant harm or injury to the intrinsic character of the Area of High Landscape Value. New development in AHLVs must respect the character and the primacy and dominance of the landscape. Development on steep sided slopes, escarpments and ridges is inappropriate.

3.10.12 Views and Prospects

Cork City benefits from the prominent ridges which provide a series of striking viewing points of the city. This important resource helps to define the character and identity of the city. Given the development pressures associated with the planned growth of the City, the Council is faced with the challenge of managing development and protecting the city's valued landscape and views of same.

In general, the city is appreciated by most people along viewpoints such as the River Lee and panoramic views from elevated sites. Amenity views and prospects are defined as those views which significantly contribute to the character and amenity of the city, namely,

- the visual envelope of the city defined by the ridges to the north and south;
- the city skyline,
- the built and natural heritage of the city.

Cork City Council has identified a number of existing views and prospects of special amenity value to the city. These special views are of strategic significance to Cork City and the City Council will seek to protect and enhance them, where appropriate. In order to fully appreciate and legislate for the unique size, scale and distinctive topography of Cork City.

There will be a presumption against any development that threatens to obstruct strategic views or compromise the quality or setting of these views. In addition to the strategic views and prospects of special amenity value, local views of significance are also very important to the character and legibility of neighbourhoods. Local views will be identified and assessed on a case-by-case basis through the planning process. There will be a presumption against any proposal that would cause unacceptable harm to local views of significance and their settings.

3.10.13 Types of Views

(i) Linear Views of Landmark Buildings

These occur where a particular landmark/ building is the main point of focus. Views tend to be framed within relatively narrow viewing corridors such as laneways and streets. The views of landmark buildings are considered to be of particular importance and special amenity value.

(ii) Panoramic Views

Panoramas are wide views of the city and suburbs (often from elevated sites) featuring a varying number of city's landmarks. These views are considered to be of particular importance.

(iii) River Prospects

River prospects are views of landmark buildings from bridges but also riverbanks and quaysides.

(iv) Townscape and Landscape Features

These are views of areas that have distinctive/ outstanding townscape or landscape features within the city including views of the city ridges.

(v) Approach Road Views

The approach roads into Cork city offer visitors the vital 'first impression' of the city and glimpse of the unique topography and character of Cork.

3.10.14 Environmental Impact Assessment

Landscape and visual impact assessment as part of EIA requirements for scheduled projects assesses the likely impact on landscape and visual baseline resources and propose mitigation measures to residual impact.

3.10.15 Trees and Urban Woodlands

Trees make a valuable contribution to the biodiversity, local visual amenity and landscape value of Cork City. It is important to protect and maintain existing trees or groups of trees in the city. Trees can help to absorb pollutants, filter dust, reduce noise, produce oxygen and reduce carbon dioxide as well as enhancing the aesthetics of the built environment and public realm thus benefiting Cork City's environmental and economic wellbeing.

Cork City Council carries out an annual tree planting programme and a number of tree surveys have been carried out, as an action of the Heritage Plan 2007-2012 throughout the city. Key trees and tree groups were identified and mapped such as those in the Bishops Palace, Curragheen House, Rockrahan House, Cork Business Technology Park, The Lough, The Presbytery, Hayfield Manor and the Mardyke walk.

The Planning and Development Acts sets out the legal framework and procedures to make a Tree Preservation Order. The City Council has made a number of Tree Preservation Orders listed as follows:

- Irish Distilleries, North Mall
- Westboro, Middle Glanmire Road
- Lakeview, Castle Road
- Belgrave Square, Wellington Road
- Ringmahon Road
- Roseville, Old Youghal Road
- Springmount
- Rockmahon, Castle Road
- Brookfield House(Village), College Road
- Deerpark, Greenmount
- Ardnalee, Middle Glanmire Road

The Landscape Strategy 2008 identifies important trees and tree groups within the city which are worthy of protection under local and/or national legislation. Their value is generally based on their contribution to the broader landscape but may also be due to their ecological and cultural significance. Some areas of significant tree coverage include the trees in the Tivoli and Montenotte Ridges which are linked visually to those at Glanmire Wood, Lota and Lotabeg and all lie adjacent to the Lee. As a whole they form a unique sylvan setting on entering the city. These areas also form a magnificent backdrop when viewed from the south side of the River Lee.

The Landscape Strategy also identifies important individual mature trees, small tree groups and those associated with large period houses and estates. Many of the trees have strong cultural and aesthetic value and although the trees are somewhat scattered and isolated they have a strong visual presence.

A number of large areas of the city suffer from low tree canopy densities including: Knocknaheeny, Blackpool Valley, Gurranaברה; City Centre; North Docklands; Tramore Road area and South Mahon. These areas would benefit from new and enhanced landscape structures through development or City Council initiatives.

Robust and appropriate levels of protection will be provided in the Plan for trees and tree groups identified and surveyed.

3.10.16 Issues relating to Landscape

While recognising that landscape is not static but is constantly changing, the most significant impact of development on the landscape relates to its visual impact. The potential exists for individual and cumulative detrimental visual impacts as a result of new development in particular on high grounds and ridges around the City centre.

Protecting important landscapes (designated and undesignated) and elements of the landscape, such as trees. Changes in the private landscape through (re)development, from small-scale removal of front residential gardens for parking to larger scale changes in the landscape associated with institutional facilities.

Increasing access to semi-natural landscape and creating new linkages within the existing urban fabric. Creating new landscapes or publicly accessible landscapes for an increasing population.

Balancing competing demands or incompatible uses within the public landscape, such as biodiversity as opposed to leisure & recreational uses.

Managing the environmental impacts on the landscape to mitigate against road noise and air quality, etc.

3.10.17 Evolution of Landscape in the absence of a City Development Plan

In the absence of a Plan there would be no framework directing developments to appropriate locations or limiting development or requiring mitigation measures for developments located in visually sensitive areas. In the absence of such a framework, sensitive landscape areas and sensitive views would be more likely to be impacted upon. The cumulative impact of haphazard development within sensitive landscapes could erode the character of the City.

The absence of a Plan would put the City's unique landscape under increasing development pressures resulting in detrimental impacts to the environmental, ecological, social, recreational and aesthetic qualities of the city.

CHAPTER 4 STRATEGIC ENVIRONMENTAL PROTECTION OBJECTIVES

4.1 Introduction

This section identifies the Strategic Environmental Protection Objectives (EPOs) used to assess the Draft City Development Plan. EPOs are methodological measures against which the environmental effects of the Plan can be tested. If complied with in full, EPOs would result in an environmentally neutral impact from the implementation of the Plan. The EPOs are set out under a range of topics and are used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated. The EPOs are distinct from the objectives of the Plan, but they may overlap, and are developed from international, national and regional policies and include those of various European Directives which have been transposed into Irish law.

The SEA Directive requires that the evaluation of plans be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. In compliance with this requirement, the SEA has focused upon the most relevant aspects of the environmental characteristics within and surrounding the City.

EPOs relating to these environmental characteristics have been developed throughout the SEA. Most attention has been given to environmental components which are likely to be impacted as a result of implementation of the Plan. A number of EPOs are linked to indicators which can facilitate monitoring the implementation of the Plan, as well as to targets which the Plan can help work towards. The EPOs have been informed by Table 4B of the SEA Guidelines (DEHLG, 2004) and have been selected on the basis of local circumstances and environmental issues in Cork city. The EPOs fulfil the obligations set out in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).

The EPOs are linked to targets and indicators. Targets set the aims and thresholds which should be taken into consideration to effectively assess the impact of the Plan on the environment. These targets once breached would require remedial action. Indicators are those measures used to track the achievements of the EPOs towards the particular targets set and to monitor the implementation of the Plan and its impact on the environment. [Note that the EPOs have been refined from that listed in the Scoping Report].

Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.1 Population & Human Health

Population and Human Health	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.	Increase in population	Population of city
		Increase in number of residential properties	Number of residential properties/ average density of development permitted
		Increased modal shift from private car to public transport and cycling	Modal shift; Number of residential units and employment floorspace within 400metres of bus route / planned BRT; Measure of new cycle-ways.
		Avoid incompatible development near SEVESO and IPPC sites	Number of permissions granted within the consultation zones of Seveso or IPPC sites.
		Improved access to community and recreational facilities	Number of primary health care/ schools/ crèches/ community parks/ sports facilities permitted

Table 4.2 Biodiversity, Flora and Fauna

Biodiversity, Flora & Fauna	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings.	Maintain the favourable conservation status of all habitats and species, especially those protected under national and international legislation	Number of developments receiving planning permission within designated sites or within the consultation distance of designated sites where the HDA process identified potential for impacts
		Delivery of the Cork City Biodiversity Action Plan 2009-2014 and its objectives	Totals of, or reduction in the quantum of 'greenfield' lands; length of linked green corridors
		Establishment of a green infrastructure strategy for the county	Number of actions achieved in biodiversity action plan
		Protect habitats from invasive species	Progress on green infrastructure strategy Monitor extent and distribution of invasive

Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.2 Biodiversity, Flora and Fauna continued

Biodiversity, Flora & Fauna continued			<p>species</p> <p>Monitor distribution of butterfly, otter, bat populations</p> <p>Monitor street trees</p> <p>Increase in area of wetlands / swales (SUDS) on new developments</p> <p>Length of channel converted from culvert to natural channel</p>
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Table 4.3 Soil

Soil	To protect and enhance the soil and 'Greenfield' resources of the City.	To reduce the use or development of Greenfield sites	Number of greenfield sites developed or preserved
		To encourage the re-use of Brownfield sites	Number of brownfield sites redeveloped
			Volume of construction and demolition waste recycled
			Increase or reduction in number of vacant and derelict buildings. Derelict sites register.

Table 4.4 Water

Water	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of all water and habitat based legislation including the Water Framework Directive.	Achieve (maintain) 'good' status of all surface waters.	Status of Surface Water (under Surface Water Regulations SI No 272 of 2009).
		Achieve (maintain) compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC.	Ecological Status of Water Bodies
		To permit development in accordance with WWTP capacity and discharge licenses.	Status of Bathing Waters (under Directive 2006/7/EC).
			Status of Groundwater (under Directive 2006/118/EC).

Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.4 Water continued

<i>Water continued</i>		To provide adequate water, wastewater treatment and drainage infrastructure / flood prevention works	Number of households served by 'public' urban waste water treatment plants or individual systems.
		All water bodies to meet targets set in SWRDB plan (in accordance with S.I. 722 of 2003).	Number of households served by 'public' water supplies.
		To maintain safe status of drinking water and water sources - EC (Drinking Water (No. 2) Regulations 2007 and EC (Quality of surface water intended for the abstraction of drinking water) Regulations 1989.	Quantum of capacity and demands of water supply and wastewater infrastructure.
		All designated Bathing waters to comply with the requirements of the Bathing Water Quality Regulations 2008 (SI No 79 of 2008).	Number of development schemes incorporating SuDS such as swales and on-site wetlands.
		Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for Biodiversity.	Length of watercourses culverted.
		Ensure sustainable levels of abstraction of surface and ground water and promote water conservation.	Measure of water loss / waste through leakage;
			Number of development schemes incorporating water conservation strategy.

Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.5 Climate and Air

Climate & Air	Contribute to the mitigation of and adaptation to climate change such as flooding, air quality and noise issues.	Meet (maintain) air quality status targets in line with Air Quality Framework Directives.	Monitor level of pollutants, including particulates and Nitrogen Oxides
		Minimise noise pollution for city residents	Percentage of residential properties exposed to high sound levels
		Increase energy efficiency, renewable energy sources and reduce energy waste	Percentages/ quantum of population travelling to work by public transport, walking or cycling.
		Decrease / minimise emissions of greenhouse gases	Number of permitted schemes in flood plains/ areas at risk of flooding
		Increase modal shift to public transport, walking and cycling.	Number of permitted wind turbines.
		Provide flood protection measures where appropriate.	Number of permitted developments incorporating solar panels
		Avoid inappropriate development in areas of flood risk.	

Table 4.6 Material Assets

Material Assets	To make best use of the City's infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City's population.	Develop the road, rail and public transport infrastructure to facilitate sustainable growth and travel patterns.	Percentage changes commuting modal shift from car to alternatives Number of passengers / journeys by bus and rail
		Ensure an efficient water supply and wastewater treatment infrastructure in line with demand	Quantum of demand and capacity of water supply services and wastewater treatment.
		Protect and optimise the use of the existing building stock.	Quantum of water loss / waste through leakage
		Protect and enhance green infrastructure such as 'greenfield' lands and recreational facilities	Number of critical infrastructure projects completed Number of vacant / underutilised buildings

Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.6 Material Assets continued

<i>Material Assets continued</i>		Reduce the generation of waste, and waste to landfill and to operate sustainable waste management practices	<p>Number of derelict sites</p> <p>Quantum of 'greenfield' sites developed</p> <p>Quantum of domestic and commercial waste generated; disposed to landfill and / or recycled</p>
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Table 4.7 Cultural Heritage

Cultural Heritage	To protect and where appropriate, enhance the character, diversity and special qualities of the City's cultural, architectural and archaeological heritage.	<p>No loss of or adverse impact on the fabric or setting of monuments on the Record of Monuments (RMP).</p> <p>No loss of or adverse impact on the architectural heritage value or setting of Protected Structures and Architectural Conservation Areas</p> <p>No loss of or adverse impact on structures recorded on the National Inventory of Architectural Heritage.</p> <p>Implementation of current Cork City Heritage Plan 2007-2012. Preparation of new Heritage Plan.</p>	<p>Loss of or adverse impact on monuments on the Record of Monuments</p> <p>Loss of or adverse impact on Protected Structures, Architectural Conservation Areas, or NIAH Structures</p> <p>Number of Protected Structures</p> <p>Number of Protected Structures put 'at risk' or on Derelict Sites Register</p> <p>Number of Architectural Conservation Areas</p> <p>Number of Archaeological Sites investigated</p> <p>Number of formal advice statements issued (Section 5s & 57s)</p> <p>Number of proposed plans and schemes screened / assessed by the City Archaeologist and the Conservation Architect</p>
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Environmental Receptor	Environmental Protection Objective	Target	Indicator
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Table 4.8 Landscape

Landscape	To protect and where appropriate, enhance the character, diversity and special qualities of the City’s landscapes.	<p>No large scale or inappropriate development permitted in areas of high landscape value or landscape preservation zones</p> <p>Protect and enhance all designated sites and landscapes and features of significance</p> <p>Protect and enhance all non-designated Greenfield sites</p> <p>Develop new areas of open space</p> <p>Increase tree coverage and protect significant trees</p> <p>Number of new landscapes created and linear connections between green spaces / habitats</p>	<p>Number of large scale developments permitted in areas of high landscape value or land preservation zones.</p> <p>Number of new parks / quantum of area</p> <p>Number of trees planted</p> <p>Quantum of area categorized as landscape / green infrastructure</p> <p>Length of linked landscape corridor</p> <p>Tree Preservation Orders</p>
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Table 4.9 Strategic Environmental Protection Objectives (EPOs)

EPOs	Environmental Objectives
Population / Human Health	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.
Biodiversity, Flora & Fauna	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings
Soil	To protect and enhance the soil and ‘Greenfield’ resources of the City.
Water	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of the Water Framework Directive.
Climate & Air	Contribute to the mitigation of and adaptation to climate change such as flooding risk management, air quality and noise issues.
Material Assets	To make best use of the City’s infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City population.
Cultural Heritage	To protect and where appropriate, enhance the character, diversity and special qualities of the City’s cultural, architectural and archaeological heritage.
Landscape	To protect and where appropriate, enhance the character, diversity and special qualities of the City’s landscapes.

CHAPTER 5 ALTERNATIVE SCENARIOS

5.1 Introduction

Article 5 of the SEA Directive requires Cork City Council as a plan making authority to consider “reasonable alternatives taking into account the objectives and geographical scope of the plan” and the significant environmental effects of the alternatives considered. This section identifies, describes and evaluates three alternative development scenarios considered during the preparation of the draft City Development Plan.

The alternative scenarios are reasonably distinct and provide an overview of the options available in deciding the core strategy for the plan, having regard to national and regional plans. Having evaluated the alternative scenarios, the potential impacts of each are identified thus informing the selection of a preferred alternative for the City Development Plan. The policies and objectives which are required to realise the preferred alternative are evaluated in this section.

5.2 Policy Guidance

5.2.1 The National Spatial Strategy 2002-2020, (NSS)

The NSS sets out the strategic planning framework for the future development of Ireland, promoting balanced regional development around the country and designates Cork as a Gateway city to act as the driver for population and employment growth in the South-West Region.

5.2.2 The South West Regional Planning Guidelines 2010-2022, (SWRPG)

The SWRPG take the NSS objectives to a regional level and provide the overall planning framework for the South-West Region. It aims to concentrate population and employment in Cork as the Gateway City and sets a population target of 150,000 for Cork City.

5.2.3 Cork Area Strategic Plan 2020 (CASP) and CASP Update 2008

CASP also has a significant role in the planning of the Cork Gateway and it aims to secure regeneration of Cork City as the engine of the region and to focus development in Cork City and adjacent parts of County Cork.

5.3 Methodology

The Alternative Scenarios for the Plan generally focus development on the Key Development Areas and District Centres. The key development suburban areas are Blackpool/ Kilbarry, Mahon, Tivoli and the Tramore Rd/ Kinsale Rd. Each centre represents an important gateway to the city. These centres, in combination with the City Centre and Docklands provide the main employment and mixed-use opportunities for the city in the medium to long term. The objective for these areas is to create vibrant, high quality urban residential and employment locations served by an expanded and integrated public transport system.

There are five suburban District Centres in the Cork, namely, Blackpool to the north, Ballyvolane to the north-east, Wilton to the south-west, Douglas to the south, Mahon Point to the south-east. Hollyhill Neighbourhood Centre in the north-west of the city has the potential to be District Centre, with an emphasis on convenience goods and local services. The objective is to develop these centres into mixed-use, urban centres with good public transport access and high quality urban design.

The Key Development Areas open for inclusion in each scenario are as follows:

5.3.1 City Centre

A healthy City Centre is essential for the city region as a whole. The strategy is for the City Centre to continue as the economic, social, and cultural heart of the city, supported by further public realm improvements, protection and enhancement of its existing character and upgrade in access through investment in public transport, walking and cycling.

5.3.2 Docklands

The redevelopment of the North and South Docks is the most significant sustainable development opportunity for the City Region. It is an attractive waterfront location adjoining the city centre that can be well served by public transport. The delivery of Docklands development is critical to the city achieving its population and employment targets and to the implementation of the CASP update strategy as a whole.

5.3.3 Mahon

There is significant potential for further residential and offices based uses on 'greenfield' lands and existing industrial and technology sites. A land-use and transportation strategy is set out in the Draft Mahon Local Area Plan.

5.3.4 Blackpool

There is significant 'brownfield' and 'greenfield' opportunities such as mixed-use development in Blackpool and the former Sunbeam Complex; residential development at Old Whitechurch Road; and technology/office based industry development at Kilbarry.

5.3.5 North-West Regeneration Area

A major regeneration initiative is underway in the north-west of the city focussed on the Knocknaheeny and Hollyhill areas as set out in the North-West Regeneration Masterplan & Implementation Report. When complete it will yield over 600 residential units (a net increase of over 200 units), both social housing and private housing, and associated recreational and community facilities and services, as well as employment opportunities.

5.3.6 Tivoli

The planned relocation of the Port of Cork container operations from Tivoli creates the potential to consider the future development of this area for more intensive uses. Development will not occur in the short term. A Local Area Plan will be prepared to determine the appropriate mix of uses, extent and timing of development.

5.3.7 Tramore Road / Kinsale Road

There is some potential for redevelopment of this area for a wider mix of uses which could help support the development of a high quality public transport route from the Northside through the City Centre to the airport. It currently houses low density employment uses and performs a suitable location for such uses in the city. The potential for other uses, such as residential will be examined by a Local Area Plan or other suitable mechanism.

5.3.8 Rapid Transport Corridor

An Indicative Rapid Transport Corridor running east-west linking Mahon to Bishopstown via Docklands and the City Centre was identified.

5.3.9 The 'Do-Nothing' Scenario

As the current City Development Plan is required to be reviewed and replaced by a new Plan under legislation a 'do-nothing' alternative is not considered reasonable as policies would become out of date and would not reflect the changes in national and regional policies. However, it is acknowledged that 'Scenario 1- Minimal Approach' is the closest realistic scenario to a 'do-nothing' scenario.

5.4 Description of Alternative Scenarios

5.4.1 Introduction

The following Alternative Scenarios have been assessed against the Environmental Protection Objectives of the City Development Plan.

Scenario 1: Minimal Approach

Scenario 2: Market-led Approach

Scenario 3: Selective Concentrations

5.4.2 Scenario 1: Minimal Approach

This scenario seeks to restrict or limit new development. The priority is to protect the existing character and amenity of residential areas and the built and natural heritage of the city. The entire plan area under this scenario would be covered by blanket policies providing for conservation and protection. This approach seeks to maintain the status quo as far as possible, to limit the development potential of key development areas and to restrict new development to the established scale, density and character of development in the respective areas of the city.

This approach would result in low density development with negative economic and social implications. The City's available land resources and development capacity would be limited / diminished and would be exhausted in a short timeframe.

The opportunities and resulting benefits of urban regeneration would be lost or compromised, potentially leading to long term urban decay. New development would locate in the outer suburbs, (resulting in urban sprawl) beyond the administrative boundary, thus leading to car dependence and unsustainable commuting patterns.

This approach would protect the City's built and natural environment and would give stability to established residential areas. However, an overly protectionist approach of the existing form and character of the city would in the long term hinder investment and be detrimental of the City's social, economic and environmental fabric.

Restricting development in this way is contrary to the principles of proper planning and sustainable development which seeks to facilitate appropriate higher density development within the city centre, inner suburbs and brownfield sites in order to minimise urban sprawl and facilitate high quality public transport systems.

Protecting the established scale and character of the city and the built and natural heritage will prohibit investment and development and would be detrimental to the city's economy as investment would locate outside the City boundary. In terms of transport, the City would be less compact and less capable of supporting a high quality integrated public transport system.

As a result of this approach, areas of social and economic deprivation would not benefit from much needed investment or environmental improvements and would be likely to further decline. By significantly limiting the City's development potential to this scenario would be likely to give rise to environmental problems.

5.4.3 Scenario 2: Market-led Approach

This scenario seeks to relax planning controls and to encourage and support higher density development in all development areas and infill sites. There is little emphasis on protecting residential and environmental amenity, or the built and natural heritage of the city. The location and nature of new development is dependent entirely upon market demand.

Encouraging higher densities on 'infill' and 'brownfield' sites where they arise would result in a dispersed pattern of development with pockets of high density development scattered throughout the city, predominantly on the southside of the city.

The absence of a coherent settlement strategy would compromise planned high quality public transport system and contribute to the development of a disjointed and chaotic building form in the city.

All potential sites would be considered suitable for high rise, high density development, transforming the skyline and character of the City. This approach would be highly contentious to local communities as it is likely to result in injury to the residential amenity in established neighbourhoods.

This approach would place many green spaces such as sports grounds and protected landscape ridges which define the character of the city under increasing development pressure and would inevitably result in the loss and / or damage of some.

As the location and nature of development would be dependent upon market demand, new development would be disproportionately located on the more desirable and marketable southside of the city, centring on established growth and employment areas like Bishopstown, Douglas, and Mahon.

Furthermore, socially and economically deprived areas, many of which are on the northside of the city would be neglected and suffer further decline. District Centres would be likely to continue to accommodate retail growth as opposed to evolving into mixed-use urban centres, resulting in the deterioration of the City Centre.

5.4.4 Scenario 3: Selective Concentrations

This scenario takes a balanced approach to new development. The focus is on higher density mixed-use development in suitable strategic locations throughout the City, namely, the key development areas and district centres, while protecting the residential amenity and character of established residential areas by restricting inappropriate scale and design. A new District Centre would be proposed for the North- West of the City at Hollyhill Neighbourhood Centre.

Higher density development will reduce pressures on 'greenfield' land, sensitive landscapes and built heritage. The prerequisite to (re) development would be the preparation and adoption of Local Area Plans or suitable alternative mechanisms.

This approach is consistent with the principles of proper planning and sustainable development as it aims to maximise urban development on inner urban and 'brownfield' sites, thus mitigating suburban sprawl and supporting investment in high quality public transport infrastructure.

Focusing development in key growth areas should ensure that existing residential areas facilitate appropriate levels of development relative to their carrying capacity thus protecting the established character and residential amenity; and should reduce pressure on 'greenfield' sites and landscape assets within the city and to a less extent such sites across the metropolitan region, thus reducing adverse environmental impacts from increased car dependence and associated emissions.

Targeted growth in or close to socially and economically deprived areas will improve access to community services and employment and benefit the physical environment.

CHAPTER 6 EVALUATION OF ALTERNATIVE SCENARIOS

6.1 Introduction

Cork City Council is required by the SEA Directive to consider ‘reasonable alternatives taking into account the objectives and geographical scope of the plan or programme’ and the significant environmental effects of the alternatives selected. The alternatives must be reasonable and capable of implementation within the statutory and operational requirements of the Plan. The three identified alternative scenarios have been assessed for planning and environmental impacts against the existing environment, (environmental baseline) and the environmental protection objectives, (EPOs) during the preparation of the draft City Development Plan.

Based on an understanding of the existing and emerging environmental conditions in the City a series of EPOs were developed in order to assess the likely environmental effects which would be caused by implementation of each of the alternative scenarios described. Each Scenario was assessed to see whether it was likely to have a positive, negative, uncertain or neutral impact on the EPOs.

Table 6.1 Environmental Protection Objectives (EPOs) of the Plan.

EPOs	Environmental Objectives
Population / Human Health	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.
Biodiversity, Flora & Fauna	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings
Soil	To protect and enhance the soil and ‘Greenfield’ resources of the City.
Water	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of the Water Framework Directive.
Climate & Air	Contribute to the mitigation of and adaptation to climate change such as flooding risk management, air quality and noise issues.
Material Assets	To make best use of the City’s infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City population.
Cultural Heritage	To protect and where appropriate, enhance the character, diversity and special qualities of the City’s cultural, architectural and archaeological heritage.
Landscape	To protect and where appropriate, enhance the character, diversity and special qualities of the City’s landscapes.

Table 6.2 Summary Interactions of the Development Scenarios against the EPOs.

EPOs	Scenario 1	Scenario 2	Scenario 3
Population Human Health	Neutral	Negative	Positive
Biodiversity Flora Fauna	Positive	Negative	Positive
Soil	Neutral	Unclear	Positive
Water	Positive	Negative	Neutral
Climate & Air	Negative	Negative	Positive
Material Assets	Neutral	Neutral	Neutral
Cultural Heritage	Positive	Negative	Unclear
Landscape	Unclear	Negative	Positive
Overall Assessment	Positive	Negative	Positive

**Unclear Impact may include positive and negative impacts*

6.2 Scenario 1: Minimal Approach

6.2.1 Planning Effects

The economic and social implications of this scenario would be negative. The City's available development capacity would be realised in a very short period of time thus leading to urban sprawl into the adjoining administrative area. Potential benefits that could be realised through the redevelopment of Key Development Areas would be compromised and lead to urban decline. Maintaining the current form and character of the city would be detrimental of the City's social, economic and environmental fabric.

This approach is contrary to the principles of proper planning and sustainable development, namely, seeking higher densities in the city centre and 'brownfield' sites to maximise investment in infrastructure such as high quality public transport systems.

Prioritising the protection of the established urban fabric and environment and so limiting the extent, scale and form of all new development would inhibit investment in new development. It would be detrimental to the City's economy, in particular the city centre, as the critical mass of population required to sustain it would not be achievable. The population would become more dispersed and therefore more car dependent in order to access services, etc. leading to increased greenhouse gas emissions. Business would be likely to relocate close to the dispersed population outside the city, making planned investments in high quality public transport less feasible.

The areas with the highest level of economic and social deprivation which are in greatest need of access to investment, services and employment and environmental improvements would be unlikely to improve but suffer further decline.

6.2.2 Environmental Effects

This scenario would significantly undermine the capacity of the City to accommodate new development and would fail to maximise limited available land resources. As opposed to reducing

development pressures on 'Greenfield' lands in the Metropolitan area it would have the opposite effect and lead to the long term decline of the City's environment.

This scenario would have little impact upon biodiversity, flora and fauna within the City, but would be likely to have detrimental effects outside the City boundary, as Greenfield sites and potentially protected areas would come under increasing development pressure.

This scenario would be likely to increase encroachment into and loss of important habitats in the peripheral areas of the City and into the wider Metropolitan area, thus affecting biodiversity, flora and fauna. It would result in the loss of soil resources for agriculture or recreational purposes and have surface water implications.

Greenfield development is more likely to pose a threat to the status of watercourses and adversely impact on biodiversity, flora, fauna and human health.

Limiting population growth within the city, resulting in urban sprawl will increase car dependency and increase energy use and greenhouse gas emissions and prohibit investment in high quality public transport infrastructure.

Increased 'Greenfield' development will reduce the natural water holding / saturation capacity of the land, resulting in increased risk of flooding.

As development migrates outwards, the potential for direct adverse impacts on architectural and archaeological heritage would diminish. However, the archaeological heritage such as Protected Structures may fall into decline in the medium to long term as a result of economic decline in the more central historic areas as economic investment migrates out to the suburbs.

A strict protectionist policy towards the City's existing scale and character and landscape assets would be beneficial in the short term but may be detrimental, but may be detrimental to the landscape assets beyond the city boundary, as development migrates out to the suburbs.

6.3 Scenario 2: Market Led

6.3.1 Planning Effects

Facilitating higher densities on all 'infill' and 'brownfield' sites, throughout the City, would likely result in a dispersed pattern of settlement with sporadic pockets of high density development, predominantly in the southside of the City. The absence of a coherent spatial strategy for high density development would prohibit the development of high quality public transport system

Speculative development pressure would increase on all 'greenfield' sites, including protected landscapes, recreational and sporting facilities, thus impacting on biodiversity, flora and fauna. The established character of the city including built and natural heritage assets would be undermined with detrimental results.

The location and nature of development would be completely dependent upon market demand and would be likely to be disproportionately spread throughout the south side of the City, centred on the established and more affluent growth areas of Bishopstown, Douglas, and Mahon. Whereas, the socially and economically deprived areas of the northside of the City would be likely to suffer further decline and neglect.

6.3.2 Environmental Effects

This scenario allows for high densities, maximising efficiency of use of particular land assets / sites, but the sites are dictated by market demand and profitability and at a cost of the structural requirements of the city. The resulting piecemeal development patterns is likely to undermine the economic viability of high quality public transport infrastructure.

Increased development pressures on the City's sports, recreational infrastructure and landscape assets would result in the loss of some resources and relocation of others beyond the city boundary. The scenario would give rise to increased car dependence, traffic generation and congestion, greenhouse gas emissions and detrimental impact on the quality of the streetscape environment.

This scenario would lift restrictions on development and as such would be more likely to encroach upon designated protected areas, with detrimental impact on protected species and habitats; on 'Greenfield' lands within the City, with detrimental impacts on flora and fauna, biodiversity as a whole.

This scenario would encourage re-use of 'brownfield' sites, reduce pressures on 'greenfield' lands and adverse effects upon biodiversity and soil resources beyond the City boundary.

This scenario would potentially overload the City's wastewater treatment infrastructure resulting in a deterioration of water quality and so adversely effecting biodiversity, flora and fauna and human health.

This scenario would be more likely to result in development within existing floodplains or increase surface water infrastructural demands from the development of 'greenfield' sites with potential adverse impacts from flooding.

This scenario would be more likely to encroach upon and damage the built heritage, architecture and archaeology of the city, as the emphasis would be to maximise the development potential of sites over the sensitivities of its built and cultural context. High rise high density development could be juxtaposed with low and medium rise character areas, and undermine protected and historic views and vistas and injure the visual amenity of the city's landscape assets including protected ridges.

6.4 Scenario 3: Selected Concentrations

6.4.1 Planning Effects

This Scenario aims to maximise development at strategic locations and 'brownfield' sites, in order to plan for and support high quality public transportation infrastructure by achieving critical mass of population. This scenario would be likely to minimise urban sprawl and be consistent with the sustainable compact city model and reduce car dependence.

Economic and population growth in targeted strategic locations, such as key development areas and district would be likely to safeguard the amenities and character of established residential areas and at the same time facilitate the essential growth of the city in line with regional plans and forecasts.

This scenario would reduce the need to develop 'greenfield' sites and so minimise potential adverse impacts on biodiversity, flora and fauna.

Targeted growth at strategic locations throughout the city would benefit socially and economically deprived areas of the city, particularly on the northside of the city where the need of access to

services and employment is greatest, resulting in environmental improvements to these areas.

6.4.2 Environmental Effects

This scenario would be likely to result in less development beyond the City's boundary and would reduce the need to develop 'greenfield' sites within and beyond the City, thus minimising potential adverse impacts.

Higher density development in appropriate strategic locations is an efficient use of limited land resources, and would enable the delivery of a critical mass of population to support new infrastructure and services; and reduce development pressure on established residential areas and so protect residential amenity.

This scenario would be likely to result in reduced encroachment and impact on 'Greenfield' lands and protected areas, thus minimising potential impact on biodiversity, flora and fauna.

This scenario would be most likely to facilitate population growth within the city, which would facilitate and support the provision of necessary wastewater treatment plant and to safeguard water quality, and human health; which would support and facilitate the provision of a high quality public transport system and reduce car dependence, and minimise increases in greenhouse gas emissions and air quality and noise issues.

Concentrating the majority of development at selected key development areas should reduce the potential conflict of new development in areas of flood risk and support the provision of flood mitigation measures where it is necessary, such as Docklands.

This scenario would be likely to protect many of the City's existing landscape assets and development can be directed away from sensitive areas. Potential adverse impacts to the historic city centre and suburban gateways could be mitigated by implementing the recommendations of the Cork City Landscape Strategy 2008.

6.5 The Preferred Scenario

Scenario 1 would be detrimental to the environment within and beyond the city boundary, as it would prohibit development and investment within the city, resulting in urban decay; and beyond the city boundary it would result in significant loss of 'greenfield' lands and as such give rise to negative environmental, economic and social impacts.

Scenario 2 would be detrimental to the environment within the city boundary with a concentration of new development on the southside of the city, lack of investment on the northside; with the location of development sites being determined by market demands the scenario would be incompatible with the development of a high quality public transport system; and would result in the potential the loss of green spaces, sports facilities and protected landscapes (ridges) increasing risk to Natura 2000 sites within Cork Harbour.

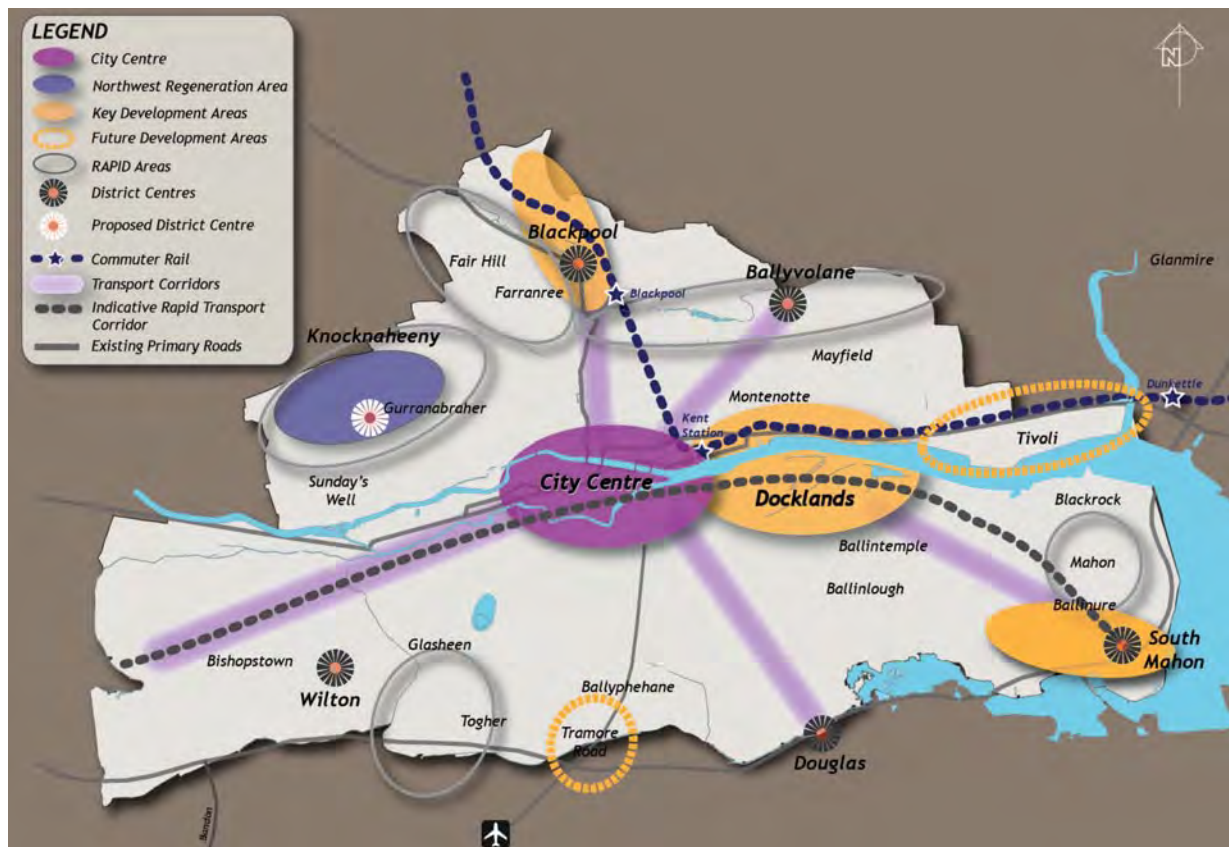
Scenario 3 would result in the most positive impacts such as protecting the built and natural heritage within and beyond the City boundary; making best use of 'brownfield' sites and strategic growth areas and thus reducing pressure on 'greenfield' lands; targeted strategic growth areas would facilitate and support investment in public transport systems and infrastructure. This scenario would be likely to result in the least environmental impact and is the most desirable option.

In addition, Scenario 3 provides a better balance between environmental protection and economic and social development than the other alternatives.

The core strategy of the draft development plan that has emerged relates well with scenario 3. Although this scenario may conflict with a number of environmental objectives and potentially cause significant adverse environmental effects, the evolving draft development plan has integrated a number of objectives to mitigate these.

Scenario 3 - Selected Concentrations is the preferred Scenario.

Figure 6.1 Core Strategy Diagram for the Draft City Development Plan 2015 - 2021



CHAPTER 7 EVALUATION OF THE DRAFT PLAN

7.1 Introduction

This section of the Environmental Report evaluates the policies of the development plan. In accordance with the SEA Regulations, the evaluation assesses the likely or potential significant effects on the environment, i.e. population, human health; biodiversity, flora and fauna; soil; water; climate and air; material assets; cultural heritage; and landscape of implementing the Cork City Development Plan 2015 - 2021.

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

Potential beneficial and adverse impacts have been identified in line with the requirements of the SEA Directive. Potential effects of plan policies on the Environmental Receptor have been categorised as Positive, Negative, Uncertain or Neutral. A summary of the significant impacts on each of the Environmental Receptors is provided.

Table 7.1 Environmental Protection Objectives and Codes

Environmental Protection Objectives	
Population / Human Health	
PHH	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.
Biodiversity, Flora & Fauna	
BFF	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings
Soil	
SL	To protect and enhance the soil and 'Greenfield' resources of the City.
Water	
WR	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of the Water Framework Directive.
Climate & Air	
CA	Contribute to the mitigation of and adaptation to climate change such as flooding risk management, air quality and noise issues.
Material Assets	
MA	To make best use of the City's infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City population.
Cultural Heritage	
CH	To protect and where appropriate, enhance the character, diversity and special qualities of the City's cultural, architectural and archaeological heritage.
Landscape	
LD	To protect and where appropriate, enhance the character, diversity and special qualities of the City's landscapes.

Table 7.2 Implications of the CDP Objective on the EPOs

Significant beneficial / positive impact on the environmental receptor	+
Significant adverse / negative impact on the environmental receptor	-
An uncertain impact on the environmental receptor	?
An insignificant impact, neutral or no relationship with environmental receptor	N

Table 7.3 Evaluation of the Proposed Objectives to the draft CDP

Draft Development Plan Objectives										
No.	Objective	PHH	BFF	SL	WR	CA	MA	CH	LD	
Chapter 1										
1.1	<p>Strategic Vision</p> <p>The vision for Cork City over the period of this Development Plan and beyond is to be a successful, sustainable regional capital and to achieve a high quality of life for its citizens and a robust local economy, by balancing the relationship between community, economy, development and environmental quality. It will have a diverse innovative economy, will maintain its distinctive character and culture, will have a network of attractive neighbourhoods served by good quality transport and amenities and will be a place where people want to live, work, visit and invest in.</p>	+	+	+	+	+	+	+	+	
Chapter 2										
2.1	<p>Goal 1. Increase population and households to create a compact sustainable city</p> <p>The SWRPG sets an ambitious target for population growth in Cork City with a view to concentrating development and creating a compact, sustainable city. While the number of households in the city has been increasing steadily, household size has declined in line with national trends and much new development has occurred outside the city boundary, resulting in a falling population. This Plan will show that there is capacity within the city to meet the population target but acknowledges that this target will only be met by the implementation of a co-ordinated approach to the development of the greater city area, significant investment in infrastructure and an increase in the attractiveness of the city as a place to live and work in.</p>	+	?	+	?	+	+	?	?	
	<p>Goal 2. Achieve a higher quality of life, promote social inclusion and make the city an attractive place to live, work, visit and invest in</p> <p>The first step in reversing the decline in city population will be to improve its attractiveness as a living and working environment. A city that's attractive and provides a good quality of life and health for residents will also be attractive for workers, investors and visitors.</p>	+	N	+	N	+	+	+	+	
	<p>Goal 3. Support the revitalisation of the economy</p> <p>Supporting the creation of a diverse, connected, innovative economy in the city is a central goal of the Plan. Key to revitalisation of the city's economy is regeneration of the city centre and adjoining areas. This will increase employment opportunities and build on the city centre's role as the main retail, commercial and cultural centre for the region (see Chapter 13 City Centre and Docklands).</p>	+	?	+	?	+	+	N	?	

<p>Goal 4. Promote sustainable modes of transport and integration of land use and transportation At the national level there is a mandate to reduce emissions caused by fossil-fuelled transport, to reduce use of the private car for commuting and to increase journeys by public transport, walking and cycling. These objectives are central to the land-use and transport strategies in this plan and as well as having the significant societal benefits of a better quality environment can also give health benefits and cost-savings to the individual citizen. Achieving national targets is a long term objective which will require a move to more sustainable land use planning and a significant upgrade to public transport in the greater city area – this plan will set interim targets which are achievable in the shorter term.</p>	+	+	+	?	+	+	N	+
<p>Goal 5. Maintain and capitalise on Cork's unique form and character Cork 's unique character derives from the combination of plan, topography, built fabric and the setting provided by the River Lee valley. The dramatic east west ridges create the visual setting for the city. The goal of the Plan is to protect and capitalise on the unique character of the city, both the character derived from the natural environment and the man-made character created by the built form, while providing opportunities for new development. New development will need to respect and reflect the dramatic topography as well as the landscape and ecology of the city. It must also respect the built heritage of the city, in particular areas of significant historic character such as the city centre, the historic north-south spine and the suburban villages. There are also opportunities for creation of new character areas in locations such as Docklands, Mahon and Blackpool and at the arrival points or gateways into the city.</p>	+	+	+	+	+	+	+	+
<p>Goal 6. Tackle climate change through reducing energy usage, reducing emissions, adapt to climate change and mitigate against flood risk A key aim of the Plan is to reduce emissions that lead to global warming through sustainable energy usage in transport and buildings. It also aims to mitigate and adapt to the challenges of climate change such as the increased risk of flooding, through the design, layout and location of appropriate land-uses.</p>	+	+	+	+	+	+	+	+
<p>Goal 7. Protect and expand the green infrastructure of the city The Plan seeks to strengthen the green infrastructure of the city for recreational purposes, to promote biodiversity and to protect the landscape of the city. A diverse range of recreation and open spaces facilities, such as sports pitches, public parks, amenity spaces, indoor sports centres, and walking / cycling routes are vital to the health and wellbeing of Cork's residents, as well as those working and visiting the city. This green infrastructure also provides a key ingredient for making the city an attractive place to live, visit and do business in. The aim of the Plan is to ensure that people have access to an appropriate level of provision of the right quality. The Plan also seeks to provide linkages and green corridors between areas of open space to support bio-diversity.</p>	+	+	+	+	+	+	+	+

Chapter 3	PHH	BFF	SL	WR	CA	MA	CH	LD
3.1								
Strategic Objectives								
a. To create and maintain a unique and attractive city to attract investment and create employment.	+	?	+	?	+	+	+	+
b. To support innovation, entrepreneurship and economic diversity to facilitate employment generation.	+	N	N	N	N	N	N	N
c. To support the development of local enterprises to balance our strong record in attracting foreign direct investment.	+	N	N	N	N	N	N	N
d. To promote the objectives of the national Smart Economy and Green Economy Initiatives.	+	+	?	+	+	+	?	?
e. To support growth of third level institutions, in particular research & development, and to foster links with business.	+	?	?	?	?	+	+	?
f. To identify attractive locations and sites for all sectors of business and to support improved connectivity and infrastructure in the selected locations.	+	?	?	?	?	+	?	?
g. To facilitate the development of an adequate supply of suitable buildings, in particular office buildings, to meet and drive demand in identified growth sectors.	+	?	?	?	?	+	?	?
h. To attract talented people, address skill shortages and create an attractive environment for both business and residents.	+	N	N	N	N	N	+	N
i. To stimulate the regeneration of the city centre and promote its continuing role as the main employment location in the city.	+	+	+	?	+	+	+	+
j. To support employment growth in other locations which are accessible by sustainable modes of transport and in particular to support economic growth in disadvantaged areas of the city.	+	?	?	?	+	+	?	?
3.2								
Economic Diversity Cork City Council will support the maintenance of a diverse economic base within the city and the City Development Plan aims to zone land to accommodate a diverse series of economic sectors and facilitate the provision of a range of suitable locations and buildings.	+	?	?	?	?	+	N	?
3.3								
Measures to support innovation Cork City Council will support innovation in the local economy by the following actions:								
a. Work with other stakeholders to support organisations such as Cork Innovates, Energy Cork and IT@Cork.	N	N	N	N	N	N	N	N

	b. Reduce development contributions for development in targeted business sectors	N	N	N	N	N	N	N	N	N	N	N	N
	c. Pursue the branding of Cork as a European Tech Cluster	N	N	N	N	N	N	N	N	N	N	N	N
	d. Investigate the feasibility of National Food Innovation Hub in the City Centre	N	N	N	N	N	N	N	N	N	N	N	N
	e. Support a cluster of small to medium size Tech companies in the city centre	N	N	N	N	N	N	N	N	N	N	N	N
	f. Identify and develop space for Tech company start-ups in the city centre	N	N	N	N	N	N	N	N	N	N	N	N
3.4	Skills & Human Capital Cork City Council will work with other stakeholders in the education and training sectors and through the Local Enterprise Office to develop skills within the Cork area to match the needs of existing and future businesses. It will work with other agencies to provide support services for the unemployed and to help maintain and expand businesses in areas of high unemployment.	+	N	N	N	N	N	N	N	N	N	N	N
3.	Connectivity Cork City Council working with other stakeholders will support measures to improve transport and telecommunications networks into and around Cork city and region	+	?	?	?	?	?	?	?	?	?	?	?
3.6	Strategic Governance Capacity Cork City Council will co-operate with other stakeholders, particularly Cork County Council, to deliver the strategic governance that ensures the Cork Gateway remains a competitive location for economic activity and also to maintain the excellent quality of life available in Cork which underpins the Gateway's competitiveness.	+	?	?	?	?	?	?	?	?	?	?	?
3.7	Strategic Employment Locations The City Council will support the development of the City Centre and Docklands as the primary strategic employment locations. Secondary locations in suburban areas at Blackpool/Kilbarry and Mahon also have potential for growth as outlined in local area plans. There is also potential for employment intensification in the future in areas such as Tivoli, Model Farm Road and the Tramore Road area.	+	+	+	+	+	+	+	+	+	+	?	+
3.8	Retail Offices To facilitate and encourage the development of retail offices in the City centre and to support the development of retail offices serving a local function in District, Neighbourhood and Local centres commensurate with the service function and scale of the centre as outlined above.	+	N	N	N	N	N	N	N	N	N	N	N
3.9	Prime Office Locations The City Council will support the development of the City Centre and Docklands as the primary locations for higher order general office development in the city region. Any scale of general office is acceptable in the Commercial Core Area, while general offices over 400sq metres will be acceptable in Docklands mixed use zones.	N	N	N	N	N	N	N	N	N	N	N	N

3.10	<p>Suburban General Offices General offices units over 1000 sq. metres will be open for consideration in suburban Business and Technology Zones, with due consideration given to the employment strategy set out in Chapter 2, availability of alternative suitable sites in the city centre and adjoining mixed use areas in Docklands, and assessment of the potential impact of the development on the city centre. Availability of high quality public transport will also be a factor in determining the capacity of these locations to take more intensive office development. General offices may be open for consideration in District Centres, to a scale appropriate to each centre overall and not exceeding 10,000sq.m in area in any one centre and subject to detailed policies in Local Area Plans, subject to the specific policies outlined in Chapter 14.</p>	+	N	N	N	N	N	N	N	N
3.11	<p>Technology & Office Based Industry The City Council will support the development of high technology businesses in the Commercial Core Area of the City Centre, Docklands and Business and Technology zones</p>	+	N	N	N	N	N	N	N	N
3.12	<p>Light Industry To protect sufficient areas for light industry in order to maintain an adequate supply of light industrial space and employment in order to help ensure a diverse range of employment opportunities in the city.</p>	+	N	N	N	N	N	N	N	N
3.13	<p>Commercial Leisure To ensure that all major commercial leisure developments are located in accordance with a sequential test approach. The priority will be City Centre locations, followed by edge of centre, then district centres and neighbourhood centres. The availability of a choice of transport modes will be essential. Smaller scale pubs and restaurants will be open for consideration in these centres as well as local centres and areas zoned "Residential, Local Services and Institutional uses" provided residential amenity and traffic aspects are acceptable.</p>	+	N	N	N	N	N	N	N	N
3.14	<p>Education & Health Institutions as major employers To recognise the contribution of the major education and health institutions in Cork City to the overall economy of the city and their role in training, innovation and research and to support their continued operation and, where appropriate, expansion.</p>	+	N	N	N	N	N	N	N	N
3.15	<p>Health Care Services Health Care Services, apart from the established major institutions, should normally be located in the City centre, District, Neighbourhood and Local Centres. Small scale local medical services are open for consideration in the Residential, Local Services and Institutional Use zone. Primary Care Centres will only be permitted within the Residential, Local Services and Institutional Use zone in exceptional circumstances, where there is shown not to be capacity available within any District, Neighbourhood or Local Centre in the area for such a use. Primary care centres and hospitals will be open for consideration in suitable Business and Technology zones i.e. those close to District Centres in Mahon and Blackpool, where suitable space in the centres above is not available and access and amenity considerations are acceptable.</p>	+	N	N	N	N	N	N	N	N

3.16	Home-based economic activities To permit home-based economic activities where, by virtue of their nature and scale, they can be accommodated without detriment to the amenities of residential areas.	+	N	N	N	+	N	MA	CH	N	N
3.17	Live-work units To promote and encourage the development of 'Live-work' units capable of accommodating home-based economic activities in areas around the City Centre/Docklands and other sustainable development locations.	+	N	N	N	+	N	CA	WR	N	N
	Chapter 4	PHH	BFF	SL	WR	CA	MA	CH	LD		
4.1	Strategic Retail Objectives										
	a. To maintain and strengthen the role of Cork City Centre as the primary retail centre in the South-West region;	+	N	N	N	+	N			?	N
	b. To create vibrant mixed-use district centres within the suburbs ;	+	N	N	N	+	N			?	N
	c. To provide good quality and accessible convenience goods shopping to all residents of the city.	+	N	N	N	+	N			?	N
4.2	Retail Strategy To have regard to the Metropolitan Cork Joint Retail Strategy and to adopt the Retail Hierarchy in defining the role of retail centres, in preparing plans and in assessing planning applications for retail development.	+	N	N	N	+	N			?	N
4.3	City Centre To protect and enhance the role of Cork city centre as the primary retail centre in the south-west region by facilitating the continued regeneration and modernisation of existing and the development of new retail building stock, coupled with a range of complimentary leisure, recreational and cultural uses and investment in public realm improvements.	+	N	N	N	+	N			?	N
4.4	District Centres To support the vitality and viability of Suburban District Centres to ensure that such centres provide an appropriate range of retail and non-retail functions to serve the needs of the community and respective catchment areas, with an emphasis on convenience and appropriate (lower order) comparison shopping, in order to protect the primacy of Cork City Centre.	+	N	N	N	+	N			?	N
4.5	New District Centres To support and facilitate the development of district centres at Ballyvolane, Hollyhill and South Docklands in order to meet the day to day needs of their existing and/ or planned catchment populations.	+	N	N	N	+	N			N	N

4.6	Neighbourhood Centres								
	a. To support, promote and protect Neighbourhood Centres which play an important role in the local shopping role for residents and provide a range of essential day to day services and facilities.	+	N	N	N	+	N	N	N
	b. To support and facilitate the designation of new and the expansion of existing Neighbourhood Centres where significant additional population growth is planned or where a demonstrable gap in existing provision is identified, subject to the protection of residential amenities of the surrounding area and that they are adequately served by sustainable transport.	+	N	N	+		N	N	N
	c. Proposals should demonstrate the appropriateness of the site by means of a Sequential Test Statement; demonstrate retail impact and provide for a mix of uses appropriate to the scale of the centre.	N	N	N	+		N	N	N
4.7	Local Centres & Corner Shops								
	a. To support, promote and protect local centres and corner shops which provide an important retail service at a local level.	+	N	N	+		N	N	N
	b. To support the development of new Local Centres and Corner Shops as appropriate where significant population growth is planned or where a demonstrable gap in existing provision is identified, subject to the protection of residential amenities of the surrounding area. Proposals should provide a mix of uses and services suitable to the scale of the centre and demonstrate the appropriateness of the location.	+	N	N	+		N	N	N
4.8	Core Retail Areas Core retail areas are the preferred location for new retail development. Consideration of new retail development outside of the core retail areas will be guided by the provisions of the Retail Planning Guidelines and the objectives of the City Development Plan.	+	N	N	+		N	N	N
4.9	Convenience Floorspace To improve the quality of convenience retail floorspace throughout the city and environs, in accordance with the retail hierarchy and settlement strategy. The provision for distribution of new convenience floorspace is outlined in Table 4.3.	+	N	N	+		N	N	N
4.10	Comparison Floorspace To improve the quality of comparison retail floorspace in the city and throughout the Metropolitan area, in accordance with the retail hierarchy and settlement strategy. The provision for distribution of new comparison floorspace is outlined in Table 4.4	+	N	N	+		N	N	N

4.11	Comparison Floorspace Distribution To ensure an even distribution of comparison floorspace within the city suburbs, new floorspace shall be distributed around the district centres at a ratio of 40: 60 to the Northside: Southside respectively. No District centres should have a greater amount of comparison floorspace than the current largest District centre (Mahon), which will not grow significantly over the period of the strategy.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.12	Location of Retail Warehousing To improve the quality of retail warehouse / bulky goods floorspace throughout the Metropolitan area, in accordance with the retail hierarchy and settlement strategy. The preferred location for new retail warehousing/bulky goods floorspace is within or District Centres or other lands zoned for retail warehousing, as opposed to the development of out-of-town retail parks or locating within industrial estates / business parks.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.13	Retail Warehousing It is an objective that the range of goods sold in retail warehouses be restricted to the sale of bulky household items. The floorspace within retail warehouse / bulky goods units devoted to 'ancillary products' shall not exceed 20% of the total net retail floorspace of the relevant retail warehouse / bulky goods unit.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.14	Retail Impact Assessments All significant retail planning applications must be supported by a comprehensive Retail Impact Assessment as outlined on the Retail Planning Guidelines. The City Council will determine the requirement to submit a Retail Impact Assessment prior to, or during the determination of an application.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.15	Vacant Floorspace To seek to reduce the level of vacant floorspace within Core Retail Areas by 50%, half of which should be occupied by retail use and the remainder by non-retail uses or retail services. Re-occupied retail units should be at a ratio of 2:1, comparison: convenience goods.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.16	Review of Strategy The Council will undertake a review of the Retail Strategy in consultation with Cork County Council, during the lifetime of the Development Plan having regard to the forthcoming reviews of the National Spatial Strategy, the South West Regional Planning Guidelines, the Central Statistics Office's review of National Population Forecasts and the outcome of the 2016 Census of Population.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4.17	Monitoring of Strategy The City Council in conjunction with Cork County Council will develop a retail development monitoring system in order to review and to facilitate future policy adjustments, if required.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

	Chapter 5	PHH	BFF	SL	WR	CA	MA	CH	LD
5.1	Strategic Transport Objectives								
	a. To promote sustainable settlement and transport strategies.	+	+	+	?	+	+	?	+
	b. To encourage and facilitate cycling and walking for short/local trips by providing appropriate infrastructure, promoting "soft-measures" that influence change in transport behaviour, and by encouraging proximate, compact land-uses.	+	?	N	N	+	+	?	?
	c. To encourage increased use of rail, bus, and carpooling/ car sharing for longer journeys, by providing supporting local access infrastructure to key transport nodes, promoting "soft-measures" that influence change in transport behaviour, and by encouraging public-transport orientated development.	+	?	N	N	+	+	?	?
	d. To develop a Bus Rapid Transit system from Ballincollig to Mahon via the City Centre and Docklands.	+	?	N	N	+	+	N	?
	e. To protect the capacity, efficiency and safety of national roads and associated junctions while maintaining and enhancing the economic vibrancy of Cork City.	+	?	N	N	?	+	N	?
	f. To provide new local roads where required to make to increase connectivity.	+	?	?	?	?	+	?	?
	g. To actively manage capacity of the city's road system to reduce the negative impacts of congestion and to maximise the use of the existing road network.	+	+	+	?	+	+	?	+
	h. To control the supply and price of all parking in the city in order to achieve sustainable transportation policy objectives, while recognising the need to maintain economic vibrancy and acknowledging the current limitations of existing alternative transportation systems.	?	N	N	N	?	+	N	N
	i. To encourage the use of innovative measures to reduce the requirement for car parking.	?	+	?	?	+	+	?	?
	n. To facilitate operation (and expansion) of Cork Airport and Port of Cork, recognising their significant role in the economic vitality and quality of life of the region.	?	?	?	?	?	+	?	?
5.2	Strategic Transport Corridors Cork City Council will commission studies to determine how to best optimise transport provision along strategic corridors within the city and will prioritise implementation of measures with the greatest potential to maximise modal shift with regard to return on investment. Upon completion, landuse and transport plans for each corridor will be revised and updated accordingly.	+	?	?	?	?	?	?	?

5.3	City Centre Movement Strategy Implement the principles outlined in the City Centre Movement Strategy during the lifetime of the Development Plan in accordance with Design Manual for Urban Roads and Streets.	+	?	?	?	?	?	+	?	?	?	?
5.4	Transport Assessment Planning applications for substantial developments (i.e. those that Cork City Council considers may have significant travel implications) shall include a Transport Assessment.	+	?	?	?	?	?	?	?	?	?	?
5.5	Travel Plans Planning applications for new and significantly extended developments shall include a Travel Plan or a Travel Plan statement in accordance with the following:	+	?	?	?	?	?	+	?	?	?	?
	a. Those with more than 100 employees shall include a Travel Plan											
	b. Those with approximately 25 – 99 employees shall include a Travel Plan Statement;											
	c. A Travel Plan or Travel Plan Statement may also be required in association for any proposed development that Cork City Council considers may have significant travel implications; this includes non-employment uses such as significant educational and residential development.											
5.6	Strategic Road Infrastructure Objectives											
	a. N28 Cork Ringaskiddy route upgrading c. 13 km of dual carriageway construction	?	?	?	?	?	?	?	+	?	?	?
	b. Dunkettle Inter change: Upgrade to fully free flow in all directions (current north - south traffic and turning traffic to use a traffic signal controlled roundabout) and remove locally generated traffic from the interchange.	?	?	?	?	?	?	?	+	?	?	?
	c. Northern Ring Road c. 24 km of dual carriageway completing the ring of Cork City from the N8 (Glanmire Bypass) to the N22 (Ballincollig bypass), also connecting with the N20 (to Blarney- Limerick). Routes have been selected; currently suspended.	?	?	?	?	?	?	?	+	?	?	?
	d. M20 Cork to Limerick (Southern Section) Part of the Letterkenny to Rosslare "Atlantic Corridor"; comprises c. 42 km of motorway commencing at Blarney and ending north of Malrow; currently suspended.	?	?	?	?	?	?	?	+	?	?	?
	e. N25 Cork to Waterford N25 Carrigtwohill – Midleton and N25 Midleton – Youghal; currently suspended.	?	?	?	?	?	?	?	+	?	?	?
	f. N22 Cork to Killarney c. 43 km of new carriageway from the end of the Ballincollig Bypass to Ballyourney, including a bypass of Macroom town; Ballyourney to Macroom in Planning stage	?	?	?	?	?	?	?	+	?	?	?

5.7	Improve Local Streets for Local Traffic To cooperate with the other Transportation Stakeholders to improve the operational efficiency of the non-national road and transportation infrastructure for local traffic (e.g. promoting adequate local transportation infrastructure and alternative transport/ travel modes).	+	?	?	?	?	?	?	+	?	?	?	?
5.8	Mitigation of Adverse Impacts on Strategic Roads To require development proposals that would materially impact the capacity of strategic national road network to remedy or mitigate any adverse effects of their development on transport systems and/or infrastructure and make reasonable contributions towards the costs of any required mitigation, alterations or capacity enhancement works to transport systems and/or infrastructure as required.	+	?	?	?	?	?	?	+	?	?	?	?
5.9	Design Approach for Local Streets Both the construction of new local streets as well as works to the existing local network shall be in accordance with principles, approaches, and standards set out in <i>Design Manual for Urban Roads and Streets</i> .	+	?	?	?	?	?	?	+	?	?	?	?
5.10	Additions to Local Street Network												
	a. Eastern Gateway Bridge - connecting Lower Glanmire Road to Monahan's Road	+	?	?	?	?	?	?	+	?	?	?	?
	b. Water Street Bridge Docklands	+	?	?	?	?	?	?	+	?	?	?	?
	c. Public transport bridge Mill Road, Docklands	+	?	?	?	?	?	?	+	?	?	?	?
	d. Local collector streets/ bridge approaches Docklands	+	?	?	?	?	?	?	+	?	?	?	?
	e. Redevelopment of Centre Park and Monahan's Road	+	?	?	?	?	?	?	+	?	?	?	?
	f. New street layout in North Docklands, including replacement of the Horgan's Quay traffic route by a new street to the north	+	?	?	?	?	?	?	+	?	?	?	?
	g. New street from Harbour View Road, through St. Mary's Orthopaedic Hospital, to Baker's Road North west	+	?	?	?	?	?	?	+	?	?	?	?
	h. Indicative new street layout in North Blackpool area.	+	?	?	?	?	?	?	+	?	?	?	?
	i. Proposed new street from Bishopstown Road, Ardostig Cross to Curraheen Rd South west	+	?	?	?	?	?	?	+	?	?	?	?
5.11	Cycling Strategy During the lifetime of the Development Plan, Cork City Council will prepare a comprehensive cycling Strategy that sets out the City Council's cycling policies, targets and programmes.	+	N	?	N	?	?	?	+	?	?	?	N
5.12	Pedestrian Infrastructure Design												

	The design of footpaths and other pedestrian infrastructure will be in accordance with the principles, approaches, and standards set out in Design Manual for Urban Roads and Streets.	+	N	N	N	N	+	+	+	N	N
5.13	Cycling Infrastructure Design The design of cycling facilities infrastructure will be in accordance with the principles, approaches, and standards set out in the National Cycle Manual and the Design Manual for Urban Roads and Streets.	+	N	N	N	N	+	+	+	N	N
5.14	Behavioural Change Measures Cork City Council will initiate and support behavioural change measures that promote walking and cycling as modes of transport, particularly in areas where upgraded infrastructure is being provided.	+	+	N	N	N	+	+	+	N	N
5.15	Pedestrian and Cycling Infrastructure Objectives Infrastructure Status/ Planned Development a. Pedestrian /Cycle Bridge from Parnell Place to Harley Street b. Pedestrian / Cycle Bridge from former Beamish and Crawford Site to Crosses Green c. Pedestrian/ Cycle Bridge North Mall Distillery Site UCC project; in conjunction with redevelopment of site d. Perrott's Inch Pedestrian Bridge UCC project; on hold pending funding e. Pedestrian/ Cycle Bridge at Tramore Valley Park Post 2021 f. Cycle Route UCC to City Centre Currently Underway g. Ballyolane Cycle Route Programmed h. Cycle Route by River Lee Route via Sharman Crawford Street to Donovan's Road i. Cycle Routes linking South-western institutions (CUH, CIT, etc) with city centre j. Cycle Route UCC to City Centre Currently Underway k. Cycle Parking Ongoing Cycling Signage system	+	?	N	N	N	+	+	+	N	?
5.16	Support Bus Network Improvement Cork City Council will undertake measures to support improvement of the bus network (e.g. elimination of pinch points on streets, provision of footpath to major nodes, etc.) as identified in corridor studies (see Sections 5.6 – 5.7) and the City Centre Movement Strategy (Section 5.8).	+	N	N	N	N	+	+	+	N	?
5.17	Bus Rapid Transit Cork City Council will commission a study of route options and agree a route for Bus Rapid Transit	+	?	?	N	N	+	+	+	N	?
5.18	Rail Facilities Improvements Irish Rail plans two facilities improvements within Cork City: Infrastructure Details a. Reorientation of Kent Station Relocate main entrance to Kent Station to face Horgan's Quay; provide new access road, car park, and other transport infrastructure	+	?	N	N	N	+	+	+	N	N

	b. Kilbarry Station New commuter railway station at former Kilbarry Station site adjacent to Dublin Hill (Volume 2, Map 6)											
5.19	Kent Station Local Access Infrastructure Deliver local access infrastructure (i.e. pedestrian and cycle connections) from Kent Station to Cork City Centre.	+	N	N	+	N	N	N	+	N	N	N
5.20	Kilbarry Station Local Access Infrastructure Deliver local access infrastructure (i.e. pedestrian and cycle connections) around Kilbarry Station in tandem with and prior to the opening of Kilbarry Station.	+	N	N	+	N	N	N	+	N	N	N
5.21	Multi-Storey Carparks No new multi-storey car parks shall be permitted on the City Centre Island.	N	N	N	N	N	N	N	N	N	N	N
5.22	Balanced Parking Provision Cork City Council will discourage long-term commuter parking in the city centre while ensuring adequate but not excessive parking provision for short-term shopping, business and leisure use. Transitional, temporary parking arrangements for new developments may be acceptable, subject to conditions attached to planning.	+	N	N	+	N	N	N	+	N	N	N
5.23	Parking Capacity Study During the lifetime of the Development Plan, Cork City Council will conduct a capacity study of existing parking assets in the City Centre and develop a strategy to maximise usage of existing parking assets in order to facilitate new development in the City Centre without the need for the construction of significant new parking structures.	+	N	N	+	N	N	N	+	N	N	N
5.24	Park & Ride Objectives Infrastructure a. Carrigrohane Road Park and Ride b. Other major radial routes into the city and at railway stations on the commuter line, such as Dunkettle, Ballyvolane /Northern Ring Road; and south-western city approaches in accordance with CASP	+	?	?	+	?	?	?	+	N	?	?
5.25	Residential Parking Permits To review the allocation of residential parking permits to ensure policies promote sustainable transportation objectives and best use of public infrastructure.	+	N	N	+	N	N	N	+	N	N	N

	Chapter 6	PHH	BFF	SL	WR	CA	MA	CH	LD
6.1	<p>Residential Strategic Objectives</p> <p>a. To encourage the development of sustainable residential neighbourhoods.</p> <p>b. To provide a variety of sites for housing to meet the various needs of different sections of the population;</p> <p>c. To continue to work with the Approved Housing Bodies and to actively engage with all key stakeholders in the provision of housing.</p> <p>d. To continue to regenerate and maintain existing housing.</p> <p>e. To encourage the use of derelict or underused land and buildings to assist in their regeneration;</p> <p>f. To promote high standards of design, energy efficiency, estate layout and landscaping in all new housing developments;</p> <p>g. To protect and, where necessary, enhance the amenities and the environment of existing residential areas.</p>	+	?	?	?	+	?	?	?
6.2	<p>Housing Policies</p> <p>To have regard to National, Regional and Local housing policy documents including the Joint Housing Strategy for Cork Planning Authorities</p>	+	?	?	?	+	?	N	?
6.3	<p>Social Housing under Part V</p> <p>To require that 14% of units on all land zoned for residential uses (or for a mix of residential and other uses) to be reserved for the purpose of social housing and specialised housing needs. Each application subject to Part V requirements shall be considered on an individual basis to the prior agreement of the Local Authority.</p>	+	?	?	?	?	?	?	?
6.4	<p>Student Accommodation</p> <p>Any change of use from student accommodation to any other type of accommodation shall require planning permission. Generally such applications shall be resisted unless it can be adequately demonstrated that an over provision of student accommodation exists in the city.</p>	+	N	N	N	N	N	?	N
6.5	<p>Meeting Housing Needs of Special Categories</p> <p>Cork City Council will actively seek to meet the housing needs of special categories requiring housing by:</p> <p>a) Supporting the concept of independent living for older people; to provide purpose built accommodation suitable to their needs in areas with good access to community facilities;</p> <p>b) Implementing the Disabled Persons Grant Scheme to provide for necessary accommodation alterations to better meet their needs;</p>	+	?	?	?	+	?	?	?

	<p>c) Providing suitable accommodation for Travellers; designating the use of particular areas for this purpose; and implementing Traveller Accommodation Plans (See Maps in Vol 2). Furthermore, accommodation for Travellers may be provided on other lands zoned for residential use;</p> <p>d) Continuing to work with the Homeless Forum (and in partnership with other stakeholders) in implementing the Cork Homeless Action Plan</p> <p>e) Continuing to work with the HSE and the voluntary sector in the provision of housing for refugees.</p>	+	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
6.6	<p>Housing Provision To support and facilitate the provision of housing through various sectors including private, voluntary and co-operative housing sectors. The Local Authority will continue to implement and operate a range of housing schemes and will continue to look at viable alternatives in the delivery of suitable accommodation for all.</p>	+	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
6.7	<p>Private Sector The City Council will support the further expansion of the private owner occupier and private rented sectors to ensure the continuation of a range of housing choices in the city.</p>	+	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
6.8	<p>Housing Mix To encourage the establishment of sustainable residential communities by ensuring a mix of housing and apartment types, sizes and tenures is provided. Planning applications for multiple housing units shall submit a Statement of Housing Mix detailing the proposed mix and why it is considered appropriate. The needs of special groups such as the elderly and disabled shall also be considered as part of this process.</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
6.9	<p>Housing Density To promote suitable densities on an individual basis to meet the needs outlined in the Core Strategy</p>	+	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?

Chapter 7	PHH	BFF	SL	WR	CA	MA	CH	LD
7.1								
Inclusive Neighbourhoods Strategic Objectives								
a) To support provision of appropriate community facilities and services for all, young, the ageing population, able-bodied, disabled etc.	+	?	?	?	?	?	?	N
b) To support the provision by voluntary and state agencies of a wide range of community facilities.	+	?	?	?	?	?	?	N
c) To facilitate and support existing and proposed educational facilities.	+	?	?	?	?	?	?	?
d) To support dual use of community facilities.	+	?	N	N	N	+	?	N
e) To encourage the provision of suitably sized health care facilities located close to communities serving a sufficient catchment and accessible by public transport.	+	?	?	?	+	?	?	?
f) To ensure that social inclusion objectives are fully integrated into planning policy.	+	N	N	N	N	N	N	N
g) To support the particular needs of an area in terms of provision of childcare whether it is to be a crèche facility/pre-school/after-school etc.	+	?	?	?	?	?	?	?
h) To consider the child as a citizen of Cork City.	+	N	N	N	N	N	N	N
i) To work to ensure Cork City is a family friendly city.	+	N	N	N	N	N	N	N
j) To consider cultural diversity and ethnic minorities in planning for the needs of communities.	+	?	?	?	?	?	?	?
k) Continue to encourage active public participation in the Planning process.	+	N	N	N	N	N	N	N
l) To encourage socially inclusive and safe communities.	+	N	N	N	N	N	N	N
m) To consider the needs of groups with specific design/planning needs in the formation of policy documents.	+	?	?	?	?	?	?	?
n) To make Cork a sustained healthy city in which to live, work and visit.	+	N	N	N	N	N	N	N

7.2	Sustainable Neighbourhoods To support the creation of sustainable neighbourhoods which allow access to services and facilities for all users and to foster a sense of community and a sense of place.	+	?	?	?	?	?	?	?	?	?	?	?
7.3	City Neighbourhoods Strategy To pursue the development of a City Neighbourhood's Strategy.	+	?	?	?	?	?	?	?	?	?	?	?
7.4	Social Inclusion a. To support the activities of the Social Inclusion Unit b. To actively engage with all sectors of the community to encourage public participation c. To support urban regeneration in areas across the city in order to enhance social cohesion	+	N	N	N	N	N	N	N	N	N	N	N
7.5	Community Facilities To support the development and provision of a range of community facilities throughout the City. Facilities should be designed to be flexible in terms of their usage and adaptable over time. Adequate community facilities should be provided so that they are accessible to everyone and where possible provided close to existing centres so that a range of services are provided. Community facilities will be required to be provided in tandem with the development of large new residential areas, such as docklands.	+	?	?	?	?	?	?	?	?	?	?	?
7.6	Cork City as a Child-Friendly City To promote Cork as a child-friendly city by considering the needs of children in terms of appropriate design when changes are proposed to the built environment.	+	?	?	?	?	?	?	?	?	?	?	?
7.7	Childcare Facilities Cork City Council shall support the provision of high quality childcare facilities throughout the city suited to the needs of the given area and shall: i) Require purpose built childcare facilities as part of proposals for new residential developments of more than 75 dwelling units. However, where it can be clearly established that existing facilities are sufficient, alternative arrangements will be considered. ii) Consult with the Cork City Childcare Company and the HSE on planning applications where childcare facilities are proposed; iii) Require employers with more than 500 members of staff to provide childcare facilities as part of planning applications for significant new and extended development.	+	?	?	?	?	?	?	?	?	?	?	?

7.8	Educational Facilities a. To ensure that school and college sites are made available in accordance with the requirements of the relevant education authorities. b. To support the ongoing development and provision of second and third level education and lifelong learning in the city.	+	?	?	?	?	?	?	+	?	?	?
7.9	Shared Community Facilities To consider the provision of shared community and childcare facilities on sites made available to the Department of Education and Skills (title as may be amended) for schools	+	?	?	?	?	?	?	+	?	?	?
7.10	Healthcare Facilities To support the sustainable provision of hospitals and other healthcare facilities within the city including appropriate community based care facilities at suitable location, subject to the proper planning considerations.	+	?	?	?	?	?	?	?	?	?	?
7.11	Strategy for Older Persons To support the implementation of the Services and Infrastructure for Older Persons Strategy when completed as a step towards planning for ageing.	+	?	?	?	?	?	?	?	?	?	?
7.12	Facilities for the Elderly a. To ensure that adequate land and services are available for the provision of all types of facilities for the elderly including retirement centres/nursing homes. b. To support the improvement, expansion and establishment of health services for the elderly including extended respite care, day care and nursing care.	+	?	?	?	?	?	?	?	?	?	?
7.13	Library Services To support the continued development, improvement and upgrading of library facilities and services.	+	?	?	?	?	?	?	?	?	?	?
7.14	Neighbourhood Recreation & Amenity To support and facilitate the development of outdoor and indoor recreational facilities to cater for all age-groups on suitable sites.	+	?	?	+	?	?	?	?	?	?	?
7.15	Cultural Diversity To recognise the community and cultural needs of communities in the city and facilitate the development of diverse cultural, religious and social facilities at suitable locations subject to proper planning considerations.	+	?	?	?	?	?	?	?	?	?	?

		PHH	BFF	SL	WR	CA	MA	CH	LD
7.16	Programmes for Disadvantaged Areas To support and promote the development of RAPID programmes aimed at disadvantaged areas including the implementation of projects and commitments outlined under these programmes.	+	?	?	?	?	?	?	?
7.17	Safe City a. To ensure a well-integrated urban form that provides a safe environment for all users by maximising visibility and surveillance, increasing pedestrian activity and maximising connections between areas. b. To encourage the ongoing maintenance and upkeep of the public realm, keeping spaces free of graffiti and litter, etc.	+	+	+	+	N	+	+	+
	Chapter 8	PHH	BFF	SL	WR	CA	MA	CH	LD
8.1	Strategic Objectives – Enhancing Cork’s Cultural Identity It is a strategic objective of Cork City Council: a. To promote Cork City as a centre of excellence for arts, culture and leisure facilities as well as the creative industries; b. To celebrate Cork as a city of arts to support the further development of Cork as a centre for culture and creativity; c. To support the continued advancement, participation and collaboration of arts and cultural services in the city as outlined in the Cork City Arts Strategy (2011 – 2015); d. To support awareness and appreciation of the cultural heritage of Cork City and implement the Cork City Heritage Plan 2014-2018; e. To ensure that the nurturing of the arts and associated services is part of the planned development of Cork and its surrounding region; f. To implement the Cork City Tourism Strategy 2012-2015 and its successors; g. To facilitate and encourage sustainable tourism development which is based on and reflects the city’s distinctive history culture and environment and which will promote diversification and innovation in the tourism sector; h. To protect and enhance the tourism and cultural amenities of the city including the conservation, protection and enhancement of Cork City’s natural, built and cultural heritage through land use zoning, policies and objectives; i. To develop the city’s distinctive qualities and its function as a cultural destination and to expand the role of the city as an important gateway and base for regional tourism.	+	N	N	N	N	N	N	N

8.6	<p>Medieval Spine & Cultural Quarters It is an objective to promote the development of attractiveness the medieval spine and adjoining cultural quarters by:</p> <ol style="list-style-type: none"> Supporting and encouraging the development of heritage, cultural or tourist venues and the promotion of cultural events within these areas in key sites such as Elizabeth Fort, the Vision Centre, Triskel Christchurch, the South Presentation Convent/ Nano Nagle Centre, Beamish and Crawford, and the Butter Exchange, Shandon Promoting North and South Main Street as 'Cork's Colour Corridor' through working with the Arts Office to develop a high quality building and street art project which will improve the legibility of the street as the medieval heart of the Cork and its role as a cultural connector; Improving permeability through the medieval spine by developing public realm improvements at key points along the medieval spine (i.e. the medieval gateways of North and South Gate Bridges) and at key city vantage points to the north and south of the medieval spine (Shandon and St. Patrick's Hill/Bell's Field to the north and Elizabeth Fort to the south); Investigating the feasibility of marking the Northgate and Southgate as the gateways to the medieval city Expanding upon the range and nature of uses 'open to consideration' within the Cultural Quarters (see Chapter 13 City Centre and Docklands) 	+	N	+	N	N	N	+	N
8.7	<p>Public Realm Identify and implement public realm improvement projects for the city's waterfront areas as part of the network to link the major cultural tourism attractions and amenity areas. Initial focus will be on developing proposals for the south facing quays on the South Channel.</p>	+	N	N	N	N	N	+	N
8.8	<p>Made in Cork It is an objective of Cork City Council to:</p> <ol style="list-style-type: none"> Produce a Food Strategy for the city which will examine the development of space for food culture in the city and the development of the associations between Cork City and quality food produce; Conclude a Feasibility Study into the development of a Food Centre at a city centre location – and implement any recommendations arising; Investigate the development of a craft centre in the city centre, possibly in the Butter Exchange in Shandon, and other ways of supporting the development of the craft sector 	+	N	+	N	N	N	+	N

8.9	<p>d. Support the development of food and micro brewing businesses in the city centre, including working with local stakeholders to identify and market a restaurant quarter</p> <p>Imagined in Cork</p> <p>a. To develop additional spaces/buildings for arts and cultural uses;</p> <p>b. To support the development of an Events Centre in Cork;</p> <p>c. To support existing festivals and develop and encourage the establishment of new festivals which will be supported as a celebration of the creative spirit and identity of each community;</p> <p>d. Identify and develop spend generating events such as an enhanced Christmas Festival and a Spring Festival to help bring locals as well as visitors into the city centre to shop and eat;</p> <p>e. To ensure that cultural facilities are not lost from existing buildings in redevelopment proposals;</p> <p>f. To encourage the use of vacant units within the city centre by arts and cultural uses/occupiers;</p> <p>g. To develop a higher profile for Cork as a traditional music venue, including examining the feasibility of mounting the Ceol exhibition in a suitable venue and promoting events such as Pulses of Tradition;</p> <p>h. Commission an arts and culture plan for Marina Park.</p>			+	N	N	N	N	N	N	N	N	N	N	N	N	N	N
8.10	<p>Cultural Infrastructure</p> <p>a. To pursue the development of a National Diaspora Centre in Cork;</p> <p>b. To continue to support and expand museum facilities in the city;</p> <p>c. To further develop and promote the Cork City and County Archive collection;</p> <p>d. To expand the facilities of the library. Service in particular extend the range of facilities available in a redeveloped Central Library.</p>				+	N	N	N	N	N	N	N	N	N	N	N	N	N
8.11	<p>Visitor Accommodation</p> <p>To encourage a broader range of visitor accommodation in the City and the expansion of the city's hotel base. The City Council will seek to develop a Motorhome Park in a suitable location in the city.</p>			+	N	N	N	N	N	N	N	N	N	N	N	N	N	N
8.12	<p>Infrastructure for Artists</p> <p>To support the provision of spaces for artists in suitable buildings to live, work and exhibit.</p>				+	N	N	N	N	N	N	N	N	N	N	N	?	N
8.13	<p>Provision of Public Art</p> <p>To promote and encourage the provision of public art in large scale developments, in public parks and other public spaces and also by ensuring that all construction projects undertaken by the Council, which are supported by Government funding are considered for the "Per cent for Art" Scheme. Cross reference with DM chapter.</p>			+	N	N	N	N	N	N	N	N	N	N	N	N	N	N

8.14	<p>Marketing & Branding The City Council will continue to support and develop the City Centre's tourist economy and work closely with tourism and business stakeholders agencies and with Fáilte Ireland to develop a brand and marketing strategy that builds on the city's tourist appeal and complements the wider Cork Region branding and marketing strategy.</p>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Chapter 9	PHH	BFF	SL	WR	CA	MA	CH	LD									
9.1	<p>Strategic Objectives: Built heritage & Archaeology a. To promote the protection of the heritage of the city and the implementation of the Heritage Plan b. Ensure that elements of archaeological, architectural and other cultural significance are identified, retained and interpreted wherever possible and the knowledge placed in the public domain c. Promote the retention reuse, and enhancement of buildings and other elements of architectural or other significance d. Ensure that development reflects and is sensitive to the historical importance and character of the city, in particular the street layout and pattern, plot sizes, building heights and scales e. Improve and encourage access to and understanding of the architectural heritage of the city</p>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
9.2	<p>Heritage Plan To implement the Natural, Built and Cultural Heritage Actions from the Cork City Heritage Plan</p>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
9.3	<p>Conservation of Heritage in City To ensure that consideration and conservation of heritage is an integral part of Cork City Council's plans and programmes for the physical, economic and social planning and development, and that the appropriate training and education is provided to enable the City Council to achieve Heritage Objectives.</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.4	<p>Archaeological Heritage Cork City Council will aim to protect, record and promote the rich archaeological heritage of the city.</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.5	<p>Sites of Established Archaeological Interest Cork City Council will protect and enhance the archaeological value of the sites (and their settings) listed in the Record of Monuments and Places (RMP).</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

9.6	Newly Discovered Sites Cork City Council will protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places (RMP).	+	N	N	N	N	N	N	N	N	+	+	+
9.7	Preservation of Archaeological Remains In-Situ In accordance with national policy (and in the interests of sustainability) impacts on the buried archaeological environment should be avoided where possible	N	N	N	N	N	N	N	N	N	+	+	+
9.8	Development within the Historic Core Where large-scale opportunity sites within the medieval historic core are available for development a policy of minimising the impact on the archaeological resource will be promoted. Any proposed development will be assessed on the level and amount of undisturbed archaeology present on the site.	+	N	N	N	N	N	N	N	N	+	+	+
9.9	The Value of Archaeological Knowledge The acquisition and dissemination of knowledge is a core principle for the protection of the archaeological heritage of the city. All appropriate archaeological excavation should be undertaken to the highest possible standards and the information made publicly available.	+	N	N	N	N	N	N	N	N	+	+	N
9.10	Protection of Cork's Medieval Street Pattern Cork City Council will seek to protect Cork's medieval street pattern, and in particular, seek to conserve and enhance the laneways within the setting of the streetscape.	+	N	N	N	N	N	N	N	N	+	+	+
9.11	Protection of Medieval Plot Widths Cork City Council will seek to retain and protect historic building lines and traditional plot widths when they derive from medieval origins.	N	N	N	N	N	N	N	N	N	N	+	+
9.12	Survey of Medieval Remains Detailed archaeological survey of buildings proposed for demolition will be required, where in the opinion of Cork City Council medieval fabric may be present.	N	N	N	N	N	N	N	N	N	N	+	N
9.13	Protection of Cork's Medieval City Walls Cork City Council will secure preservation in-situ of the medieval city defences and will have regard to the preservation and enhancement of the line of the city wall when considering development proposals in its vicinity. Disturbance, removal and alteration of the line of the city wall will not be permitted. An appropriate buffer zone between the city wall and the development will also be required.	+	N	N	N	N	N	N	N	N	+	+	+
9.14	Promotion of Cork's Medieval City Walls Cork City Council will seek to improve public awareness and increase knowledge and appreciation of the medieval city walls. This will be achieved through the implementation of the recommendations of the Management Plan for the City Walls.	N	N	N	N	N	N	N	N	N	N	+	N

9.23	<p>Record of Protected Structures (RPS) Cork City Council will maintain a Record of Protected Structures within the Cork City Development Plan, which shall include structures or parts of structures which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, and which it is an objective to protect.</p>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
9.24	<p>Demolition of Protected Structures Proposals for demolition of a Protected Structure shall not be permitted except in exceptional circumstances and where it can be showed that a greater public interest will be served which outweighs the loss to the architectural heritage.</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.25	<p>Recording of Protected Structures Any alteration or demolition of a Protected Structure shall require a full record to Best Conservation Practice.</p>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.26	<p>Historic Landscapes Cork City Council will ensure the historic landscapes and gardens throughout the city are protected from inappropriate development.</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.27	<p>Enabling Development Cork City Council will consider permitting the following, notwithstanding the zoning objectives of the area: The restoration of a Protected Structure, or other buildings of architectural or other merit, currently in poor condition, to conservation best practice standard for any purpose compatible with the character of the building. The conservation of a Protected Structure or other building of architectural merit or other merit, independent of its current condition, to a tourist related use, in cases where, in the City Councils opinion, the converted building is capable of functioning as an important additional tourist attraction or facility, and the use is compatible with the character of the building.</p>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9.28	<p>Protection of NIAH & Other Structures of Built Heritage Interest The City Council as planning authority aims to protect structures of built heritage interest. The “Ministerial Recommendations”, made under Section 53 of the <i>Planning Acts</i>, asking the City Council to protect structures will be taken into account when the City Council as planning authority is considering proposals for development that would affect the historic interest of these structures of significance. The City Council will protect structures by making additions to the Record of Protected Structures, designating Architectural Conservation Areas, or other appropriate means. Structures (including those recommended by the Minister) will be prioritized for protection, over other criteria, where:</p> <ul style="list-style-type: none"> • Key stakeholders groups, building owners or members of the public ask that we provide protection to specific buildings ; or • Area-wide assessment through architectural conservation area assessment or the development of forward planning frameworks that lead to the need to protect key character areas and/ or buildings. 	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

9.29	Architectural Conservation Areas To seek to preserve and enhance the designated Architectural Conservation Areas in the City.	+	N	N	N	N	N	N	N	+
9.30	Demolition in Architectural Conservation Areas Demolition of structures and parts of structures will in principle only be permitted in an Architectural Conservation Area where the structure, or parts of a structure, are considered not to contribute to the special or distinctive character, or where the replacement structure would significantly enhance the special character more than the retention of the original structure.	N	N	N	N	N	N	N	N	N
9.31	Recording of Structures in Architectural Conservation Areas Where in exceptional circumstances a structure or a part of a structure which is considered to contribute to the special character of the area, is permitted to be demolished, it should first be recorded prior to demolition, and where appropriate should be monitored during demolition.	N	N	N	N	N	N	N	N	N
9.32	Development in Architectural Conservation Areas Development in ACAs should take account of the following: Works that impact negatively upon features within the public realm such as paving, railings, street furniture, kerbing etc. shall not be generally permitted; Acceptable design, scale, materials and finishes for new developments; Original materials and methods of construction should be retained. For example, timber barge boards, windows and doors should not be replaced with PVC, original roofing material types should be retained along with original forms and locations of openings etc.; Features of historic or architectural value should not be removed.	N	N	N	N	N	N	N	N	N
9.33	Historic Street Character Areas <ul style="list-style-type: none"> To protect the physical and architectural character of these areas, avoiding insensitive alterations which would detract from their character; To seek the provision of higher quality public realm treatments in these areas reflecting their social value to the city. 	+	N	N	N	N	N	N	N	+
9.34	Individual Buildings of Character in Suburban Areas/Villages There will be a presumption against the demolition of buildings of Historic or Vernacular character in suburban areas/villages.	N	N	N	N	N	N	N	N	N
9.35	Elements of the Built Heritage To ensure the protection of important elements of the built heritage and their settings as appropriate.	N	N	N	N	N	N	N	N	N
9.36	Separate Access to the Upper Floors of Buildings There will be a presumption against the loss of upper floor access to buildings from street frontages, and the City Council will seek the reinstatement of upper floor access points wherever possible from the street.	+	N	N	N	N	N	N	N	+

	Chapter 10	PHH	BFF	SL	WR	CA	MA	CH	LD
10.1	<p>Landscape Strategic Objectives</p> <p>To preserve and enhance Cork's landscape character and key landscape assets</p> <p>To preserve and enhance Cork's views and prospects of special amenity value</p>	+	+	+	+	N	N	N	+
10.2	<p>Cork City Landscape</p> <p>To preserve Cork's unique and distinctive landscape character through the appropriate management and enhancement of Key Landscape Assets, (as set out in Table 1).</p>	+	+	+	+	N	N	N	+
10.3	<p>Cork City Landscape Structure Plan</p> <p>To preserve and enhance Cork's landscape and where appropriate, to increase access to and utilise the landscape for recreational purposes through the implementation of the Landscape Structure Plan.</p>	+	?	?	+	N	N	N	+
10.4	<p>Areas of High Landscape Value</p> <p>To conserve and enhance the character and visual amenity of Areas of High Landscape Value (AHLV) through the appropriate management of development, in order to retain the existing characteristics of the landscape, and its primary landscape assets. Development will be considered only where it safeguards to the value and sensitivity of the particular landscape. There will be a presumption against development where it causes significant harm or injury to the intrinsic character of the Area of High Landscape Value and its primary landscape assets, the visual amenity of the landscape; protected views; breaks the existing ridge silhouette; the character and setting of buildings, structures and landmarks; and the ecological and habitat value of the landscape.</p>	+	?	+	N	N	N	N	+
10.5	<p>Landscape Preservation Zones</p> <p>To preserve and enhance the character and visual amenity of Landscape Preservation Zones through the control of development. Development will be considered only where it safeguards to the value and sensitivity of the particular landscape and achieves the respective site specific objectives, as set out in Table 2.</p>	+	?	+	N	N	N	N	+
10.6	<p>Views & Prospects</p> <p>To protect and enhance views and prospects of special amenity value or special interest and contribute to the character of the City's landscape from inappropriate development, in particular those listed in the development plan. There will be a presumption against development that would harm, obstruct or compromise the quality or setting of linear views of landmark buildings, panoramic views, rivers prospects, townscape and landscape views and approach road views.</p> <p>To identify and protect views of local significance through the preparation of local area plans, site development briefs and the assessment of development proposals on a case-by-case basis.</p>	+	N	N	N	N	N	N	+

<p>10.7</p>	<p>Designated Areas & Protected Species To protect enhance and conserve designated areas of natural heritage and biodiversity and the habitats, flora and fauna for which it is designated To protect enhance and conserve designated species and the habitats on which they depend To ensure that any plan/ project and any associated works, individually or in combination with other plans or projects are subject to Appropriate Assessment Screening to ensure there are no likely significant effects on the integrity (defined by the structure and function) of any Natural 2000 site (s) and that the requirements of Article 6 (3) and 6(4) of the EU Habitats Directive are fully satisfied. When a plan/project is likely to have a significant effect on a Natural 2000 site or there is uncertainty with regard to effects, it shall be subject to Appropriate Assessment. The plan/project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Article 6(3) and 6(4) of the EU Habitats Directive</p>	<p>+ + N N N N N N N N N N + + N + + N + + + + + N</p>	<p>+ + + + N + + N N N N N N N N N + + + + + + + + + + + + + + + +</p>
<p>10.8</p>	<p>Non Designated Areas of Biodiversity Importance To work with local communities, groups, landowners, National Parks and Wildlife Service and other relevant parties to identify, protect, manage and where appropriate enhance and promote sites of local biodiversity value. To map the City's ecological networks/corridors of local biodiversity value outside of designated areas To encourage the management of features which are important for wild flora and fauna. Such features are those which by virtue of their linear or continuous nature e.g. rivers, tree groups or hedgerows are essential for the migration dispersal and genetic exchange of wild species.</p>	<p>+ +</p>	<p>+ + + + N + + N N N N N N N N N + + + + + + + + + + + + + + + +</p>
<p>10.9</p>	<p>River & Waterway Corridors To protect and maintain the integrity and maximise the potential of the natural heritage and biodiversity value of the River Lee and its associated watercourses. To promote an integrated approach to the future development of the River Lee so that it includes all aspects of use eg recreation, maritime history and economic factors Development proposals in river corridors will be considered favourably providing they, where practical: - Dedicate a minimum of 10m from the waters edge in channelized rivers for amenity, biodiversity and walkway purposes;</p>	<p>+ +</p>	<p>+ + + + N + + N N N N N N N N N + + + + + + + + + + + + + + + +</p>

	<ul style="list-style-type: none"> - Dedicate a minimum of 15m from the top of the bank in non-channelized rivers for amenity, biodiversity and walkway purposes ; - Preserve the biodiversity value of the site subject to Ecological Assessment by a suitably qualified Ecologist; - Shall not involve landfilling, diverting, culverting or realignment of river and stream corridors; - Shall not have a negative effect on the distinctive character and appearance of the waterway corridor and the specific characteristics and landscape elements of the individual site and its context. 	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
10.10	<p>Trees & Urban Woodland</p> <p>To protect and enhance the city's tree and urban woodlands;</p> <p>To protect, survey and maintain existing important individual and groups of trees;</p> <p>To make use of tree preservation orders to protect important trees or groups of trees which may be at risk;</p> <p>To ensure that new development benefits from adequate landscape structure / tree coverage, particularly in areas of the city with inadequate tree coverage;</p> <p>To develop an urban woodland strategy and to provide a resource to protect trees and tree groups of significance, to manage existing areas with high tree coverage and to plant new urban woodlands in areas deficient in tree coverage;</p> <p>To promote the planting of native deciduous trees and mixed forestry in order to benefit biodiversity.</p>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10.11	<p>Non Designated Areas of Geological Importance</p> <p>To seek the conservation of important features of geological interest in the city.</p>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10.12	<p>Alien Species</p> <p>To implement measures to control and prevent the introduction and establishment of ecologically damaging alien invasive species (e.g. Japanese Knotweed and Himalayan Balsam).</p>	N	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10.13	<p>Biodiversity Plan Actions</p> <p>To adopt and implement the remaining actions from the Cork City Biodiversity Plan into the Heritage Plan 2014-2018.</p>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

	PHH	BFF	SL	WR	CA	MA	CH	LD
Chapter 11								
Recreational Infrastructure Strategic Policy Objectives It is the policy of Cork City Council:								
a. To ensure that the City has an <i>Open Space Strategy</i> that is fit for purpose;	+	+	+	N	+	N	N	+
b. To ensure, in partnership with Cork County Council where appropriate, that Cork has a well-balanced provision of parks and larger open spaces to provide focal points for the city and its constituent neighbourhoods, with each park accommodating a range of activities suited to its context and purpose;	+	?	+	N	+	N	N	+
c. To ensure that all areas of the city have an adequate provision of local public amenity space to enable people to recreate, meet and enjoy;	+	?	+	N	+	N	N	+
d. To ensure that play provision meets the needs of all age groups to best practice standards;	+	N	N	N	N	N	N	N
e. To ensure that playing pitch and active sports infrastructure meets the needs of Cork's population;	+	?	+	N	+	N	N	+
f. To ensure that Cork has a supply of allotments to meet the needs of the community;	+	N	+	N	+	N	N	+
g. To ensure that the network of green infrastructure linkages are protected and enhanced to provide for movement and ecological networks, and that open spaces are designed to maximise their biodiversity so that people have access to nature close to where they live;	+	N	N	N	N	N	N	N
h. To ensure that streets within the city fulfil their potential as public space as well as movement corridors;	+	N	+	N	+	N	N	?
i. To ensure that the city's open space and recreational assets are managed effectively, efficiently and smartly so that the maximum benefit for all in the common good can be gained from them, given finite space within the city and the finite monetary resources available.	+	N	+	N	+	N	N	?
Open Space Strategy To progress an <i>Open Space Strategy</i> for Cork City.	+	?	+	N	+	N	N	+
Active Recreational Needs Study To progress a review of the <i>Recreational Needs Study 2003</i> to inform the <i>Open Space Strategy</i> for Cork City and project development.	+	?	+	N	+	N	N	?
City Parks To pursue the delivery of a network of <i>City Parks</i> for Cork City and the wider metropolitan area.	+	+	+	N	+	N	N	+

11.5	<p>Tramore Valley Park To pursue the delivery of the Tramore Valley Park and the proposed landbridge that will connect the areas of the park to the north and south of the N40, subject to Ecological Assessment and Appropriate Assessment Screening.</p>	+	+	+	N	+	N	N	N	+	N	N	+
11.6	<p>Marina Park To pursue the delivery of the Marina Park subject to Ecological Assessment and Appropriate Assessment Screening.</p>	+	+	+	N	+	N	N	N	+	N	N	+
11.7	<p>Public Open Space a. To protect, retain, improve and provide for areas of public open space for recreation and amenity purposes. There will be a presumption against development of land zoned public open space for alternative purposes. b. There will be presumption against development on all open space in residential estates in the city, including any green area/public amenity area that formed part of an executed planning permission for development and was identified for the purposes of recreation/amenity open space, and also including land which has been habitually used as public open space. Such lands shall be protected for recreation, open space and amenity purposes. c. To promote public open space standards generally in accordance with national guidance contained in <i>Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities</i> (DEHLG, 2009) and the accompanying <i>Urban Design Manual – A Best Practice Guide</i>. d. The development of open spaces should aim to enhance and protect natural features and views and be set in safe and secure environments with the emphasis on active open spaces accessible to and enjoyed by all sectors of the community. e. To follow an approach of qualitative as well as quantitative standards for open spaces providing high quality open spaces with high levels of access to recreation for local communities.</p>	+	+	+	N	+	N	N	N	+	N	N	+
11.8	<p>Active Recreational Facilities To support the development of indoor and outdoor active recreational facilities which are easily accessible to all members of the community.</p>	+	?	+	N	+	N	N	N	+	N	N	?
11.9	<p>Protection of Sports Grounds & Facilities To protect, retain and enhance the range and quality of sports facilities and grounds in the city and to ensure that lands zoned 'sports ground' is not developed for other purposes. There will be a general presumption against the loss of land zoned as sports grounds for development for other purposes. Limited ancillary* development may be considered if the proposed development: - Is ancillary* to the principal use of the site as sports grounds and does not affect the quantity or quality of the pitches and provision of adequate training areas and facilities or adversely impact upon their use, and - Only affects land incapable of forming part of the playing surfaces and does not result in the loss of any playing surface or pitch.</p>	+	?	+	N	+	N	N	N	+	N	N	?

	*Ancillary uses include other sport and leisure facilities such as a clubhouse, changing rooms, meeting rooms, gym, sports training halls, catering facilities, caretakers accommodation and appropriate car parking facilities. Crèches and community uses are open for consideration provided that they are linked to the sports use.												
11.10	Sports Facilities & Grounds a. To promote the provision and management of high quality sporting facilities. b. To facilitate access to sports facilities for all members of the community and ensure that the particular needs of different groups are incorporated into the planning, design and management of new facilities. The City Council will continue to encourage joint provision and dual use of sports facilities in appropriate locations. c. To promote, in co-operation with the County Council, the urban fringe and Green Belt as important resources for the provision of sports facilities e.g. golf courses, pitches etc. d. To take account of the priorities set out in both national and local sports strategies when planning new facilities. e. To consider the sports facilities, recreation and amenity needs of an area for which planning permission is sought and effect their provision through the planning process, e.g. provision of Multi-Use Games / Areas (MUGAs) etc.	+	?	+	N	+	N	N	+	N	N	?	?
11.11	River Use & Management Plan To pursue the development of a River Use and Management Plan to define how the recreational use of the city's waterways can be optimised subject to Ecological Assessment and Appropriate Assessment Screening.	+	N	N	+	N	N	N	N	N	N	N	N
11.12	Amenity Routes To pursue the development of a network of high quality amenity routes, particularly along waterways, and linking existing parks and public open spaces, and to work with Cork County Council and other stakeholders to achieve and improve external linkages subject to Ecological Assessment and Appropriate Assessment Screening..	+	?	+	N	+	N	N	N	+	N	N	?
11.13	Children's Play Strategy To pursue the development of a Children's Play Strategy to inform the Open Space Strategy and to pursue the delivery of accessible facilities to meet need and to endeavour to ensure that every neighbourhood in the city will include appropriate play spaces and facilities.	+	N	+	N	+	N	N	N	+	N	N	?
11.14	Children's Play Facilities To seek the provision of childrens play facilities in new developments and particularly in new larger residential developments of 75 units and over. Facilities for young children aged 0-5 should be provided within easy walking distance of homes or within the cartilage of apartment blocks. Older children should have access to larger equipped play areas within 5 minutes walk of home.	+	N	+	N	+	N	N	N	+	N	N	?
11.15	Allotments To pursue the preparation of an Allotments Strategy.	+	N	+	N	+	N	N	N	+	N	N	N

		PHH	BFF	SL	WR	CA	MA	CH	LD
11.16	Amenity Streets To explore the role that amenity streets can play in meeting recreational infrastructure need.	+	N	N	N	N	N	N	N
11.17	City Centre Recreational Infrastructure To pursue the improvement of progress a review of the Recreational Needs Study 2003 to inform the Open Space Strategy for Cork City and project development.	+	N	+	N	+	N	N	N
	Chapter 12								
12.1	Strategic Environmental Infrastructure Objectives a. Promote sustainable settlement and transportation strategies in response to climate change, including measures to reduce energy demand; to reduce anthropogenic greenhouse gas emissions; and to address the necessity for adaptation to climate change, in particular, having regard to location, layout and design of new development. b. Ensure sufficient infrastructure to serve population targets set out in the Core Strategy (Chapter 2). c. Maximise efficiencies in respect of infrastructure provided. d. Improve the environmental quality of the city's rivers and surface water bodies; maintain the quality of ground water, and generally protect existing and potential water resources in accordance with EU directives. e. To ensure an adequate, sustainable and economic supply of good quality water and ensure that development would not have an unacceptable impact on water quality and quantity. f. Follow a waste hierarchy that starts with prevention, preparing for re-use, recycling, other recovery (e.g. energy recovery) and finally disposal (including landfill). g. Restrict landuse or require appropriate design as necessary to reduce risk of hazard, including those arising from flooding and controlled substances in industrial processes. h. Improve air quality and maintain acceptable levels of light and noise pollution in the city in accordance with requirements set out in European Union, National and Regional policy. i. Ensure adequate ICT infrastructure to develop Cork as a "Smart City". j. Improve the energy efficiency of new and existing buildings and promote renewable energy use in the city's building stock and infrastructure.	+	+	+	+	+	+	+	+
		+	N	N	N	N	N	N	N
		+	N	N	N	N	N	N	N
		+	N	N	N	N	N	N	N
		+	N	N	N	N	N	N	N
		+	N	N	N	N	N	N	N
		+	N	N	N	N	N	N	N

12.2	Storm Water Management Plan City Council will prepare a Storm Water Management Plan for the City.	+	+	+	+	+	+	+	+	+	+	+	+
12.3	Sustainable Urban Drainage Systems Planning applications shall include proposals for managing stormwater in accordance with details set out at www.irishsuds.com (unless superseded by policies and standards set out in the adopted "Storm Water Management Plan per Objective 12.2) and shall minimise and limit the extent of hard surfacing and paving.	+	+	+	+	+	+	+	+	+	+	+	+
12.4	Groundwater Protection Strategy Cork City Council will prepare a groundwater protection strategy, which will include policies related to abstraction and to the disposal of post-geothermal "reject water."	+	+	+	+	+	+	+	+	+	+	+	+
12.5	Bin Provision in City Centre To review bin provision in the City Centre and medieval spine and develop a strategy for eliminating any gaps in infrastructure.	+	+	+	+	+	+	+	+	+	+	+	+
12.6	Litter Management Plan To implement the Litter Management Plan, which includes provision for street cleaning, enforcement of the litter laws, and public awareness raising.	+	+	+	+	+	+	+	+	+	+	+	+
12.7	Information Provision on Low Energy Design The Planning Directorate will use the planning process to encourage low-energy design through measures including information provision (in conjunction with other Directorates) and through the development of Cork-specific standards/guidelines in respect of spatial requirements within the remit of planning (e.g. solar orientation).	+	+	+	+	+	+	+	+	+	+	+	+
12.8	Retrofitting for Energy Savings Guidelines During the lifetime of the Development Plan, Cork City Council will develop guidelines and standards to assist property owners in respect of energy retrofitting and planning considerations.	+	+	+	+	+	+	+	+	+	+	+	+
12.9	Alternative Heat Sources Cork City Council will support the principle of district and geothermal heating, and will further examine ways in which impediments to their use can be overcome.	+	+	+	+	+	+	+	+	+	+	+	+
12.10	Renewable Energy Projects Cork City Council will support renewable energy pilot projects and incorporate renewable energy into its own schemes where feasible.	+	+	+	+	+	+	+	+	+	+	+	+
12.11	ICT Infrastructure Cork City Council, with local stakeholders and international businesses, will support the continued development of ICT infrastructure and data centres for Cork through: a. Improved backhaul to the international networks; b. Increased development and usage of the Metropolitan Area Network; c. Encouraging the development of carbon-neutral data centres;	+	+	+	+	+	+	+	+	+	+	+	+

12.12	d. Facilitating access to WiFi. Lee Catchment Management Plan / Lower Lee Flood Relief Scheme Cork City Council shall have regard to the recommendations of the Draft Lee Catchment Flood Risk Assessment and Management Plan and to incorporate the recommendations of the South West CFRMP / Lee CFRMP and the Lower Lee Flood Relief Scheme into the Cork City Development Plan when available.	+	?	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	?
12.13	Flood Risk Management in Development Proposals Cork City Council shall have regard to "The Planning System and Flood Risk Management: Guidelines for Planning Authorities, 2009" in the preparation of land-use plans and determining planning applications.	+	N	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N
12.14	Restrictions on Development in Flood Risk Areas To restrict development in identified flood risk areas, in particular, floodplains, except where the applicant satisfies the Justification Test as outlined in "The Planning System and Flood Risk Management: Guidelines for Planning Authorities 2009."	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12.15	Floodplains To protect, enhance and manage the City's floodplains, wetlands and coastal habitat areas that are subject to flooding as vital 'green infrastructure' which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reduce the need to provide flood defence infrastructures.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12.16	Flood Impact Assessment All significant developments impacting on flood risk areas will be required to provide a Flood Impact Assessment to accompany the planning application to identify potential loss of floodplain storage and proposals for the storage or attenuation (e.g. SUDS) of run-off discharges (including foul drains) to ensure development does not increase the flood risk in the relevant catchment.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	?
12.17	Air Quality To protect and improve air quality in Cork City in accordance with the Air Quality Standards Regulations 2011 and Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC).	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N
12.18	External Lighting To require that the design of external lighting minimises the incidence of light spillage or pollution on the surrounding environment and results in no adverse impact on residential amenities or distraction to road users. Development proposals that require lighting of outdoor areas shall be required to include details of external lighting scheme and proposed mitigation measures.	+	?	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N
12.19	Joint Cork Noise Action Plan To implement the Joint Cork Noise Action Plan 2013 - 2018 in order to prevent and reduce environmental noise.	+	N	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	N

12.20	<p>Noise Levels in Developments To require all developments to be designed and operated in a manner that will minimize and contain noise levels. Where appropriate, the City Council shall apply conditions on new developments / uses that restrict noise emissions and hours of operation, in particular, night time uses such as public houses, private members clubs, casinos, fast food take-aways, restaurants and nightclubs; or conditions on noise sensitive developments / uses to mitigate the effects of existing noise levels.</p>	+	N	N	N
12.21	<p>Assessment of Development in Vicinity of SEVESO II Sites Landuse proposals for development within the vicinity of sites identified under the Control of Major Accident Hazards ("SEVESO II") Directive will be assessed with regard to technical guidance provided by the Health and Safety Authority</p>	+	N	N	N
12.22	<p>Relocation of SEVESO II Sites Cork City Council will actively seek the relocation of SEVESO II facilities / activities to suitable alternative sites outside the City, working in conjunction with operators of SEVESO activities, other statutory bodies, and Cork County Council.</p>	+	N	N	N

	Chapter 13	PHH	BFF	SL	WR	CA	MA	CH	LD											
13.1	<p>Strategic Objectives - City Centre & Docklands It is a strategic objective of Cork City Council to:</p> <p>a. Sustain and enhance the vitality and attractiveness of Cork City Centre as the 'Healthy Heart' of the region and as a quality place to live, work and visit;</p> <p>b. Facilitate the orderly expansion of the city centre eastwards into Docklands and support the progressive development of Docklands as a sustainable urban quarter to complement the continued vibrancy and primacy of the City Centre.</p> <p>c. Implement the appropriate recommendations of the City Centre Strategy report (2013)</p> <p>d. Support the city centre in realising its full potential as the leading regional retail centre and the primary office location;</p> <p>e. Continue to develop Cork City Centre as a high quality, vibrant and adaptable location for the growth of indigenous and international business;</p> <p>f. To develop the city centre as a desirable place to live for all by providing a quality, sustainable and socially inclusive housing stock in proximity to quality services and amenities;</p> <p>g. develop and establish the City Centre as an international destination for tourism, business, culture, leisure and arts;</p> <p>h. To continue to enhance the quality of the city's public realm and improve access into and within the City Centre for all the city's users;</p> <p>i. To facilitate the safe, efficient and sustainable movement of people to, from and within the City Centre.</p>	+	N	+	N	+	+	+	N	N	N	N	N	N	N	N	N	N	N	
13.2	<p>New & Upgraded Retail Development To support the development and expansion of retailing in the City Centre Retail Area through upgrading and expansion of existing buildings and redevelopment on suitable sites particularly in areas close to primary retail frontages.</p>	+	N	N	N	+	+	+	N	N	N	N	N	N	N	N	N	N	N	N
13.3	<p>Character Areas Cork City Council will support traders groups in developing strategies for improving and promoting distinct character areas within the city centre and in particular will support the continuation of independent retail outlets in the city centre as a vital part of its uniqueness and attractiveness.</p>	+	N	N	N	?	+	+	N	N	N	N	N	N	N	N	N	N	N	N
13.4	<p>Protection of Prime & Key Secondary Retail Frontage To restrict retail offices, general offices, hot food takeaways, general convenience stores, public houses, night clubs, mobile phone shops, bookmakers/betting shops and restaurant uses from</p>	+	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

	locating at ground floor level on prime retail frontages, and restrict retail offices, general offices, hot food takeaways, bookmakers/betting shops at ground floor level on secondary retail frontages (as defined in Map 2, Volume 2).											
13.5	Restriction on Sub-Division of Large Floorplate Shops To restrict the subdivision, other conversion, or change of use of existing large and medium floorplate shops (e.g. department stores) in order to retain the City Centre's anchor stores and ensure an adequate distribution of accommodation size in the City centre.	+	N	N	N	N	N	N	N	N	N	N
13.6	Amalgamation of Shop Units Amalgamation of small retail units will be open for consideration in order to meet demand for medium size units to suit modern retailing needs, subject to the need to have regard to the protection streetscape and building character.	+	N	N	N	N	N	N	N	N	?	N
13.7	Active Ground Floor Uses New-build developments within the CCRA and CCA should generally be designed to accommodate higher order retail uses at ground floor level and thus include high floor-to-ceiling heights, of at least 3.75 metres (excluding servicing etc.) at ground floor level, separate and independent access to upper floors, servicing capability, and the avoidance of support pillars in the middle of floorplates except where having regard to site size and location it is not practical or appropriate.	+	N	N	N	N	N	N	N	N	N	N
13.8	Leisure & Entertainment Uses The City Council will support the development of leisure and entertainment facilities such as restaurants, public houses, music and dance venues, visitor attractions and other leisure facilities in the City Centre to facilitate the needs of residents and visitors and contribute to the vibrancy of the area. Applications for new development will be treated on merit but discouraged in areas where conflicts with established residents are likely to arise. The Council will control location, size and activities of entertainment uses that are likely to attract large numbers in order to safeguard residential amenity, environmental quality and the established character of parts of the city centre.	+	N	N	N	N	N	N	N	N	N	N
13.9	Cultural Precincts In Barrack Street and Douglas Street in the South Parish Cultural Precinct and in Shandon Street and Church Street in the Shandon Cultural Precinct the City Council will encourage and support uses and developments which will assist the growth of cultural, tourist related and small to medium scale cultural business activities such as bars, restaurants and small offices suitable for cultural businesses. Consideration will also be given on these streets to proposals for small scale independent and speciality retailers. Proposals will be viewed in terms of their contribution to the mix and diversity of cultural uses and to their potential to enhance the areas cultural, visitor and tourist potential.	+	N	N	N	N	N	N	N	N	+	N

<p>13.10</p>	<p>City Centre Office Development It is the objective of Cork City Council to support office development within the City Centre by:</p> <p>a. Facilitating the development of an expanded office quarter, including large floor plate office development, on suitable sites in the eastern end of the city centre, and extending into Docklands as shown in Figure 13.1; and in other suitable sites in the Commercial Core Area and City Centre Retail Area, subject to the need to respect the character and profile of the city centre. The City Council will work with other public agencies and the private sector to bring forward office developments in these areas.</p> <p>b. Supporting the development of supported space for start-up and grow-on businesses in suitable buildings in the city centre by working with other public and private sector stakeholders.</p> <p>c. Seeking to develop a package of measures to support the functioning of South Mall as a location for small and medium sized offices and other supportive uses.</p> <p>d. Implementing environmental improvements and measures to improve transport and access to the city centre as outlined in Chapter 5.</p>	<p>+</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>
<p>13.11</p>	<p>City Centre Living It is the objective of Cork City Council to:</p> <p>a. Encourage residential development throughout the city centre providing: it does not prejudice the functioning of the city centre as a place for mainly commercial activity; it is designed to a high quality, ensures a sustainable mix of housing type and tenure as outlined in Chapters 6 and 15 and contributes to the development of sustainable urban communities;</p> <p>b. Encourage a greater mix of housing types and tenure within the City Centre;</p> <p>c. Support the refurbishment of existing residential development in the city centre, particularly in the ICRN and seek to identify measures to incentivise this.</p> <p>d. Encourage the development of residential units on upper floors of existing and new buildings in the CCA and CCRA subject to other city centre policies and objectives.</p>	<p>+</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>
<p>13.12</p>	<p>City Centre Public Realm Projects A public realm strategy will be prepared to highlight the 'link and place' function of city centre streets and other places public spaces and to guide future public realm projects. The Council will aim to deliver the public realm projects outlined in Table 13.1 and illustrated in Map 2 Volume 2 within the lifetime of the plan.</p>	<p>+</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>	<p>N</p>

13.13	<p>Waterfront Amenity Areas To create Waterfront Amenity Areas to provide accessible public space along the river for pedestrians and cyclists. There is a general presumption against development encroaching within 10 metres of the existing quayside apart from: Small-scale development within the space relates to the use of the river or quayside space and can ensure an adequate amenity space to facilitate passive recreation, walking and cycling; or In confined sites provision of a reduced setback supplemented by a boardwalk may be an acceptable alternative.</p>	N	N	N	N	N	N	N	N
13.14	<p>Priority Public Realm Improvement Projects</p> <ul style="list-style-type: none"> a. Mc Curtain Street and Bridge Street b. Parnell Place and Parnell Bridge c. Waterfront amenity route on Northside of South Channel d. Waterfront amenity route on Northside of North Channel e. Princes Street f. Marlboro Street g. Cook Street h. South Main Street i. North Main Street j. South Mall k. Pedestrian bridge linking Merchants Quay to St Patricks Quay l. Pedestrian bridge and link from Beamish and Crawford site to Wandersford Quay 	N	N	+	?	+	N	N	N
13.15	<p>City Centre Parks It is the policy of Council to improve the number and variety of public spaces, both hard and soft, in the City Centre. This will be achieved through the following initiatives: - Promote the river corridors as strategic lungs of the city, with the long term objective to create an uninterrupted pedestrian connection on the south side of the River Lee from Fitzgerald's Park to Marina Park (see Waterfront Amenity Areas section above) through the City Centre - Promote "pocket parks" as rest and reorientation points throughout the City Centre and along the river corridor in particular, with small play areas, refreshment stands and cafés developed and encouraged where appropriate</p>	+	+	+	N	+	N	N	N
13.16	<p>Strategic Pedestrian Linkages To upgrade and provide new strategic pedestrian linkages where required in the City Centre to increase permeability through key development sites, reflect pedestrian desire lines between key areas and to strengthen connections between the City Centre and the Docklands. This will be achieved through the implementation of the City Centre Movement Strategy, public realm upgrades, the upgrading of key pedestrian junctions and the provision of new pedestrian linkages as part of the redevelopment of strategic sites.</p>	+	N	N	+	N	N	N	N
13.17	<p>Developing Cycling in the City Centre The Council is committed to developing cycling in the City Centre and will upgrade cycle lanes and cycling facilities where necessary throughout the City Centre.</p>	+	N	N	+	N	N	N	N

13.18	Two Way Streets The City Council will seek to revert over time from one-way to two-way streets in the city centre to improve the attractiveness of the city centre for pedestrians and to make it easier to navigate.	+	N	N	N	N	N	N	N	N	N	N
13.19	Pedestrian Priority Core It is the policy of the City Council to facilitate a pedestrian priority core at the heart of the City Centre that prioritises pedestrian activity and movement and reinforces the Centre as a desirable destination for pedestrians.	+	N	N	N	N	N	N	N	N	N	N
13.20	City Centre Design Quality & Context a. To ensure that new development is of the highest quality and respects, safeguards and enhances the special character of the city centre b. To create new and distinctive places which enhance the special character of the city c. Development proposals in the City Centre should demonstrate that they contribute towards a high quality, sustainable living or working environment. They should respect the height, mass and scale of surrounding buildings, should not compromise protected views and prospects and should draw upon positive characteristics of the surrounding environment to create a sense of place, security and vitality.	+	N	N	N	N	N	N	N	N	N	N
13.21	Co-ordinated Development Planning permission will not be granted for development which might compromise the effective development of adjacent land of strategic importance to the City Centre or the comprehensive development and regeneration of a wider area as provided for in a master plan or development brief.	+	N	N	N	N	N	N	N	N	N	N
13.22	Beamish & Crawford/Grand Parade Quarter The support the development of a new mixed use quarter at the western end of the city centre centred on the development sites at Beamish and Crawford, Grand Parade and Sullivan's Quay and to examine the potential for this area to become a creative, civic, entertainment and residential quarter within the city centre.	+	N	N	N	N	N	N	N	+	+	N
13.23	Development Area at Eastern End of City Centre Cork City Council will facilitate the development of an office-led mixed use quarter in the eastern end of the city centre island and the areas facing the river channels to the north and south.	+	N	N	N	N	N	N	N	+	+	N
13.24	North Docks The North Docks, including the railway station lands and waterfront areas, will be developed in accordance with the vision set out above and indicated on Maps 1 and 3 of Volume 2. A comprehensive Masterplan, in line with the Development Plan policy and informed by the Docklands Public Realm Masterplan will be required to guide development of the station and adjoining waterfront lands and Cork City Council will work with the landowners and the transport stakeholders to secure this.	+	N	N	N	N	N	N	N	+	+	N
13.25	Docklands Public Realm Public realm design in Docklands will be guided by the Docklands Public Realm Masterplan and the Public Realm Guidelines 2012 and by Marina Park Masterplan 2013.	+	N	N	N	N	N	N	N	+	+	N

	Chapter 14	PHH	BFF	SL	WR	CA	MA	CH	LD
14.1	<p>Mahon Local Area Plan</p> <p>The Local Area Plan vision for Mahon will be achieved by:</p> <ol style="list-style-type: none"> a. Expanding the population and improving residential amenity; b. Gradually replacing low density industry with higher density employment accessible to those living in the area; c. Creating strong focal places at Mahon Point and Neighbourhood Centres providing local services and a physical focus for their areas; d. Supporting a shift to non-car modes for transport, environmental, social and health reasons; and conserving landscape, built heritage and environmental assets. 	+	?	?	N	?	+	N	N
14.2	<p>Blackpool/Kilbarry</p> <ol style="list-style-type: none"> a. To create a high quality, vibrant, distinct and accessible mixed-use urban centre in Blackpool, serving as an attractive northern gateway to the city and a desirable destination for northside suburban communities, encompassing retail, commercial, employment uses, residential neighbourhoods, community and recreational facilities; b. To protect and improve residential neighbourhoods from detrimental traffic impacts, creating a safe and attractive network of pedestrian/cyclist orientated streets and spaces connecting communities to local services and amenities. c. To facilitate the development of an integrated public transport interchange centred on a commuter rail service and connecting bus services; d. To respect and enhance the built heritage and architectural character of the area, through the creation of a high quality public realm and high standards of building design; e. To preserve and enhance the sensitive and distinct landscape, visual character and biodiversity of the area and in turn provide for recreational uses, open space and amenity facilities; f. To develop Kilbarry Industrial area for business and technology employment uses and to improve access by sustainable modes of transport, including access to the proposed rail station; g. To develop the Whitechurch lands as a new residential neighbourhood with associated community facilities. 	+	N	+	N	+	N	N	N

14.3	<p>North West Regeneration Area</p> <p>a. To create a regenerated residential quarter in the North West with associated services and recreational amenities;</p> <p>b. To restructure the housing provision to provide good quality housing and create a better balance of dwelling type and tenure;</p> <p>c. To improve accessibility and transport;</p> <p>d. To improve the physical environment of the neighbourhood and enhance its image;</p> <p>e. To evaluate the needs of the community in employment, educational initiatives, and community development and facilities;</p> <p>f. To combat crime and anti social behaviour, and enhance the sense of security.</p>	+	N	N	N	N	N	+	N	N
14.4	<p>Tivoli</p> <p>To prepare a Local Area Plan for the redevelopment of Tivoli taking account of the following requirements:</p> <ul style="list-style-type: none"> - To develop a vision for the future redevelopment of the Tivoli Docks taking account of its waterfront location and potential commuter rail access; - To investigate the feasibility of developing the area as a new waterside residential quarter complemented by local services and recreational amenities; - To identify suitable types and quantum of other uses, including employment uses, which would complement the residential development; - To develop a transport and access strategy for the area, in particular the provision of high quality public transport; - To identify a strategy for the phasing of development in the area. 	+	N	N	N	N	+	+	N	N
14.5	<p>Tramore Road/Kinsale Road</p> <p>a. To develop a vision for the future of the area; including identifying a suitable mix of uses and appropriate quantum of development, taking into account the need to retain locations for light industry while facilitating suitable reuse of vacant and underutilised land.</p> <p>b. To co-operate with Cork County Council in devising a co-ordinated approach to the future development of the adjoining areas on each side of the administrative boundary.</p> <p>c. To take account of transport and access issues including potential impact on the adjoining national road and the provision of sustainable modes of transport</p>	+	N	N	N	N	+	+	N	N

14.6	<p>Wilton District Centre To seek the regeneration of Wilton District Centre and related lands as a vibrant mixed use precinct, according to the zoning objectives and development objectives outlined in this plan, and supplemented by the Bishopstown and Wilton Area Action Plan 2007 (BWAAP). In particular proposals for the development of sites will be required to:</p> <ul style="list-style-type: none"> - Be comprehensive in nature; - Be urban-format development of the highest standards of urban design and building design; - Provide traffic-controlled junctions and access points to the lands in accordance with para. below - Provide the following public spaces as illustrated in the BWAAP: <ol style="list-style-type: none"> a. The Wilton Neighbourhood Park, incorporating passive and active facilities; b. The Wilton Public Square c. Key primary and secondary streets outlined in the Development Objectives diagram; d. A 15 metre River Glasheen Corridor. - Support the continued use of the Church, Community Centre and Bishopstown Library, particularly in terms of access and parking; - Preserve and enhance protected structures; - Preserve key trees and key tree groups identified in the Bishopstown/Wilton Action Area Plan 	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N		
14.7	<p>Mahon District Centre To ensure Mahon District Centre is developed as a high quality shopping, leisure, working, residential and urban environment in accordance with the Local Area Plan and the Retail Strategy .</p>	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N
14.8	<p>Blackpool District Centre To support the regeneration of Blackpool District Centre as a vibrant mixed-use urban centre, in accordance with the objectives of the North Blackpool Local Area Plan, 2011.</p>	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N
14.9	<p>Douglas District Centre To support the development of Douglas District Centre as a vibrant mixed-use urban centre, in accordance with the objectives of the Metropolitan Cork Joint Retail Strategy.</p>	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N	+	N

14.10	<p>Ballyvolane District Centre</p> <p>a. To support the development of an urban format centre with an appropriate urban structure, density and built form that creates frontages onto the streets at the edge of the block.</p> <p>b. To ensure provision of a mix of uses that includes retail units of a range of sizes to meet the needs of different types of occupier and complementary commercial and community services in accordance with the zoning objective and in a comprehensive redevelopment could include residential upper floor uses.</p> <p>c. Conservation and enhancement of the Glen River and its setting, maximising its landscape and natural heritage value.</p> <p>d. Upgrade of existing public transportation services and other green modes infrastructure in the area to ensure that the centre is accessible to its catchment in the city and county.</p>	+	+	N	N	+	N	N	N	N	N	N	N	N	N	N	N	N	
14.11	<p>Hollyhill District Centre</p> <p>To support the development of a District Centre in Hollyhill to serve the north-west sector of the city, as a vibrant mixed-use urban centre.</p>	+		N	N		N	N	N	N	N	N	N	N	N	N	N	N	N
14.12	<p>University College Cork</p> <p>To support the sustainable development and expansion of University College Cork as an educational facility of regional and national importance.</p>	+		N	N		N	N	N	N	N	N	N	N	N	N	N	N	N
14.13	<p>Cork Institute of Technology</p> <p>To support the sustainable development and expansion of the CIT Campuses, both suburban and city centre as educational facilities of regional and national importance.</p>	+		N	N		N	N	N	N	N	N	N	N	N	N	N	N	N
14.14	<p>Cork University Hospital</p> <p>To support the sustainable development and expansion of the Cork University Hospital</p>	+		N	N		N	N	N	N	N	N	N	N	N	N	N	N	N

	Chapter 15	PHH	BFF	SL	WR	CA	MA	CH	LD
15.1	Non-Conforming Uses Where uses exist as non-conforming uses it is the policy of the City Council to facilitate their continued operation provided they do not seriously detract from the zoning objectives for the area or from residential or other amenities.	N	N	N	N	N	N	N	N
15.2	City Centre Retail Area (CCRA) To provide for the protection, upgrading and expansion of retailing, in particular higher order comparison retailing, as well as a range of other supporting uses in the City Centre retail area.	+	N	+	N	+	+	N	N
15.3	City Centre Commercial Core Area (CCA) To support the retention and expansion of a wide range of commercial, cultural, leisure and residential uses in the commercial core area (apart from comparison retail uses).	+	N	+	N	+	+	N	N
15.4	Inner City Residential Neighbourhoods To reinforce the residential character of inner city residential neighbourhoods, while supporting the provision and retention of local services, and civic and institutional functions.	+	N	+	N	+	+	N	N
15.5	Residential, Local Services & Institutional Uses To protect and provide for residential uses, local services, institutional uses, and civic uses, having regard to employment policies outlined in Chapter 3	+	N	N	N	N	N	N	N
15.6	Light Industry & Related Uses To provide for light industry (and related uses).	+	N	N	N	N	N	N	N
15.7	General Industry To provide for general industry.	?	?	?	?	?	?	?	?
15.8	Business & Technology To provide for high technology related office based industry.	+	N	N	N	+	N	N	N
15.9	District Centres To provide for and/or improve district centres as mixed use centres, with a primary retail function which also act as a focus for a range of services.	+	N	N	N	+	N	N	N

15.10	Neighbourhood Centres To protect, provide for and/or improve the retail function of neighbourhood centres and provide a focus for local services.	+	N	N	N	N	+	N	N	N	N	N
15.11	Local Centres To protect, provide for and/or improve the retail function of local centres and provide a focus for local centres.	+	N	N	N	N	+	N	N	N	N	N
15.12	Retail Warehousing To provide for retail warehousing development	+	N	N	N	N	+	?	?	?	N	N
15.13	Landscape Preservation Zones To preserve and enhance the special landscape and visual character of landscape preservation zones. There will be a presumption against development within these zones, with development only open for consideration where it achieves the specific objectives set out in Chapter 10, Table 10.2.	+	+	+	+	+	+	N	N	N	N	+
15.14	Sports Grounds To protect, retain and enhance the range and quality of sports facilities and grounds.	+	?	+	+	+	+	N	N	N	N	?
15.15	Public Open Space To protect, retain and provide for recreational uses, open space and amenity facilities, with a presumption against developing land zoned public open space areas for alternative purposes, including public open space within housing estates.	+	+	+	+	+	+	N	N	N	N	+
15.16	Public Infrastructure & Utilities To provide for public infrastructure and utilities.	+	N	N	N	N	+	N	N	N	N	N
15.17	Mixed Use Development To promote the development of mixed uses to ensure the creation of a vibrant urban area, working in tandem with the principles of sustainable development, transportation and self-sufficiency.	+	N	N	N	N	+	N	N	N	N	N
15.18	Quayside Amenity Area To protect and preserve quayside, natural heritage and river amenities through the provision of a public quayside area including walkway.	+	N	N	N	N	+	N	N	N	N	N

15.19	Schools To provide for new primary and post-primary schools.	+	N	N	N	N	N	N	N	N
15.20	Rivers/Water Bodies Protection To protect and provide for the appropriate recreational/amenity and transport use of the river/waterways.	+	?	N	N	N	N	N	N	N

Note: In line with Section 4.23 of the “Implementation of SEA Directive (2001/42/EC) Guidelines for Regional Authorities and Planning Authorities” the assessment has not been extended to specific development control standards, namely, Chapter 16 Development Management.

7.2 Summary of Evaluation of the Draft Plan

A summary of the impacts of each chapter of the draft plan is provided in Table 7.4 below. Although there is inherent conflict in terms of facilitating growth and development within Cork City while safeguarding environmental considerations, the draft plan is generally neutral - positive in terms of interaction with the environmental protection objectives. The implementation of the development plan will prove to have positive impacts on the environment.

This assessment of the plan is a reflection of the continued containment of the City within its existing boundary and the emphasis on re-using existing 'Brownfield' and under-utilised lands in particular within the city centre and docklands and key strategic locations within the city suburbs in order to facilitate and support investment in essential public infrastructure such as public transportation and water / wastewater treatment services. The City's existing capacity and infrastructure (in terms of water supply and wastewater treatment) in line with future population growth and resulting demand is a key mitigation to potential impacts on the receiving environment.

Table 7.4 Summary of Assessment of City Development Plan versus Environmental Protection Objectives (EPOs)

EPO	CPD Chapter Assessment														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Population Human Health	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Biodiversity, Flora Fauna	+	+	N	N	?	?	?	N	N	+	N	N	N	N	N
Soil	+	+	N	N	N	?	?	N	N	+	+	N	N	N	N
Water	+	+	N	N	N	?	?	N	N	+	N	N	N	N	N
Climate & Air	+	+	+	+	+	?	?	N	N	N	+	+	+	+	+
Material Assets	+	+	N	N	+	?	?	N	N	N	N	N	+	N	N
Cultural Heritage	+	+	N	N	?	?	?	+	+	N	N	N	N	N	N
Landscape	+	+	N	N	?	?	?	N	+	+	+	N	N	N	N

Note: In line with Section 4.23 of the SEA Directive Guidelines for Planning Authorities, the assessment has not extended to specific development control standards, namely, Chapter 16 Development Management.

Mitigation measures to prevent significant adverse environmental effects

A 'successful sustainable regional capital... by balancing the relationship between community, economic development and environmental quality' is the strategic vision or overarching theme of the city development plan and as a result, a comprehensive set of strategic goals and objectives informed by the principles of sustainability have been devised and incorporated in the plan.

In designing development plan objectives, the authority was aware that some policy areas have the potential to adversely affect environmental receptors unless mitigated against. For example, policies relating to increased densities and intensification, etc. will increase pressures on and risks to the receiving environment unless mitigated against. Therefore, plan objectives with the potential to adversely affect the receiving environment have been designed to incorporate mitigation measures from the outset.

In the next stages of the development plan process, any proposed amendments to existing objectives and/ or new objectives to the draft plan shall be evaluated against the environmental receptors and amended if required by way of inclusion of mitigation measures, if it is considered likely to result in a significant adverse impact on the environment.

CHAPTER 8 MONITORING OF THE PLAN

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

For the purposes of the Strategic Environmental Assessment (SEA) of the development plan, environmental protection objectives, targets and indicators have been developed. These are set out in Chapter 4. Monitoring of the indicators is essential in order to track the impacts of the development plan on the environment.

The overriding aim of the SEA process is to improve the quality of the draft City Development Plan and to ensure that it protects the environment. It is important that the relevant findings in the Environmental Report and any outcomes from the forthcoming consultation process are incorporated into the plan before its adoption.

When the draft City Development Plan is adopted a number of steps will be required to conclude the SEA process in order to provide information regarding the difference the SEA process has made to the plan. The Environmental Statement will specify:

- how environmental considerations have been integrated into the plan;
- how the environmental report has been taken into account;
- how opinions expressed during various consultations have been taken into account;
- the reasons for choosing the plan as adopted in the light of other reasonable alternatives; and
- measures to monitor significant environmental effects.

A completed list of indicators that will be used to monitor the predicted environmental impacts of implementing the plan will be set out in the Environmental Statement that will be prepared in the final stages of the SEA process.

Table 8.1 The Preliminary Monitoring Programme

* TBD = To be determined

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
Population and Human Health	To create a sustainable compact city, a high quality safe environment in which to live, work or visit.	Increase in population	Population of city	5 yrs	CSO/ SPED
		Increase in number of residential properties	Number of residential properties	Annual	SPED
			Average density of new development permitted	5 yrs	SPED
		Increased modal shift from private car to public transport and cycling	Modal shift;	5 yrs	SPED
			Number of new residential units and employment floorspace within 400metres of bus route / planned BRT;	Annual	SPED / R&T
		Avoid incompatible development near SEVESO and IPPC sites	Measure of new cycle-ways.	Annual	SPED / R&T
Improved access to community and recreational facilities	Number of permissions granted within the consultation zones of Seveso or IPPC sites.	Annual	SPED		
	Number of new primary health care / schools / crèches / community parks / sports facilities permitted	Annual	SPED		
Biodiversity, Flora & Fauna	To protect and where appropriate, enhance the diversity of habitats, ecosystems, geological features and species in their natural surroundings.	Maintain the favourable conservation status of all habitats and species, especially those protected under national and international legislation	Number of developments receiving planning permission within designated sites or within the consultation distance of designated sites where the HDA/ AA process identified potential for impacts	Annual	SPED
			Totals of, or reduction in the quantum of 'greenfield' lands; length of linked green corridors	Annual	SPED
		Delivery of actions of the Cork City Biodiversity Action Plan 2009-2014	Number of actions achieved in biodiversity action plan	Annual	SPED
			Establishment of a green infrastructure strategy for the city	Progress on green infrastructure strategy	2 yrs
		Protect habitats from invasive species	Monitor extent and distribution of invasive species	2 yrs	E&R / SPED
			Monitor distribution of butterfly, otter, bat populations	2 yrs	E&R / SPED

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible	
<i>Biodiversity, Flora & Fauna continued</i>			Monitor street trees	2 yrs	E&R / SPED	
			Increase in area of wetlands / swales (SUDS) on new developments	Annual	E&R / SPED	
			Length of channel converted from culvert to natural channel	Annual	E&R / SPED	
Soil	To protect and enhance the soil and 'Greenfield' resources of the City.	To reduce the use or development of Greenfield sites	Number of greenfield sites developed or preserved	Annual	SPED	
			Number of brownfield sites redeveloped	Annual	SPED	
		To encourage the re-use of Brownfield sites	Volume of construction and demolition waste recycled	2 yrs	E&R	
			Increase or reduction in number of vacant and derelict buildings. Derelict sites register.	Annual	SPED	
Water	To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of all water and habitat based legislation including the Water Framework Directive.	Achieve (maintain) 'good' status of all surface waters.	Status of Surface Water (under Surface Water Regulations SI No 272 of 2009).	3 yrs	SPED / E&R	
			Achieve (maintain) compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC.	Ecological Status of Water Bodies	3 yrs	SPED / E&R
				Status of Bathing Waters (under Directive 2006/7/EC).	Annual	SPED / E&R
		To permit development in accordance with WWTP capacity and discharge licenses.	Status of Groundwater (under Directive 2006/118/EC).	3 yrs	SPED / E&R	
			Number of households served by 'public' urban waste water treatment plants or individual systems.	2 yrs	SPED / E&R	
		To provide adequate water, wastewater treatment and drainage infrastructure / flood prevention works	Number of households served by 'public' water supplies.	2 yrs	SPED / E&R	
			Quantum of capacity and demands of water supply and wastewater infrastructure	2 yrs	SPED / E&R	
		All water bodies to meet targets set in SWRDB plan (in accordance with S.I. 722 of 2003)	Number of development schemes incorporating SuDS such as swales and	2 yrs	SPED / E&R	

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
<i>Water continued</i>		<p>To maintain safe status of drinking water and water sources - EC (Drinking Water (No. 2) Regulations 2007 and EC (Quality of surface water intended for the abstraction of drinking water) Regulations 1989</p> <p>All designated Bathing waters to comply with the requirements of the Bathing Water Quality Regulations 2008 (SI No 79 of 2008)</p> <p>Promote sustainable drainage practices to improve water quality and flow and to enhance opportunities for Biodiversity</p> <p>Ensure sustainable levels of abstraction of surface and ground water and promote water conservation</p>	<p>on-site wetlands</p> <p>Length of watercourses culverted</p> <p>Measure of water loss / waste through leakage;</p> <p>Number of development schemes incorporating water conservation strategy</p>	<p>2 yrs</p> <p>2 yrs</p> <p>2 yrs</p>	<p>SPED / E&R</p> <p>SPED / E&R</p> <p>SPED / E&R</p>
Climate & Air	Contribute to the mitigation of/ and adaptation to climate change such as flooding, air quality and noise issues.	<p>Meet (maintain) air quality status targets in line with Air Quality Framework Directives.</p> <p>Minimise noise pollution for city residents</p> <p>Increase energy efficiency, renewable energy sources and reduce energy waste</p> <p>Decrease / minimise emissions of</p>	<p>Monitor level of pollutants, including particulates and Nitrogen Oxides</p> <p>Percentage of residential properties exposed to high sound levels</p> <p>Percentages/ quantum of population travelling to work by public transport, walking or cycling.</p> <p>Number of permitted schemes in flood plains/ areas at risk of flooding</p>	<p>Annual</p> <p>Annual</p> <p>5 yrs</p> <p>Annual</p>	<p>E&R</p> <p>R&T / SPED</p> <p>R&T / SPED</p> <p>SPED</p>

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
<i>Climate & Air continued</i>		greenhouse gases	Number of permitted wind turbines.	Annual	SPED
		Increase modal shift to public transport, walking and cycling.	Number of permitted developments incorporating solar panels.	Annual	SPED
		Provide flood protection measures where appropriate.			
		Avoid inappropriate development in areas of flood risk.			
Material Assets	To make best use of the City's infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the future needs of the City's population.	Develop the road, rail and public transport infrastructure to facilitate sustainable growth and travel patterns.	Percentage changes commuting modal shift from car to alternatives Number of passengers / journeys by bus and rail	5 yrs	R&T / SPED
		Ensure an efficient water supply and wastewater treatment infrastructure in line with demand	Quantum of demand and capacity of water supply services and wastewater treatment.	2 yrs	E&R
		Protect and optimise the use of the existing building stock.	Quantum of water loss / waste through leakage	2 yrs	E&R
		Protect and enhance green infrastructure such as 'greenfield' lands and recreational facilities.	Number of critical infrastructure projects completed	Annual	SPED
			Number of vacant / underutilised buildings	Annual	SPED
			Number of derelict sites	Annual	SPED
			Quantum of 'greenfield' sites developed	Annual	SPED
			Quantum of domestic and commercial waste generated; disposed to landfill and / or recycled	2 yrs	E&R
		Reduce the generation of waste, and waste to landfill and to operate sustainable waste management practices.			

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible	
Cultural Heritage	To protect and where appropriate, enhance the character, diversity and special qualities of the City's cultural, architectural and archaeological heritage.	No loss of or adverse impact on the fabric or setting of monuments on the Record of Monuments (RMP).	Loss of or adverse impact on monuments on the Record of Monuments	Annual	SPED	
		No loss of or adverse impact on the architectural heritage value or setting of Protected Structures and Architectural Conservation Areas	Loss of or adverse impact on Protected Structures, Architectural Conservation Areas, or NIAH Structures	Annual	SPED	
		No loss of or adverse impact on structures recorded on the National Inventory of Architectural Heritage.	Number of Protected Structures	Annual	SPED	
		Preparation and Implementation of Cork City Heritage Plan 2015- 2020.	Number of Protected Structures put 'at risk' or on Derelict Sites Register	Annual	SPED	
			Number of Architectural Conservation Areas	Annual	SPED	
			Number of Archaeological Sites investigated	Annual	SPED	
			Number of formal advice statements issued (Section 5s & 57s)	Annual	SPED	
			Number of proposed plans and schemes screened / assessed by the City Archaeologist and the Conservation Architect	Annual	SPED	
Landscape	To protect and where appropriate, enhance the character, diversity and special qualities of the City's landscapes.	No large scale or inappropriate development permitted in areas of high landscape value or landscape preservation zones	Number of large scale developments permitted in areas of high landscape value or land preservation zones.	Annual	SPED	
		Protect and enhance all designated sites and landscapes and features of significance	Number of new parks / quantum of area	Annual	E&R	
		Protect and enhance all non-designated Greenfield sites	Number of trees planted	Annual	E&R	
		Develop new areas of open space	Quantum of area categorized as landscape / green infrastructure	Annual	E&R / SPED	
		Increase tree	Length of linked landscape corridor	Annual	E&R / SPED	
			Tree Preservation Orders	Annual	SPED	

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Frequency of Reporting	Department Responsible
<i>Landscape continued</i>		coverage and protect significant trees Number of new landscapes created and linear connections between green spaces / habitats			

Important Note. Given the scale of the task to carry out city-wide surveys for all listed indicators and the resource issues highlighted in the Environmental Report, the City Council may have to prioritise surveys and use ‘proxy’ data sources/ tools such as the Employment Land Use Survey; Geo-Directory and the Council’s Planning Application Management System in order to monitor implementation of the Plan.

Strategic Planning & Economic Development Directorate, (SPED)
 Environment & Recreation Directorate, (E & R)
 Roads & Transportation Directorate, (R & T)
 Central Statistics Office, (CSO)

part 2 appendices

Environmental Report

Strategic Environmental Assessment (SEA)

Contents

2



PART 2

SEA ENVIRONMENTAL REPORT APPENDICES

APPENDIX A1

Site Synopsis of Designated Site

SITE SYNOPSIS

SITE NAME: ROCK FARM QUARRY, LITTLE ISLAND

SITE CODE: 001074

Rock Farm Quarry is located c. 9km west of Cork City on the southern shore of Little Island in the River Lee estuary. It is situated on limestone which is of Carboniferous age and was formed of a shell reef. There are a range of rock types in the area including fine-grained crinodal limestone, pseudobreccia, reef limestone and a conglomerate - the Cork marble. Formerly, the area was quarried for its limestone, but it is now no longer actively quarried and a golf course occupies much of the site. This site's southern boundary is along the top edge of the quarries' rock cliffs. The habitats within the site include unimproved lowland dry grassland, amenity grassland (the improved tees and greens of the golf course), scrub woodland and the exposed rock and spoil of the quarries. On the floor of the quarries and around their edges, a rich calcareous flora has developed and within this small area (30ha) there is a considerable diversity of species. The calcareous grassland species include grasses such as Red Fescue (*Festuca rubra*), Quaking-grass (*Briza media*), Downy Oat-grass (*Helictotrichon pubescens*) and a small annual species, Fern-grass (*Desmazeria rigida*). Crested Dog's-tail (*Cynosurus cristatus*) is also frequently encountered. Some of the herbs present include Kidney Vetch (*Anthyllus vulneraria*), Common Knapweed (*Centaurea nigra*), Field Scabious (*Knautia arvensis*), Oxeye Daisy (*Leucanthemum vulgare*), Fairy Flax (*Linum catharticum*), Common Bird's-foot-trefoil (*Lotus corniculatus*) and Bulbous Buttercup (*Ranunculus bulbosus*). The rock from the quarries also supports the growth of a distinct flora including species such as Round-leaved Crane's-bill (*Geranium rotundifolium*), Weld (*Reseda luteola*), Dwarf Spurge (*Euphorbia exigua*) and Great Mullein (*Verbascum thapsus*). Ferns noted in the area are Maidenhair Spleenwort (*Asplenium trichomanes*) and Rustyback (*Ceterach officinarum*).

There are small areas of scrub woodland, mainly of Ash (*Fraxinus excelsior*) with Traveller's-joy (*Clematis vitalba*) and the exotic and invasive species Japanese Knotweed (*Reynoutria japonica*). The proximity of the site to the sea also gives a maritime influence to the site and the presence of White Campion (*Silene alba*), Wild Madder (*Rubia peregrina*) and Portland Spurge (*Euphorbia portlandica*) are noted. Many orchids are found in the site including the Early-purple Orchid (*Orchis mascula*), Bee Orchid (*Ophrys apifera*) and Dense-flowered Orchid (*Neotinea maculata*), a species usually only found occasionally in the west and centre of Ireland. Also of note is a parasitic plant on Ivy, the Ivy Broomrape (*Orobanche hederæ*). Although the present land use within the site would appear to maintain the sites interest, alteration or extension of the golfing activities may be potentially damaging to the site. It is suggested that no new areas of 'rough' should be taken into the golf course, heavy fertiliser application should be avoided, as should the dumping of mown grass on the dry calcareous grassland areas; extensive reseeding or top seeding of greens and trees with ryegrass mixtures would also be detrimental to the areas species composition and diversity. The area is of considerable interest botanically because of its species diversity and the presence of 'rarities' for the region, such as Dense-flowered Orchid and Portland Spurge. The area could also be used as an educational resource for local schools - for example, projects such as comparing the species composition and phenology of the cut and uncut areas of the golf course, species composition changes with scrub invasion, invertebrate sampling and fossil identification.

SITE SYNOPSIS

SITE NAME: LEE VALLEY

SITE CODE: 000094

This site occupies five separate sections of the valley of the River Lee, immediately to the west of Cork City. One section passes close to Ballincollig, and the Ballincollig Regional Park makes up a portion of the site. A diverse range of semi-natural habitats occurs here, with those described below being the most prevalent:

Wet broadleaved woodland has developed in a number of places on the river side. The dominant trees are either Alder (*Alnus glutinosa*), Grey Willow (*Salix cinerea*) or Small-leaved Elm (*Ulmus minor*). Downy Birch (*Betula pubescens*) is often present also. Typical species occurring in the ground flora include Cock's-foot (*Dactylis glomerata*), Yorkshire-fog (*Holcus lanatus*), Canary-grass (*Phalaris* spp.), Meadowsweet (*Filipendula ulmaria*), Cuckooflower (*Cardamine pratensis*), Common Marsh-bedstraw (*Galium palustre*), Wild Angelica (*Angelica sylvestris*) and Lesser Celandine (*Ranunculus ficaria*). Other parts have abundant Hemlock Water-dropwort (*Oenanthe crocata*), Marsh-marigold (*Caltha palustris*), Yellow Iris (*Iris pseudacorus*), Fool's Water-cress (*Apium nodiflorum*) and Purple-loosestrife (*Lythrum salicaria*).

Some areas behind the riverbank are frequently flooded and support wet grassland communities. Species of the wet woodland ground flora described above occur in many of these stands, as do Sweet Vernal-grass (*Anthoxanthum odoratum*), Ribwort Plantain (*Plantago lanceolata*), Meadow Buttercup (*Ranunculus acris*), Silverweed (*Potentilla anserina*), Red Clover (*Trifolium pratense*) and Common Sorrel (*Rumex acetosa*).

Dry broadleaved woodland exists in other sections of the valley, with the most important trees being Ash (*Fraxinus excelsior*), oak (*Quercus* spp.) and Holly (*Ilex aquifolium*). Hazel (*Corylus avellana*) and Hawthorn (*Crataegus monogyna*) are important components of some stands, while the exotic species Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*) occur in others. The ground flora of many of these woods is relatively species-rich and includes Wood Anemone (*Anemone nemorosa*), Herb-Robert (*Geranium robertianum*), Honeysuckle (*Lonicera periclymenum*), Ground-ivy (*Glechoma hederacea*), Bramble (*Rubus fruticosus* agg.), Bluebell (*Hyacinthoides non-scripta*) and False Brome (*Brachypodium sylvaticum*). In places, Hard Fern (*Blechnum spicant*), Great Wood-rush (*Luzula sylvatica*), Malefern (*Dryopteris filix-mas*) and Wood Speedwell (*Veronica montana*) are common, and one stand has a very well-developed shrub layer of Spindle (*Euonymus europaeus*). Unimproved dry grassland occurs on an area of soil that has probable glacial origins. Field Wood-rush (*Luzula campestris*), Sweet Vernal-grass, Crested Dog's-tail (*Cynosurus cristatus*), Spring-sedge (*Carex caryophyllea*), Wild Carrot (*Daucus carota*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Glaucous Sedge (*Carex flacca*), White Clover (*Trifolium repens*) and Cowslip (*Primula veris*) are all present here.

Freshwater marsh fringes the river itself in places. Here, Bulrush (*Typha latifolia*), Branched Bur-reed (*Sparganium erectum*), Bottle Sedge (*Carex rostrata*), Canarygrass, Meadowsweet, Water Horsetail (*Equisetum fluviatile*), Marsh-marigold and Water Mint (*Mentha aquatica*) are all species frequently encountered.

A number of wetland bird species breed here, including Mallard, Heron, Sedge and Grasshopper Warblers and Reed Bunting and two rather locally distributed butterflies, the Small Blue and the Wood White also occur.

Land-use in the site consists of a little cattle-grazing and hay-making in the grasslands. Sections of the valley have been improved for agriculture in the past, so that the site now consists of five sub-sites. This should not be allowed to infringe further into the site. The spread of Sycamore poses a threat to the naturalness of parts of the woodlands, as do river engineering works to the river bank communities.

Recreation is important in the Valley, especially in the Ballincollig Regional Park. The diverse range of intact semi-natural habitats in the Lee Valley makes this a site of regional conservation importance.

SITE SYNOPSIS

SITE NAME: GREAT ISLAND CHANNEL

SITE CODE: 001058

The Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island. It is an integral part of Cork Harbour which contains several other sites of conservation interest. Geologically, Cork Harbour consists of two large areas of open water in a limestone basin, separated from each other and the open sea by ridges of Old Red Sandstone. Within this system, Great Island Channel forms the eastern stretch of the river basin and, compared to the rest of Cork Harbour, is relatively undisturbed. Within the site is the estuary of the Owennacurra and Dungourney Rivers. These rivers, which flow through Midleton, provide the main source of freshwater to the North Channel. The main habitats of conservation interest are the sheltered tidal sand and mudflats and Atlantic salt meadows, both habitats listed on Annex I of the EU Habitats Directive. Owing to the sheltered conditions, the intertidal flats are composed mainly of soft muds. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Hydrobia ulvae*, *Nephtys hombergi*, *Nereis diversicolor* and *Corophium volutator*. Green algal species occur on the flats, especially *Ulva lactuca* and *Enteromorpha* spp. Cordgrass (*Spartina* spp.) has colonised the intertidal flats in places, especially at Rossleague and Belvelly. The salt marshes are scattered through the site and are all of the estuarine type on mud substrate. Species present include Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Greater Sea-spurry (*Spergularia media*), Sea Lavender (*Limonium humile*), Sea Arrowgrass (*Triglochin maritimum*), Mayweed (*Matricaria maritima*) and Red Fescue (*Festuca rubra*).

The site is extremely important for wintering waterfowl and is considered to contain three of the top five areas within Cork Harbour, namely North Channel, Harper's Island and Belvelly-Marino Point. Shelduck are the most frequent duck species with 800-1000 birds centred on the Fota/Marino Point area. There are also large flocks of Teal and Wigeon, especially at the eastern end. Waders occur in the greatest density north of Rosslare, with Dunlin, Godwit, Curlew and Golden Plover the commonest species. A population of about 80 Grey Plover is a notable feature of the area. All the mudflats support feeding birds; the main roost sites are at Weir Island and Brown Island and to the north of Fota at Killacloyne and Harper's Island. Ahanesk supports a roost also but is subject to disturbance. The numbers of Grey Plover and Shelduck, as given above, are of national importance. The site is an integral part of Cork Harbour which is a wetland of international importance for the birds it supports. Overall, Cork Harbour regularly holds over 20,000 waterfowl and contains Internationally important numbers of Black-tailed Godwit (1,181) and Redshank (1,896) along with Nationally important numbers of nineteen other species.

Furthermore, it contains the large Dunlin (12,019) and Lapwing (12,528) flocks. All counts are average peaks, 1994/95 – 1996/97. Much of the site forms part of Cork Harbour Special Protection Area, an important bird area designated under the EU Birds Directive. While the main land use within the site is aquaculture (Oyster farming), the greatest threats to its conservation significance come from road works, infilling, sewage outflows and possible marina developments. The site is of major importance for the two habitats listed on the EU Habitats Directive that it contains, as well as for its important numbers of wintering waders and wildfowl. It also supports a good invertebrate fauna.

2.10.2001

SITE SYNOPSIS

SITE NAME: CORK HARBOUR SPA

SITE CODE: 004030

Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay and the Rostellan and Poul nabibe inlets.

Owing to the sheltered conditions, the intertidal flats are often muddy in character. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Hydrobia ulvae*, *Nephtys hombergi*, *Nereis diversicolor* and *Corophium volutator*. Green algae species occur on the flats, especially *Ulva lactuca* and *Enteromorpha* spp. Cordgrass (*Spartina* spp.) has colonised the intertidal flats in places, especially where good shelter exists, such as at Rossleague and Belvelly in the North Channel. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Salt marsh species present include Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Laxflowered Sea-lavender (*Limonium humile*) and Sea Arrowgrass (*Triglochin maritima*). Some shallow bay water is included in the site. Cork Harbour is adjacent to a major urban centre and a major industrial centre. Rostellan Lake is a small brackish lake that is used by swans throughout the winter. The site also includes some marginal wet grassland areas used by feeding and roosting birds. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Blacktailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Common Gull, Lesser Black-backed Gull and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds.

The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. Cork Harbour is an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl, for which it is amongst the top five sites in the country. The two-year mean of summed annual peaks for the entire harbour complex was 55,401 for the period 1995/96 and 1996/97. Of particular note is that the site supports internationally important populations of Black-tailed Godwit (905) and Redshank (1,782) - all figures given are average winter means for the two winters 1995/96 and 1996/97. At least 18 other species have populations of national importance, as follows: Little Grebe (51), Great Crested Grebe (204), Cormorant (705), Grey Heron (63), Shelduck (2,093), Wigeon (1,852), Teal (922), Pintail (66), Shoveler (57), Red-breasted Merganser (88), Oystercatcher (1,404), Golden Plover (3,653), Grey Plover (84), Lapwing (7,688), Dunlin (10,373), Bartailed Godwit (417), Curlew (1,325) and Greenshank (26). The Shelduck population is the largest in the country (over 10% of national total). The site has regionally or locally important populations of a range of other species, including Whooper Swan (10), Pochard (145) and Turnstone (79). Other species using the site include Gadwall (13), Mallard (456), Tufted Duck (113), Goldeneye (31), Coot (53), Mute Swan (38), Ringed Plover (34) and Knot (38). Cork Harbour is a nationally important site for gulls in winter and autumn, especially Black-headed Gull (4,704), Common Gull (3,180) and Lesser Black-backed Gull (1,440). A range of passage waders occurs regularly in autumn, including such species as Ruff (5-10), Spotted Redshank (1-5) and Green Sandpiper (1-5). Numbers vary between years and usually a few of each of these species over-winter. The wintering birds in Cork Harbour have been monitored since the 1970s and are counted annually as part of the I-WeBS scheme.

Cork Harbour has a nationally important breeding colony of Common Tern (3-year mean of 69 pairs for the period 1998-2000, with a maximum of 102 pairs in 1995). The birds have nested in Cork Harbour since about 1970, and since 1983 on various artificial structures, notably derelict steel barges and the roof of a Martello Tower. The birds are monitored annually and the chicks are ringed.

Extensive areas of estuarine habitat have been reclaimed since about the 1950s for industrial, port-related and road projects, and further reclamation remains a threat. As Cork Harbour is adjacent to a major urban centre and a major industrial centre, water quality is variable, with the estuary of the River Lee and parts of the Inner

Harbour being somewhat eutrophic. However, the polluted conditions may not be having significant impacts on the bird populations. Oil pollution from shipping in Cork Harbour is a general threat. Recreational activities are high in some areas of the harbour, including jet skiing which causes disturbance to roosting birds. Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, there are at least 18 wintering species that have populations of national importance, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Golden Plover, Bar-tailed Godwit, Ruff and Common Tern. The site provides both feeding and roosting sites for the various bird species that use it.

26.2.2008

APPENDIX A2

Protected Species

Table 1 Protected Animal Species occurring in Cork

Species	Wildlife Act	Habitats Directive Annex II	Habitats Directive Annex IVa	Habitats Directive Annex V
Hedgehog	•			
Pygmy Shrew	•			
Irish Hare	•			•
Red Squirrel	•			
Irish Stoat	•			
Badger	•			
Otter	•	•	•	
Daubenton's Bat	•		•	
Common Pipistrelle Bat	•		•	
Soprano Pipistrelle Bat	•		•	
Leisler's Bat	•		•	
Brown Long-eared Bat	•		•	
Natterer's Bat	•		•	
Grey Seal	•	•	•	
Common Seal	•	•	•	
Common Lizard	•			
Common Frog	•			•
Common Newt	•			
River Lamprey		•	•	•
Brook Lamprey		•	•	
Sea Lamprey		•	•	
Atlantic Salmon		•	•	

Note. This is not a final or exhaustive list, but a representation of data from sources including the National Biodiversity Data Centre (<http://www.biodiversityireland.ie>) and The Status of EU Protected Habitats and Species in Ireland 2008, NPWS. Species highlighted in **Bold listed in the Cork City Biodiversity Action Plan.*

The Wildlife Act

Species listed are protected under Section 20 of the Wildlife Act 1976. Hunting or causing injury or who wilful interference with breeding sites or resting places is an offence under the Wildlife Act under Section 23 of the Act. Section 23 does not apply where unintentional injury or harm is caused to animal, breeding site or resting place during construction activities or other work, or where the activity/ works are permitted under license or statutory consent.

Annex II Habitats Directive

Species listed require the designation of Special Areas of Conservation for their protection. A number of Special Areas of Conservation in Cork are designated for the protection of species which occur in this Annex. In accordance with the Habitats Directive, all plans and projects must be assessed prior to being authorised and undertaken, to determine the potential for these to give rise to adverse impacts on the qualifying features of these sites.

Annex IV Habitats Directive

Species listed are strictly protected wherever they occur both inside and outside designated sites. Deliberate capture or killing particularly during the period of breeding, rearing, hibernation and migration, or taking or destroying eggs, or damage or destroying a breeding site or resting place of such an animal (intentionally or unintentionally) is an offence.

Listing on Annex V of the Habitats Directive

Species listed under this Annex are those whose taking in the wild may be subject to management measures.

Table 2 Bird Species of Conservation Concern & Special Conservation Significance Occurring in Cork

Species	Birds listed on Annex 1 of Birds Directive	Species	Birds listed on Annex 1 of Birds Directive
Arctic Tern	•	Linnet	
Balearic Shearwater		Little Egret	•
Black-headed Gull		Little Grebe	
Black-necked Grebe		Mallard	
Black-tailed Godwit		Mediterranean Gull	
Bar-tailed Godwit		Merlin	•
Barn Owl	•	Mute Swan	
Bewick's Swan		Nightjar	
Black Guillemot		Oystercatcher	
Brent Goose		Peregrine Falcon	•
Chough		Pintail	
Common Gull		Pochard	
Common Sandpiper		Razorbill	
Common Scoter		Redpoll	
Common Tern	•	Redshank	
Coot		Reed Warbler	
Cormorant		Red-breasted Merganser	
Curlew		Red-throated Diver	
Dunlin		Ringed Plover	
Fulmar		Sand Martin	
Gannet		Sandwich Tern	
Goldeneye		Scaup	
Golden Plover		Shag	
Grasshopper Warbler		Shelduck	
Great Crested Grebe		Short-eared Owl	•
Great Northern Diver	•	Shoveler	
Greenland White-fronted Goose		Skylark	
Greenshank	•	Snipe	
Grey Heron		Spotted Flycatcher	
Grey Plover	•	Starling	
Guillemot		Stock Dove	
Hen Harrier		Stonechat	
Herring Gull		Storm Petrel	
House Sparrow		Swallow	
House Martin		Swift	
Jack Snipe		Teal	
Kestrel		Tufted Duck	
Kingfisher	•	Turnstone	
Kittiwake		Water Rail	
Knot		White-tailed Sea Eagle	
Lapwing		Whooper Swan	
Lesser Black-backed Gull		Wigeon	
		Woodcock	
		Yellowhammer	

*Note. This is not a final or exhaustive list, but a representation of data from sources including the National Biodiversity Data Centre (<http://www.biodiversityireland.ie>), and The Status of EU Protected Habitats and Species in Ireland 2008 NPWS. Species highlighted in **Bold** listed in the Cork City Biodiversity Action Plan.*

The Wildlife Act

All wild bird, their nests and eggs are protected under the Wildlife Act (1976) and the Wildlife (Amendment) Act 2000. The following table lists the wild bird species that have been identified to be of particular conservation concern in Ireland, that occur in County Cork. These are rare, threatened or vulnerable species.

Birds Directive

Species listed on Annex I of the Birds Directive are species for which Special Protection Areas must be established.

Table 3 Protected Plant Species Occurring in Cork

Species	Flora Protection Order	Habitats Directive Annex II	Habitats Directive Annex IVa	Habitats Directive Annex V
Flowering Plants				
Orange Foxtail	•			
Starved Wood-sedge	•			
Lesser Centaury	•			
Slender Cottongrass	•			
Small Cudweed	•			
Round - leaved Crane's- bill				
Little Robin				
Meadow Barley	•			
Irish St. John's Wort	•			
Sea Pea	•			
Mudwort	•			
Hairy Bird's-foot-trefoil	•			
Pennyroyal	•			
Recurved Sandwort	•			
Weasel's-snout	•			
Tufted Salt-marsh Grass	•			
Annual Knawel	•			
Kerry Lily	•			
Irish Lady's Tresses	•			
Betony	•			
Pale Dog-violet	•			
Lanceolate Spleenwort	•			
Fir Clubmoss	•			•
Marsh Clubmoss	•			•
Killarney Fern	•	•	•	
Bryophytes mosses and liverworts				
Orotrichum pallens	•			
Orthotrichum sprucei	•			
Orotrichum stramineum	•			
Plagiochila atlantica	•			
Tortula wilsonii	•			
Sphagnum mosses				•

Note. This is not a final or exhaustive list, but a representation of data from sources including the National Biodiversity Data Centre (<http://www.biodiversityireland.ie>) and The Status of EU Protected Habitats and Species in Ireland 2008, NPWS. Species highlighted in **Bold** listed in the Cork City Biodiversity Action Plan.

Flora Protection Order:

Species listed cannot be wilfully cut, picked, collected, uprooted or damaged nor can parts of the plants be removed.

Plants listed on Annex II of the Habitats Directive:

Species listed require the designation of Special Areas of Conservation for their protection.

Plants listed on Annex IV of the Habitats Directive:

Species listed are those whose taking in the wild may be subject to management measures.

Cork City Species and Habitats of Special Conservation Importance

Cork City Biodiversity Action Plan 2009 -2014

Species - Criteria for selection

There are currently no national guidelines for prioritising species or habitats of special local conservation importance. ** Highlights species afforded protection under the EU Habitats Directive and EU Birds Directive.

Mammals

Hedgehog *Erinaceus europaeus*
 Red Squirrel *Sciurus vulgaris*
 Stoat *Mustela erminea hibernica*
 Otter *Lutra lutra roensis* **
 Whiskered Bat *Myotis mystacinus* **
 Daubenton's Bat *Myotis daubentoni* **
 Common Pipistrelle Bat *Pipistrellus pipistrellus* **
 Soprano Pipistrelle Bat *Pipistrellus pygmaeus* **
 Leisler's Bat *Nyctalus leisleri* **
 Brown Long-eared Bat *Plecotus auritus* **

Black-tailed Godwit *Limosa limosa*
 Bar-tailed Godwit *Limosa lapponica* **
 Curlew *Numenius arquata*
 Black-headed Gull *Larus ridibundus*
 Herring Gull *Larus argentatus*
 Common Gull *Larus canus*
 Lesser Black-backed Gull *Larus fuscus*
 Common Tern *Sterna hirundo* **
 Swift *Apus apus*
 Kingfisher *Alcedo atthis* **

Fish

Brook Lamprey *Lampetra planeri* **
 Sea Lamprey *Petromyzon marinus* **
 Atlantic Salmon *Salmo salar* **

Birds

Great Crested Grebe *Podiceps cristatus*
 Little Grebe *Tachybaptus rufficollis*
 Cormorant *Phalacrocorax phalacrocorax*
 Shelduck *Tadorna tadorna*
 Wigeon *Anas penelope*
 Pochard *Aythya ferina*
 Shoveler *Anas clypeata*
 Goldeneye *Bucephala clangula*
 Teal *Anas crecca*
 Water Rail *Rallus rallus*
 Coot *Fulica atra*
 Oystercatcher *Haematopus ostralegus*
 Grey Plover *Pluvialis squatarola*
 Golden Plover *Pluvialis apricaria* **
 Lapwing *Vanellus vanellus*
 Knot *Calidris canutus*
 Dunlin *Calidris alpina*
 Redshank *Tringa totanus*
 Greenshank *Tringa nebularia*

Priority Habitats in Cork

Freshwater

Artificial lakes and ponds
 Watercourses
 Reedbeds
 Brackish - freshwater marsh
 Freshwater swamp / marsh

Grassland Habitats

Semi-natural grassland

Woodland Habitats

Semi-natural woodland
 Dry calcareous grassland

Coastal Habitats

Lagoons
 Saltmarsh

Marine Habitats

Littoral sediments

Cork Lough

Cork Lough is a proposed Natural Heritage Area (pNHA) and a Wildfowl Sanctuary

Birds of Cork Lough

Black-headed Gull (*Larus ridibundus*) Mallard (*Anas platyrhynchos*)
 Canada Goose (*Branta Canadensis*) Mediterranean Gull (*Larus melanocephalus*)
 Common Gull (*Larus canus*) Moorhen (*Gallinula chloropus*)
 Coot (*Fulica atra*) Mute Swan (*Cygnus olor*)
 Cormorant (*Phalacrocorax phalacrocorax*) Oystercatcher (*Haematopus ostralegus*)
 Goldeneye (*Bucephala clangula*) Pochard (*Aythya ferina*)
 Great Black-backed Gull (*Larus marinus*) Shelduck (*Tadorna tadorna*)
 Grey Heron (*Ardea cinerea*) Shoveler (*Anas clypeata*)
 Greylag Goose (*Anser anser*) Snipe (*Gallinago gallinago*)
 Herring Gull (*Larus argentatus*) Teal (*Anas crecca*)
 Lesser Black-backed Gull (*Larus fuscus*) Tufted Duck (*Aythya fuligula*)
 Little Grebe (*Tachybaptus ruficollis*)

Fish of Cork Lough

Carp (*Cyprinus carpio*) Pike (*Essox lucius*)
 Eel (*Anguilla anguilla*) Rudd (*Scardinius erythrophthalmus*)
 Perch (*Perca fluviatilis*) Tench (*Tinca tinca*)

Bats of Cork

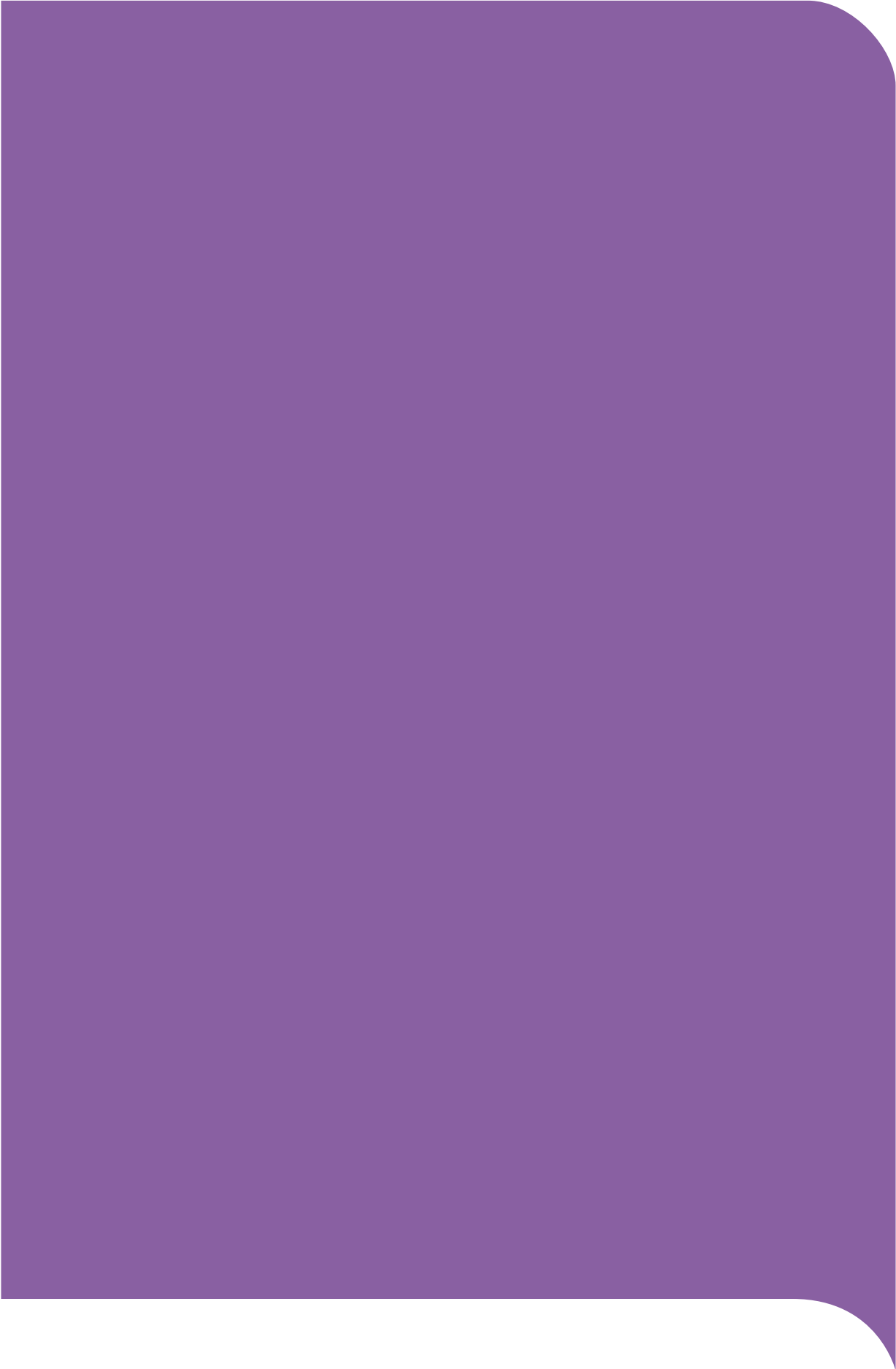
Whiskered Bat (*Myotis mystacinus*)
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 Leisler's Bat (*Nyctalus leisleri*)
 Brown Long-eared Bat (*Plecotus auritus*)

part 3

Strategic Flood Risk Assessment

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PART 3

STRATEGIC FLOOD RISK ASSESSMENT

1. INTRODUCTION

This Strategic Flood Risk Assessment (SFRA) was prepared in accordance with 'The Planning System and Flood Risk Management Guidelines (including Technical Appendices)' published by the DEHLG and OPW, November 2009 and having specific regard to the location of areas at risk of flooding, mapped in the Draft Lee CFRAMS.

In accordance with the guidelines, this SFRA will provide detailed information on the spatial distribution of flood risk, including details of how the sequential approach is applied and where it is necessary to apply the Justification Test.

This SFRA was carried out in parallel with the Strategic Environment Assessment (SEA) process of the Draft plan. This assessment should be read in conjunction with the mapping of areas at risk of flooding (Draft Lee CFRAMS).

Legislative and Policy Framework

The Planning System and Flood Risk Management Guidelines were issued by the Minister of the Environment, Heritage and Local Government under Section 28 of the Planning and Development Act 2000 (as amended). Planning Authorities are required to have regard to the Guidelines in carrying out their functions under the Planning Acts.

The purpose of the Guidelines is to ensure that, where relevant, flood risk is a key consideration for Planning Authorities in preparing development plans and local area plans and in the assessment of planning applications. The Guidelines state that the key principles planning authorities should adopt are, to avoid flood risk where possible, substitute less vulnerable uses where avoidance is not possible and mitigate and manage flood risk where avoidance and substitution are not possible.

The 'Floods Directive 2007/60/EC' requires Member States to undertake a national preliminary flood risk assessment by 2011 to identify areas where significant flood risk exists or might be considered likely to occur. The Directive requires the preparation of catchment-based Flood Risk Management Plans (FRMPs), by 2015, which will set out flood risk management objectives, actions and measures. The OPW is responsible for the overall implementation of the Floods Directive.

Catchment Flood Risk Assessment and Management (CFRAM)

The Office of Public Works (OPW) is the lead State body for the coordination and implementation of Government policy on the management of flood risk in Ireland. The OPW is also the national authority for the implementation of the EU Directive on the Assessment and Management of Flood Risks 2007/60/EC, (Floods Directive).

The National CFRAM Programme, (commenced in 2011) is central to the medium to long-term strategy for the reduction and management of flood risk in Ireland. The Programme seeks to deliver core components of the National Flood Policy, adopted in 2004, and the requirements of the EU Floods Directive.

The National CFRAM Programme was developed to prepare Flood Maps and Flood Risk Management Plans, focusing on areas where the risk is understood to be most significant such as Cities and Environmental Protection Areas. These areas of focus (Areas of Further Assessment / AFA) are identified through the Preliminary Flood Risk Assessment (PFRA).

The CFRAM Studies were scheduled to produce detailed Flood Maps for the AFAs in 2013; and Flood Risk Management Plans in 2015 that will set out a long-term strategy and defined and prioritised measures, to reduce and manage the flood risk.

Implementation of the requirements EU Floods Directive is coordinated with the requirements of the EU Water Framework Directive and the current River Basin Management Plans, (in this instance, the Lee / Cork Harbour Catchment, one of five units that make up the South Western River Basin District (RBD) which includes most of County Cork and parts of Limerick, Kerry, Tipperary and Waterford).

The CFRAM Programme comprises three phases:

1. The Preliminary Flood Risk Assessment (PFRA): 2011
2. The CFRAM Studies and parallel activities: 2011-2015
3. Implementation and Review: 2016 onwards

Preliminary Flood Risk Assessment (PFRA)

The Preliminary Flood Risk Assessment (PFRA) is a national screening exercise based on available and readily-derivable information, to identify areas where there may be a significant risk associated with flooding.

The PFRA is a requirement of the EU Floods Directive, and was transposed into Irish law by Statutory Instrument (S.I.) No. 122 of 2010. The objective of the PFRA is to identify areas where the risks associated with flooding might be significant such as cities and designated environmental sites.

These AFAs will then be subject to more detailed assessment to more accurately analyse the flood risk under the CFRAM or parallel studies. Where this more detailed assessment confirms that there is indeed a significant risk of flooding, then measures to reduce and manage the risk will be investigated.

The PFRA is not a detailed assessment of flood risk, but a broad-scale assessment, based on available or readily-derivable information, to identify where there is a genuine cause for concern that may require national intervention and assessment, rather than locally developed and implemented solutions.

The PFRA has been undertaken by:

- Historic Analysis - Reviewing records of floods that have happened in the past
- Predictive Analysis - Undertaking analysis to determine which areas might flood in the future, and what the impacts might be
- Consulting with local expertise, Local Authorities and other Government departments and agencies

Lee Catchment Flood Risk Assessment and Management Study

Under the Flood Risk Directive 2007/60/EC, Cork City Council has a responsibility to assess and manage flood risks through the development of flood risk management plans. In response, The Lee Catchment Flood Risk Assessment and Management Study, (Lee CFRAMS) was undertaken by the Office of Public Works, Cork City Council and Cork County Council through the appointment of lead consultants Halcrow Group Ltd in 2006.

The Lee CFRAMS was the first pilot CFRAM Study for the new Flood Risk Assessment and Management Programme, a core element of the new Flood Policy adopted by the Irish Government in 2004, with an emphasis towards a catchment based, pro-active approach for identifying and managing existing and potential future flood risk. (LeeCFRAMS is a subset or unit of the South-West CFRAMS).

The key objectives of the study are to:

- Assess flood risk, through the identification of flood hazard areas and the associated impacts of flooding;
- Identify viable structural and non-structural measures and options for managing the flood risks for high-risk areas and the catchment as a whole;
- Prepare a Strategic Catchment Flood Risk Management Plan (CFRMP) setting out measures and policies to achieve the most cost effective and sustainable management of flood risk within the Lee catchment.

The Draft Catchment Flood Risk Management Plan was completed in December 2011. However, Cork City was designated as an Area for Further Assessment in the “National Preliminary Flood Risk Assessment (PFRA) - Designation of the Areas for Further Assessment” Report, (March 2012) and as such Cork City is subject to further assessment through the CFRAM study. The target date for completion is September 2015.

The CFRAM Studies were scheduled to produce detailed flood maps for the AFAs in 2013 and Flood Risk Management Plans in 2015 that will set out a long-term strategy and defined and prioritised measures, to reduce and manage the flood risk.

Draft Lower Lee Flood Relief Scheme, (Implementation Phase)

In 2013, the OPW has engaged Consultants, Arup, Ryan Hanley Engineers and McCarthy Keville to prepare the Draft Lower Lee Flood Relief Scheme. The scheme is an implementation project intended to address the flood risks to Cork City highlighted in the LeeCFRAMS. i.e. to develop a viable, cost-effective and sustainable Flood Relief Scheme to alleviate flooding in the lower reaches of the River Lee and specifically the River Bride in Blackpool and Ballyvolane. It is due to come into effect in 2016.

In the interim, the content and recommendations of the Draft Lee CFRAMS will be integrated into the Draft City Development Plan and revised accordingly, when the updated study maps and recommendations are made available.

Process and Purpose of Strategic Flood Risk Assessment

The Guidelines identify the importance of including robust flood risk policies in the development plan and state the need for planning authorities to take all practicable steps to ensure the prior identification of any areas at risk of flooding.

Flood risk assessments can be undertaken at a range of scales relevant to the planning process which are:

- Regional (for regional planning guidelines);
- Strategic (for city or county development plans or local area plans);
- Site specific (for master plans and individual site planning applications).

The purpose of this SFRA is to provide a broad (area-wide) assessment of all types of flood risk to inform strategic land-use planning decisions. This SFRA also reviewed the text and policies in the Draft City Development Plan in relation to flooding and proposes changes and improvements where required. The assessment and appraisal of flood risk in this plan adopted a staged approach in accordance with the recommendations of the Guidelines. The stages of the Assessment of Flood Risk

Stage 1: Flood Risk Identification,
Stage 2: Initial flood risk assessment,
Stage 3: Detailed risk assessment.

2. STRATEGIC FLOOD RISK ASSESSMENT

Stage 1 Flood Risk Identification

The purpose of this stage is to identify whether there may be any flooding or surface water management issues relating to the plan area that may warrant further investigation. This desktop assessment seeks to establish whether there is a flood risk issue in the plan area.

The primary source is the Office of Public Works (OPW) national flood hazard mapping website, www.floodmaps.ie. A secondary source is the Draft Lee Catchment Flood Risk Assessment and Management Plan, prepared by Halcrow Group Ltd as lead consultants on behalf of the OPW, Cork City Council and Cork County Council.

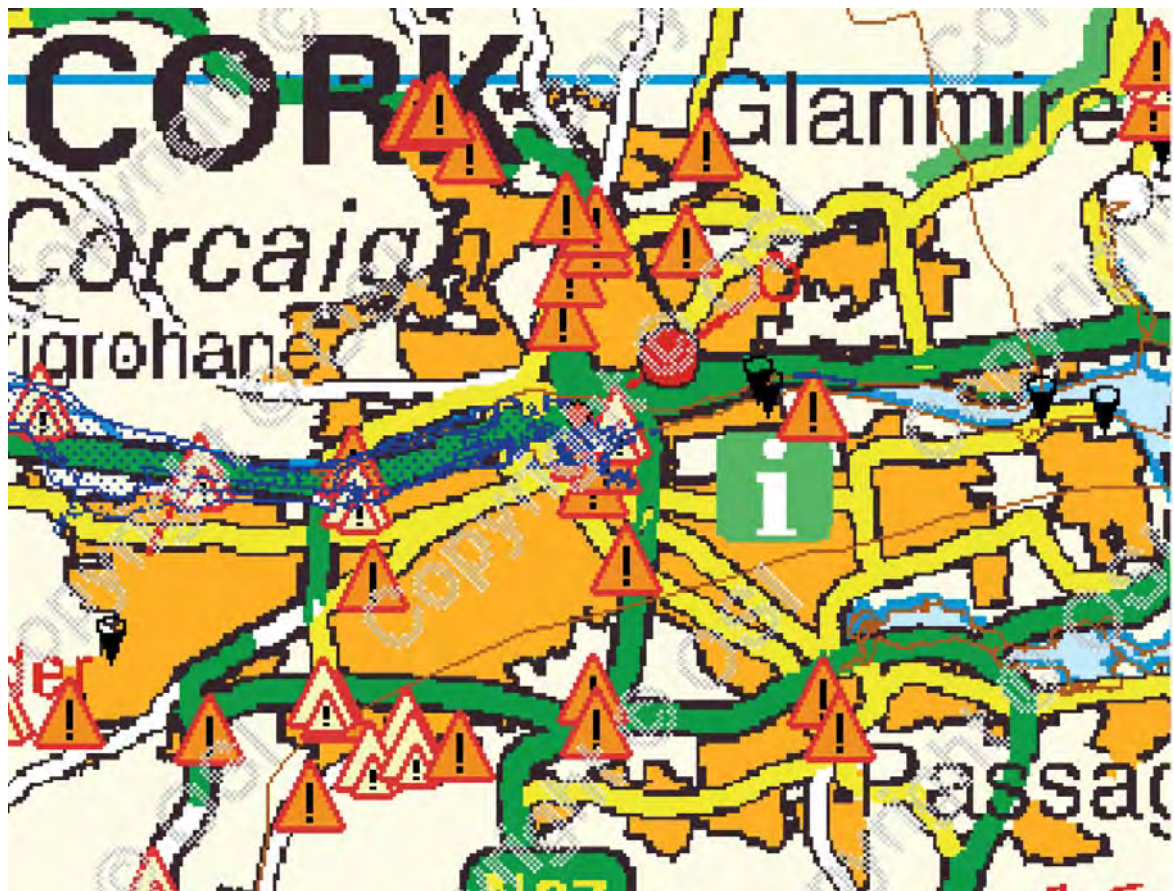
It is evident that the City has suffered a number of flood events over recent years and is vulnerable to Coastal flooding from tidal surge, Fluvial flooding from rivers, Pluvial flooding from intense rainfall. (The Cork City Summary Local Area Report, generated from the OPW National Flood Hazard Mapping is in Appendix A).


Flood Events in Cork City since 1988

- Centre Park Road 12th Jan 1988
- Douglas St 12th Jan 1988
- Cork City Centre 16th Dec 1989
- Victoria Cross Feb 3rd 1990
- University Athletic Grds 6th Feb 1990
- Glasheen River 22nd Feb 1994
- Cork City 6th Jan 1996
- Victoria Cross 28th November 2000
- Blackpool Cork 2002
- Cork City 27th October 2004
- Cork City 19th November 2009
- Commons Road 28th June 2012
- Blackpool 28th June 2012
- Watercourse Road 28th June 2012
- Dublin Street 28th June 2012
- Spring Lane 28th June 2012
- Ballyvolane 28th June 2012
- Turner's Cross 28th June 2012
- Cork City 17th October 2012
- Cork City 14th December 2012

**Extracted from Summary Local Area Report, OPW National Flood Hazard Mapping. www.floodmaps.ie*

Figure 1 Location of Flood Events since 1988 (Extract from www.floodmaps.ie)



Legend:  Flood points;  Recurring flood points;

Stage 2 Initial Flood Risk Assessment

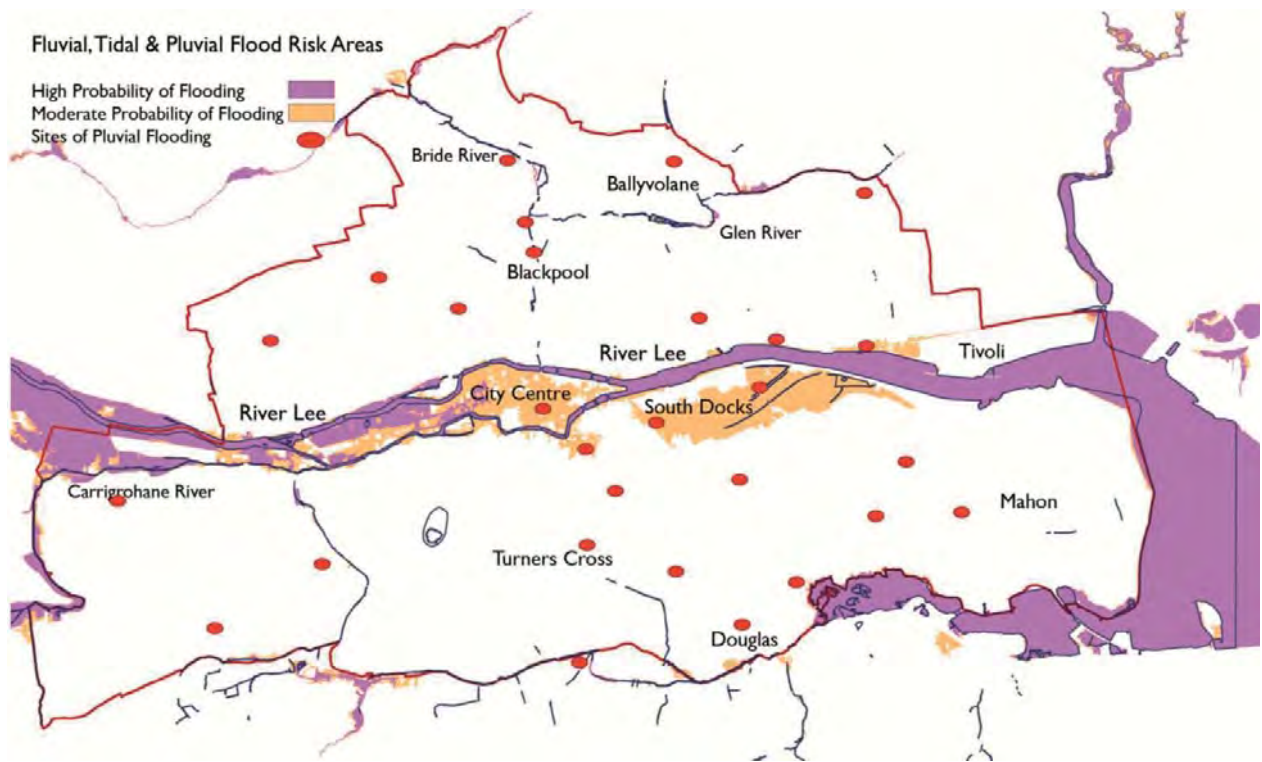
The purpose of this initial flood risk assessment is to ensure that all relevant flood risk issues are assessed in relation to the decisions to be made and potential conflicts between flood risk and development are addressed to the appropriate level of detail. This assessment examines the adequacy of existing information. Information needs to be sufficiently detailed to allow the application of the **sequential approach** within the flood risk zone.

Sequential approach

Avoid development in areas at risk of flooding; if this is not possible, consider **substituting** the land use to one less vulnerable to flooding; where avoidance and substitution cannot take place, consider **mitigation and management** of risks; exceptions to the restriction of development due to flood risks are provided for through the use of the **Justification Test**, where the planning need and the sustainable management of flood risk can be demonstrated.

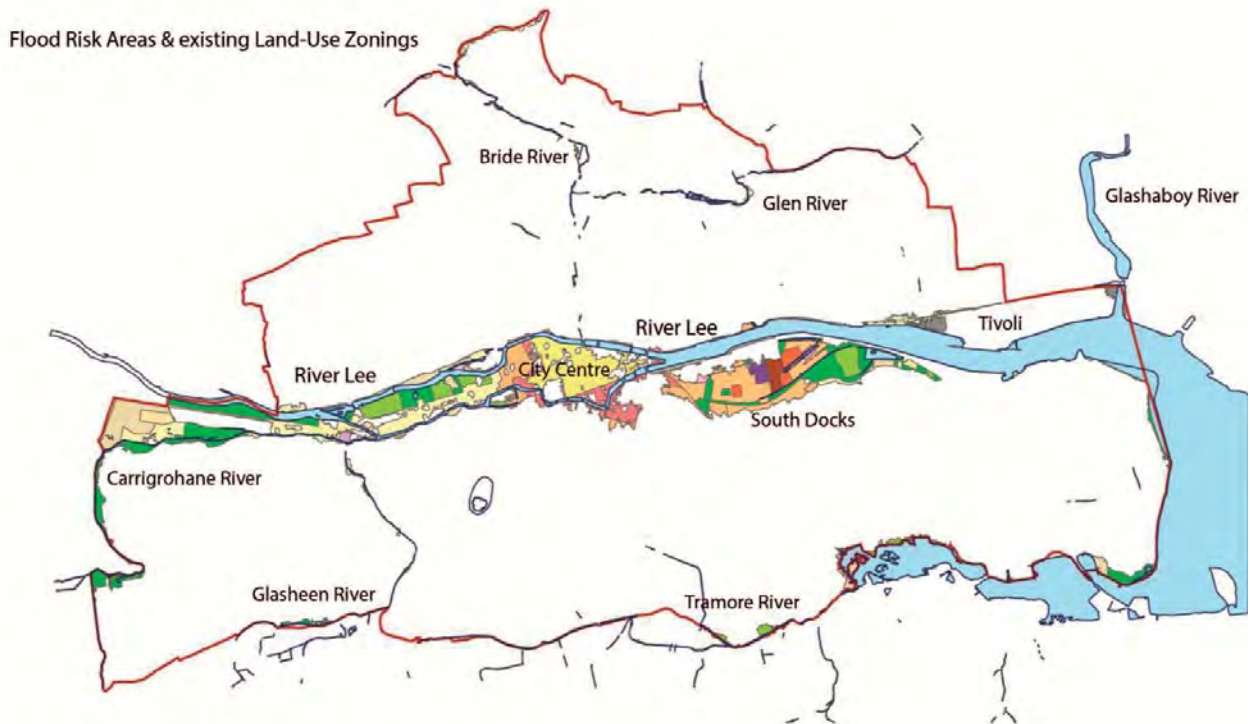
The Draft LeeCFRAMS has mapped all areas of the city currently at risk of flooding and future flooding events. These maps are used as the basis for the flood risk assessment.

Figure 2 Cork City Flood Risk Areas



**combined Fluvial and Tidal flooding identified in Lee CFRAMS. Pluvial issues identified in OPW/ City Council reports.*

Figure 3 Cork City Flood Risk Areas & existing Land-Use Zonings



Stage 3 Detailed Flood Risk Assessment

Where vulnerable land uses are located within flood areas, a more detailed flood risk assessment is required. Assessment of flood risk and any subsequent mitigation measures principally relies on estimation of flow, level, and the performance of the development at the appropriate degree of accuracy that will deliver ‘fit-for purpose’ information for decision making.

The Draft LeeCFRAMS has mapped and modelled all areas of the city currently at risk of flooding and future flooding events. These maps and hydraulic models form the basis for the detailed flood risk assessment.

Figure 4 Undefended Flood Risk

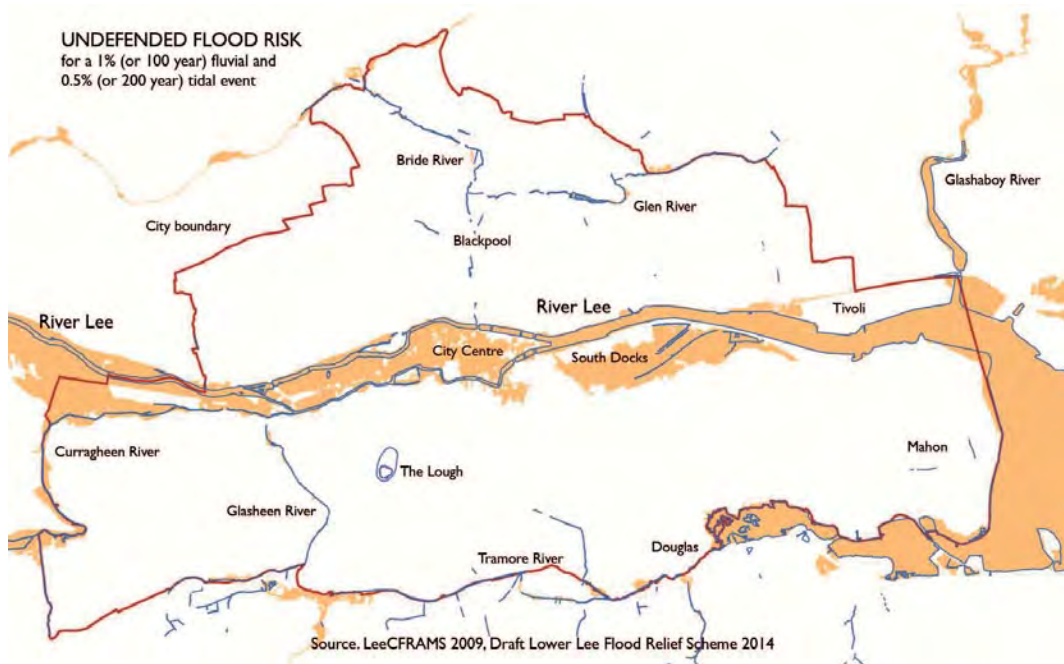


Figure 5 Actual Flood Risk

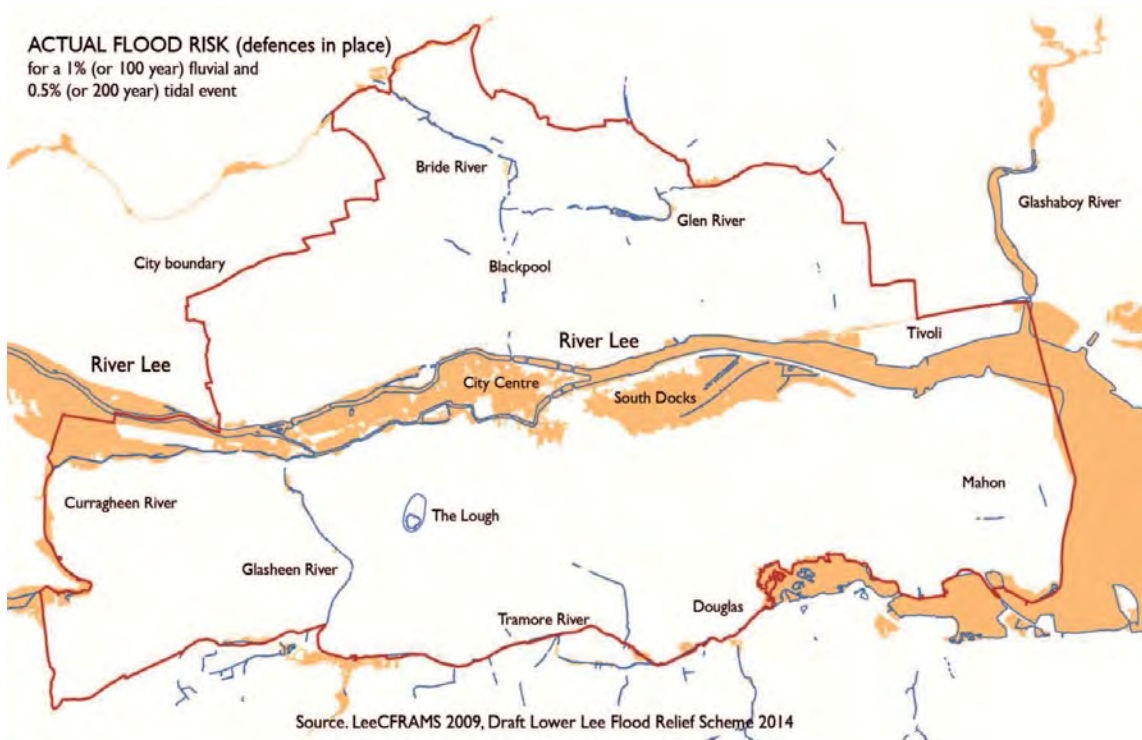


Figure 6 Residual Flood Risk

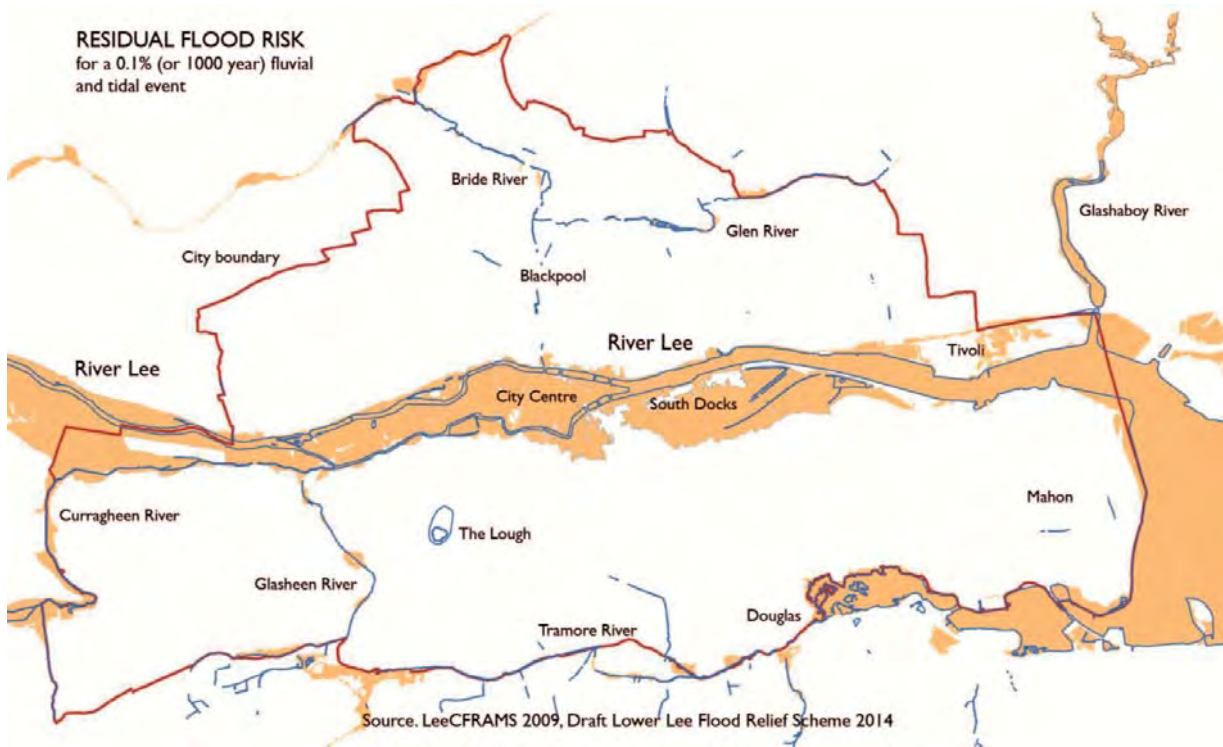
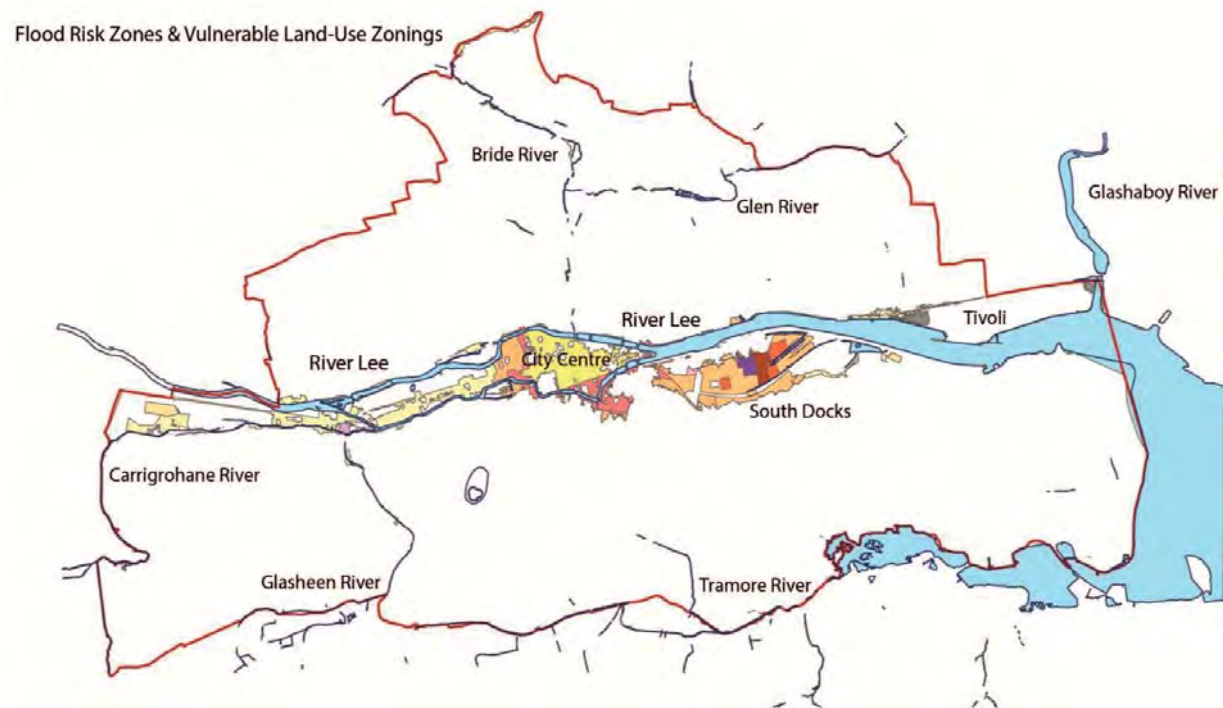


Figure 7 Vulnerable Land-Use Zonings within Cork City Flood Risk Areas



These maps are used to assist as a decision making tool in the assessment of existing and proposed land-use zonings.

The areas deemed to be at risk (referred to as Areas for Further Assessment, or 'AFAs') are where more detailed assessment is required on the extent and degree of flood risk, under the CFRAM Studies.

The Flood Maps provide information on two main areas of flood risk, namely, Flood Zone A - High Probability of Flooding; and Flood Zone B - Moderate Probability of Flooding.

Flood Zone A - High Probability of Flooding

Most of the city lands subject to a flood risk fall into this category. The most significant area of concern is along the River Lee including the Carrigrohane Rd/ Western Road, the City centre, Docklands and Tivoli. Only water compatible developments such as docks and marinas, dockside activities, amenity open space, outdoor sports and recreation, should be considered appropriate in this zone.

Under the precautionary approach, alternative development types should be avoided, or only considered in exceptional circumstances. The Justification Test should be applied to 'highly' and 'less' vulnerable development types / zoning in this zone.

Flood Zone B - Moderate Probability of Flooding

This designation applies to more limited pockets of land adjoining Flood Zone A, i.e. the Western Road, the City centre, Docklands and Tivoli. Highly vulnerable developments such as dwellings, hospitals, care homes, emergency services stations, primary strategic transport and utilities infrastructure, would be considered inappropriate in this flood zone.

'Less vulnerable' development, such as retail, commercial and industrial uses, and secondary strategic transport and utilities infrastructure may be considered appropriate in this flood zone.

Table 1 indicates various land-uses and classifies them in terms of vulnerability to floods. Table 2 is the vulnerability versus flood zone matrix, determining if the land-use should be put through the Justification Test due to the level of vulnerability to flooding.

Table 1. Classification of Vulnerability of different types of development

Vulnerability Class	Land uses and types of development which include: (not exhaustive)
Highly vulnerable development (including essential infrastructure)	Garda, ambulance and fire stations and command centres required to be operational during flooding; Hospitals; Emergency access and egress points; Schools; Dwelling houses, student halls of residence and hostels; Residential institutions such as residential care homes, children's homes and social services homes; Caravans and mobile home parks; Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility; and 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.
Less vulnerable development	Buildings used for: retail, leisure, warehousing, commercial, industrial and non-residential institutions; Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans; Land and buildings used for agriculture and forestry; Waste treatment (except landfill and hazardous waste); Mineral working and processing; and Local transport infrastructure.
Water compatible development	Flood control infrastructure; Docks, marinas and wharves; Navigation facilities; Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location; Water-based recreation and tourism (excluding sleeping accommodation); Lifeguard and coastguard stations; Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).

Source. *The Planning System and Flood Risk Management Guidelines (including Technical Appendices)* published by the DEHLG and OPW, November 2009

Table 2. Matrix of Vulnerability versus Flood Zone

	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (including essential infrastructure)	Justification test	Justification test	Appropriate
Less vulnerable development	Justification test	Appropriate	Appropriate
Water compatible development	Appropriate	Appropriate	Appropriate

Source. *The Planning System and Flood Risk Management Guidelines (including Technical Appendices)* published by the DEHLG and OPW, November 2009

Assessment of the proposed Land-Use Zonings of the Draft Plan

The assessment of the proposed land use zonings of the draft City Development Plan is an iterative one. The land-use zonings are listed and categorised in terms of their vulnerability in Table 3 below. This is the Matrix of the land-use zonings.

Table 3. Matrix of Land-Use Zonings, Vulnerability versus Flood Zones

Zoning Objective	Vulnerability	Flood Zone A	Flood Zone B
City Centre Retail Area	Less vulnerable	Justification Test	Appropriate
City Centre Commercial Core Area	Less vulnerable	Justification Test	Appropriate
Inner City Residential Neighbourhoods	Highly vulnerable	Justification Test	Justification Test
Residential, Local Services and Institutional Uses	Highly vulnerable	Justification Test	Justification Test
Light Industry and Related Uses	Less vulnerable	Justification Test	Appropriate
General Industry	Less vulnerable	Justification Test	Appropriate
Business and Technology	Less vulnerable	Justification Test	Appropriate
District Centres	Less vulnerable	Justification Test	Appropriate
Neighbourhood Centres	Less vulnerable	Justification Test	Appropriate
Local Centres	Less vulnerable	Justification Test	Appropriate
Retail Warehousing	Less vulnerable	Justification Test	Appropriate
Landscape Preservation Zones	Water compatible	Appropriate	Appropriate
Sports Grounds	Water compatible	Appropriate	Appropriate
Public Open Space	Water compatible	Appropriate	Appropriate
Public infrastructure and utilities	Highly vulnerable	Justification Test	Justification Test
Mixed Use Development	Less vulnerable	Justification Test	Appropriate
Quayside Amenity Area	Water compatible	Appropriate	Appropriate
Primary and Post-Primary Educational Facilities	Highly vulnerable	Justification Test	Justification Test
Rivers / Water Bodies Protection	Water compatible	Appropriate	Appropriate

**Tables 1, 2 and 3 illustrate those 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 nor approved within the development management process.*

From Table 3 we have identified 5 no. water compatible land-use zonings, listed in Table 4 below. Water Compatible land-uses and development zonings are considered to be appropriate within the flood zones. Although these land-uses are considered acceptable in principle, all proposals for development in areas of high and moderate flood risk (Flood Zones A and B) will need to demonstrate at application or project stage, an overriding strategic planning need and that flood risk can be adequately managed without causing adverse impacts elsewhere. Detailed design issues such as site layouts and residual flood risks will also be examined at project stage. Table 5 lists the Vulnerable land-use zonings that require assessment against the Justification Test.

Table 4. Water Compatible Land-Use Zonings

Zoning Objective	Vulnerability	Flood Zone A	Flood Zone B
Landscape Preservation Zones	Water compatible	Appropriate	Appropriate
Sports Grounds	Water compatible	Appropriate	Appropriate
Public Open Space	Water compatible	Appropriate	Appropriate
Quayside Amenity Area	Water compatible	Appropriate	Appropriate
Rivers / Water Bodies Protection	Water compatible	Appropriate	Appropriate

Table 5. Vulnerable Land-Use Zonings

Zoning Objective	Vulnerability	Flood Zone A	Flood Zone B
City Centre Retail Area	Less vulnerable	Justification Test	Appropriate
City Centre Commercial Core Area	Less vulnerable	Justification Test	Appropriate
Inner City Residential Neighbourhoods	Highly vulnerable	Justification Test	Justification Test
Residential Local Services & Institutional Uses	Highly vulnerable	Justification Test	Justification Test
Light Industry and Related Uses	Less vulnerable	Justification Test	Appropriate
General Industry	Less vulnerable	Justification Test	Appropriate
Business and Technology	Less vulnerable	Justification Test	Appropriate
District Centres	Less vulnerable	Justification Test	Appropriate
Neighbourhood Centres	Less vulnerable	Justification Test	Appropriate
Local Centres	Less vulnerable	Justification Test	Appropriate
Retail Warehousing	Less vulnerable	Justification Test	Appropriate
Public infrastructure and utilities	Highly vulnerable	Justification Test	Justification Test
Mixed Use Development	Less vulnerable	Justification Test	Appropriate
Primary and Post-Primary Educational Facilities	Highly vulnerable	Justification Test	Justification Test

Prior to the detailed assessment of specific zoned lands, namely, the application of the Justification Test, this report will outline the recommendations of the Draft Lee CFRAMS and accompanying SEA.

Recommendations of the Draft Lee CFRAMS

Cork City lies in the Lower Lee sub catchment (Unit Analysis as it is referred to in the draft CFRAM). The central area of Cork City is identified as an Area of Particular Significant Risk from tidal and fluvial flooding (or APSR as it is referred to in the draft CFRAM). The relevant Water Bodies for Cork City are Cork Harbour and Rivers Lee, Curragheen, Glasheen, Bride and Glen.

The management strategy set out within the draft LeeCFRAMS recommended viable structural and non-structural options for managing the flood risks within the catchment as a whole and for localised high risk areas as follows:

- Flood forecasting systems, combined with a targeted public awareness and education campaign and individual property protection / flood-proofing, providing widespread coverage across the catchment, including urban areas and isolated properties;
- Further optimising the operation of Carrigadrohid and Inniscarra Dams informed by integrated flood forecasting and combined with improved downstream fluvial defence works, to gain maximum benefits from flood storage within the reservoirs and reduce flood risk to areas along the Lower Lee, including Cork City;
- The construction of new flood defences or channel modifications, together with the maintenance of existing flood defences.

In addition, the draft plan recommends measures to reduce flood risk to critical infrastructure, such as, water treatment plants, national roads, the Jack Lynch tunnel (referred to as 'Individual Risk Receptors' within the study).

The draft plan also recommends other non-structural measures that form important supporting / underpinning components of the overall flood risk management strategy:

- Improvement of the network of rainfall and river gauges located throughout the catchment to enable effective flood forecasting and improved analysis and modelling of the catchment into the future;
- Use of the flood maps produced by the study; and
- Undertaking of a widespread public awareness campaign to inform the public on the level of risk in their area, what is planned to be done about it, what self-help measures they can take and where they can find information.

Recommendations of the Lee CFRAMS SEA Environmental Report

The SEA of draft LeeCFRAMS concludes that the plan has identified that flood risk management proposals could give rise to significant positive and negative effects on the environment of the Lee Catchment in a number of locations where structural flood risk management options are proposed. However, these effects are likely to be limited in their scope and duration and appropriate measures have been identified to mitigate these effects during the next stage of option development. Overall the benefits of the draft plan in reducing flood risk to people property and the environment are significant.

The preferred option no.1 for Cork City is permanent flood walls and/ or embankments to manage both tidal and fluvial risk. It is estimated that it would result in reduced risk to local roads, a stretch of railway, residential and commercial properties. The introduction of flood walls in the sensitive Cityscape and Landscape Preservation Zones would result in a permanent change of visual amenity. To mitigate this the appearance of flood walls should be designed appropriately to minimise visual impact.

The preferred option no.2 or localised works option for fluvial and tidal protection, (i.e. to raise or create defences to achieve a consistent standard of protection along the quays through the city and hence significantly reduce the frequency of tidal inundation of the city). In terms of providing fluvial flood protection, it would protect against residual risk of discharges from the dam and inflows from tributaries downstream, allowing greater discharges from the dam in advance of flood peak.

The SEA did not carry out a separate assessment for this option but assumed that the impacts are likely to be similar to and most likely less significant, than those identified for the structural flood defence scheme.

Summary of the conclusions of the significant effects of the Lee CFRMP management plan for the Cork City Area of Particular Significant Risk (APSR).

The Draft LeeCFRAMS incorporated mutually compatible objectives with the City Development Plan, relating to sustainable development and environmental protection, of land-use proposals within the development of flood risk management options; and the provision of flood maps to inform future sustainable flood risk management.

The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the City's Area of Particular Significant Risk stretching from Carrigrohane Rd to the west to the Customs House Quay to the east, can be adequately managed through mitigation measures and will not cause unacceptable adverse impacts elsewhere.

Draft City Development Plan 2015 - 2021

Chapter 12 of the Draft City Development Plan outlines the City Council's approach to flood risk management.

The draft plan seeks to retain existing 'Greenfield' lands in their current state where there is a risk of flooding. In areas where there is a high probability of flooding, (flood zone A) the Council will seek to avoid development other than 'water compatible development'. In areas where there is a moderate probability of flooding, (flood zone B) the Council will seek to avoid 'highly vulnerable developments.'

The draft plan seeks to rezone existing 'vulnerable' development zonings to 'water compatible' development zonings where they are in conflict with the Flood Extent Maps unless the land-use zoning satisfies the Justification Test for Development Plans (Box 4.1 of the Guidelines).

In order to minimise flood risk, the Council will adopt a precautionary approach, namely, to avoid development in floodplains, wetlands and coastal areas prone to flooding and so preserve these natural defences that hold excess water until it can be released slowly back into river systems, the sea, or seep into the ground; and to invest in infrastructural works such as flood protection and stormwater attenuation

Where development has to take place in identified flood risk areas, the type or nature of the development needs to be carefully considered and the potential risks mitigated and managed through on-site location, layout and design of the development to reduce flood risk to an acceptable level.

Developments will be assessed in accordance with the provisions of The Planning System and Flood Risk Management: Guidelines for Planning Authorities (2009). Where flood risk is considered to be a potential issue, applicants will be required to carry out a flood risk assessment, appropriate to the scale and nature of the development and the risks arising.

Development proposals will be required to be planned, designed and constructed to reduce and manage flood risk and be adaptable to changes in climate; and required to incorporate Sustainable Drainage Systems, (SuDS) into the design and formulation of development proposals (see Objective 12.3).

Minor proposals in areas of flood risk, such as house extensions or change of use of existing buildings, are unlikely to raise significant flooding issues, unless they introduce a significant additional number of people into flood risk areas or obstruct important flow paths.

Applicants will be required to include a brief assessment of the risk of flooding to demonstrate there is no resulting adverse impact or impediment of a watercourse, floodplain or flood protection and management infrastructure.

In considering development proposals, the Council will adopt the sequential approach as follows:

To avoid development in areas at risk of flooding; and if this is not possible, to consider substituting the land-use to one less vulnerable to flooding; and only where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks.

All proposals for vulnerable types of development in areas of high and moderate flood risk (flood zones A and B) will be examined against the Justification Test for Development Management (Box 5.1

of the Guidelines), in order to demonstrate an overriding strategic planning need and that flood risk can be adequately managed without causing adverse impacts elsewhere.

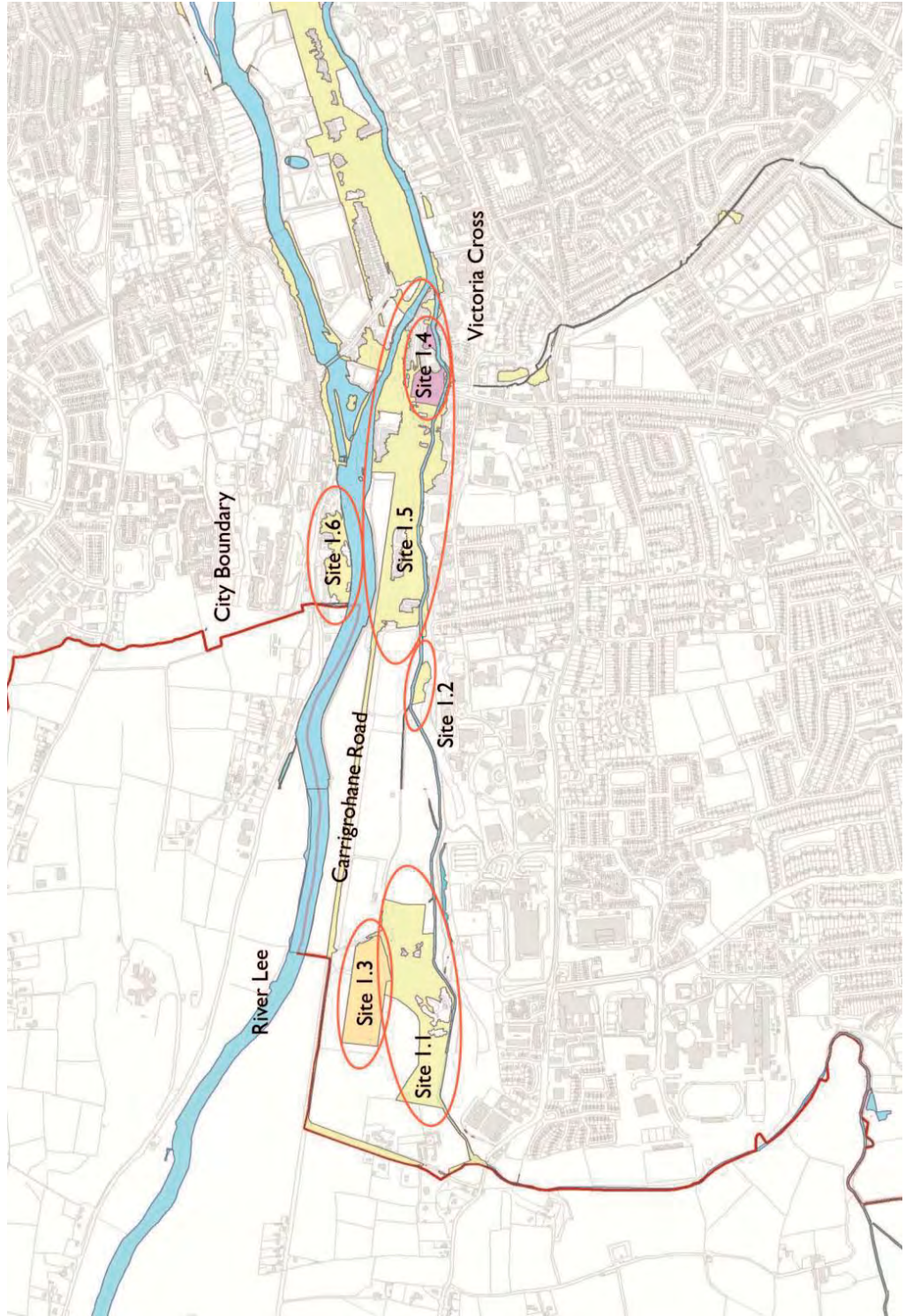
Draft LeeCFRAMS Management Plan (or CFRMP)

In line with the approach set out in the Ministerial Guidelines, the proposed land-use zonings within the draft plan, in particular, along the Western Road area, and within the City Centre and Docklands satisfies the Justification Test, as the Draft LeeCFRAMS has demonstrated that flood risk to these areas can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Permanent flood walls and embankments to manage fluvial and tidal floods have been recommended that would mitigate significant negative effects.

(See Appendix 2 - Lee CFRAMS Management Plan for the Cork City Area of Particular Significant Risk, APSR).

3. JUSTIFICATION TEST

1. Carrigrohane Road - Western Road
Carrigrohane, Glasheen & Lee Rivers



Site 1.1 Carrigrohane Road (Western End)

Zoning Objective: Residential, Local Services and Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No. This is a peripheral area of the city that will not facilitate regeneration and or expansion of the city centre.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands are under utilised, the only development is a 12-bay Traveller Halting site and former concrete plant surrounded by scrub and woodland. The said lands have not been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response No. The site does not adjoin the core of the settlement.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. The said lands are peripheral in the city context. The lands being subject to flooding events will afford a poor standard of residential amenity and would be contrary to proper planning and sustainable development principles. The said lands form part of the natural flood plain of the River Lee. The installation of flood defences would be likely to increase flood risk downstream, namely, in the key development areas of the City Centre, Docklands and Tivoli and the protected habitats of the Natura 2000 sites. The said lands adjoin a fertiliser storage site, a Seveso site. Residential development is not compatible with this Seveso site and risk assessment models would advise against such uses being proximate to each other. (UK HSE PADHI).</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are many alternatives. The most widespread land use zoning within the city is 'Residential Local Services and Institutional Uses,' notwithstanding 'Inner City Residential Neighbourhood' zoning and other zonings where 'residential' development is appropriate. The relatively modest development capacity of the said lands can be accommodated in the remaining residential zonings throughout the city.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

**Core of an urban settlement. The core area of a city town or village which acts as a centre for a broad range of employment, retail, community, residential and transport functions.*

Recommendation: The said lands and zoning objective does not satisfy all criteria of the Justification Test. It is recommended that the said lands are rezoned to water compatible land -use zonings, namely, Public Open Space and Landscape Preservation Zone.

Site 1.2 Carrigrohane Road to the rear of (north-west) of Farranlea Park and south of proposed Park & Ride site.

Zoning Objective: Residential, Local Services and Institutional Uses

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No. This is a peripheral area of the city that will not facilitate regeneration and or expansion of the city centre.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. These greenfield lands have not been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response No. The site does not adjoin the core of the settlement.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. The said lands are peripheral in the city context. The lands being subject to flooding events will afford a poor standard of residential amenity and would be contrary to proper planning and sustainable development principles. The said lands form part of the natural flood plain of the Carrigrohane River. The installation of flood defences would be likely to increase flood risk downstream.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are many alternatives. The most widespread land use zoning within the city is 'Residential Local Services and Institutional Uses,' notwithstanding 'Inner City Residential Neighbourhood' zoning and other zonings where 'residential' development is appropriate. The relatively modest development capacity of the said lands can be accommodated in the remaining residential zonings throughout the city.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy all criteria of the Justification Test. It is recommended that the said lands are rezoned to water compatible land -use zoning namely, Public Open Space.

Site 1.3 Carrigrohane Road (Western End)

Zoning Objective: Public Infrastructure and Utilities

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No. This is a remote / peripheral area of the city. It will not facilitate regeneration and or expansion of the city centre.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands hosts the 'Grasslands' Ammonium Nitrate fertilizer storage facility, a SEVESO site. It is a low intensity use. The said lands have not been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response No. The site does not adjoin the core of the settlement.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. The said lands are remote in the city context. The lands being subject to flooding events and would be contrary to the proper planning and sustainable development principles. The said lands form part of the natural flood plain of the River Lee. The installation of flood defences would be likely to increase flood risk downstream, namely, in the key development areas of the City Centre, Docklands and Tivoli and the protected habitats of the Natura 2000 sites. Furthermore, the rationale for the current 'Public Infrastructure and Utilities' zoning is no longer relevant as adjoining lands at the eastern end of Carrigrohane Road have been rezoned under a CDP Variation to accommodate the planned infrastructure, namely, a Park & Ride facility.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There is an alternative site at the eastern end of Carrigrohane Road that has been rezoned under a CDP Variation to accommodate the planned infrastructure, namely, a Park & Ride facility.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy all criteria of the Justification Test. It is recommended that the said lands are rezoned to water compatible land -use zoning namely, Public Open Space.

Site 1.4 Victoria Cross - Carrigrohane Road (Eastern End)

Zoning Objective: Local Centre

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. This area forms the western boundary of the central spine of the city.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said area (a local centre) forms a 'core' of the established urban settlement with a range of land use functions). The said lands form the gateway to the city.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The development of the said lands on the proposed route of the planned Bus Rapid Transit corridor (Ballincollig to Mahon) accords with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response This is a long established area serving the local community that has been redeveloped in recent years.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objective does satisfy all criteria of the Justification Test.

Site 1.5 Victoria Cross - Carrigrohane Road (Eastern End)

Zoning Objective: Residential Local Services and Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. This area forms the western boundary of the central spine of the city.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said area adjoins a neighbourhood centre which forms a 'core' of the established urban settlement with a range of land use functions including County Hall. The said lands form a gateway to the city.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The development of the said lands close to the proposed route of the planned Bus Rapid Transit corridor (Ballincollig to Mahon) and the planned Park & Ride facility on Carrigrohane Road accords with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response This is a long established urban area that includes a number of recent redevelopment schemes such as the County Hall complex.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objective does satisfy the Justification Test.

Site 1.6 Lee Road - Sundays Well Road

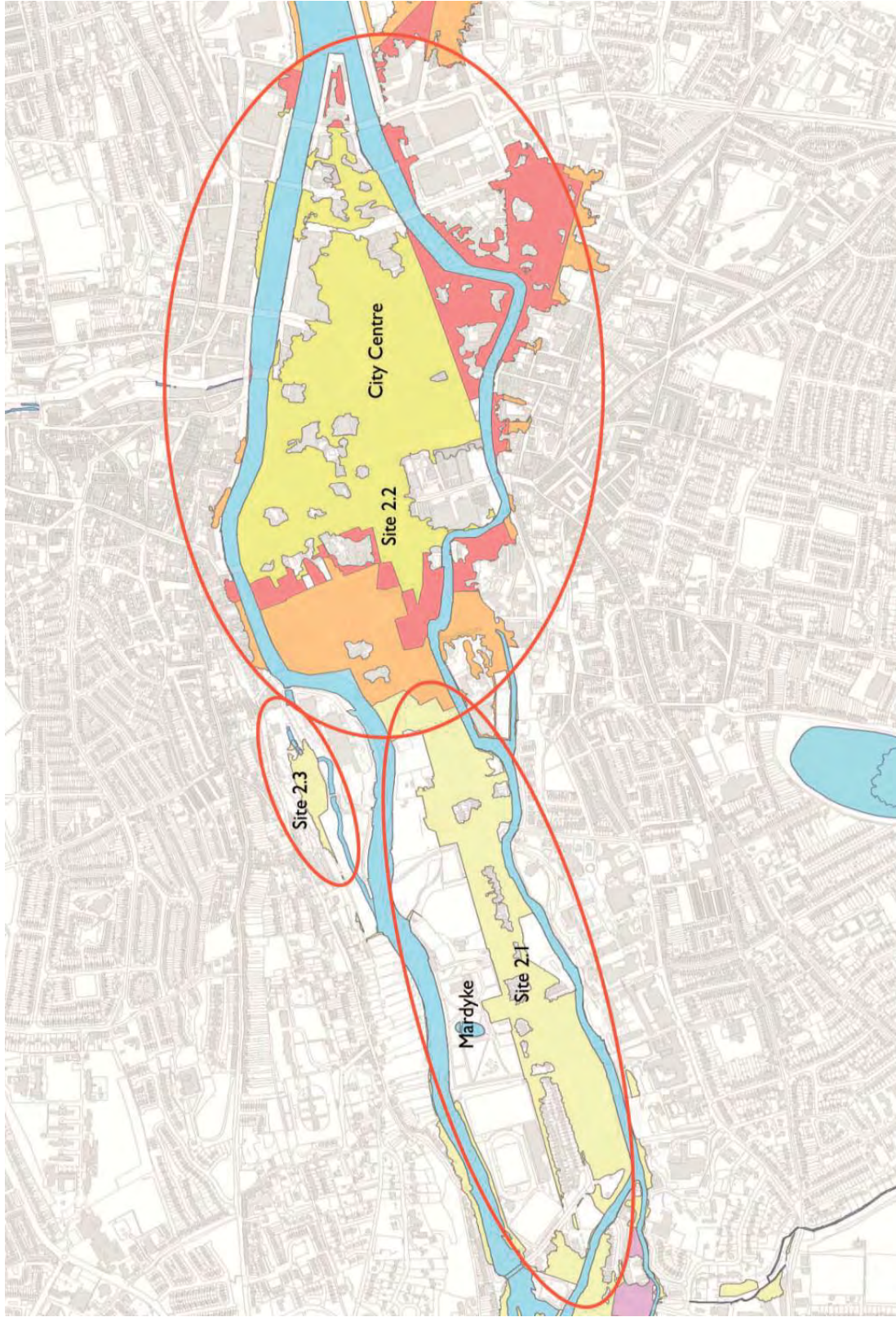
Zoning Objective: Residential Local Services and Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. This area forms part of the western boundary of the central spine of the city.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development including the Lee Water Works, the Lifetime Lab and residential development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said area is within walking distance of Victoria Cross, an important mixed use area.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative sites.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy all criteria of the Justification Test. However, the said lands accommodate essential infrastructure for the expansion of the city. In order to reflect the existing land-use, it is considered that the City Council should rezone the Lee Waterworks lands to 'Public Infrastructure and Utilities.' The remainder of the lands should be rezoned to Public Open Space, a water compatible use in an area of flood risk.

2. City Centre – Mardyke



Site 2.1 Western Road - Mardyke

Zoning Objective: Residential Local Services and Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands adjoin the city centre the most important strategic growth centre and hostpart of the important institution of UCC.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands adjoin the western boundary of Cork city centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The said lands will be served by the proposed route of the planned Bus Rapid Transit corridor (Ballincollig to Mahon) and so accords with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative residential and institutional zoned lands, but this is a long established urban area including UCC.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objective satisfies the Justification Test.

Site 2.2 City Centre

Zoning Objective: Inner City Residential Neighbourhood; City Centre Commercial Core Area; City Centre Retail Area

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands adjoin the city centre the most important strategic growth centre.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands are within the City Centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The said lands will be served by the proposed route of the planned Bus Rapid Transit corridor (Ballincollig to Mahon), the Commuter Rail Service and all main city bus routes and so accords with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative residential and commercial zoned lands, but this is a long established urban area.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objectives satisfies the Justification Test..

Site 2.3 UCC North Mall Campus (Distillery lands)

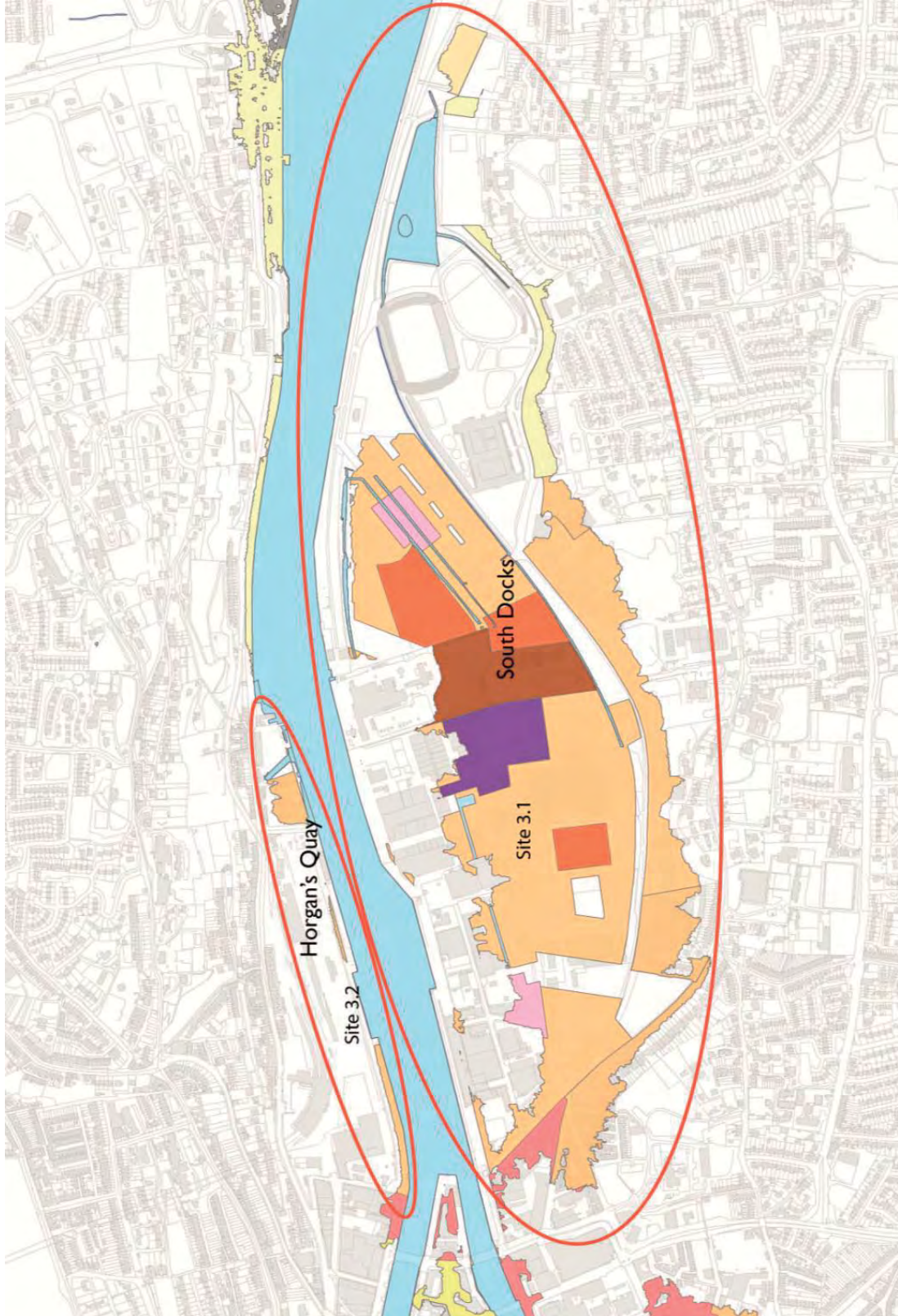
Zoning Objective: Residential Local Services and Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands adjoin the city centre the most important strategic growth centre and hosts the important institution of UCC.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands adjoin the western boundary of Cork city centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The continued use of the said lands as the UCC North Mall campus, at this central location adjoining Cork city centre accords with the principles of a compact and sustainable city.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative residential and institutional zoned lands, but this is a long established development site that has been redeveloped in recent years as a UCC campus.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not fully satisfy the Justification Test. The Council will require the design of detailed flood risk management measures as a prerequisite to any future development within the campus.

3. Docklands



Site 3.1 Docklands (South Docks)

Zoning Objective: Mixed Use; District Centre; Social / Community Infrastructure

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy, and the Docklands is targeted for growth in the Regional Planning Guidelines, City Development Plan and South Docks Local Area Plan.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands adjoin the city centre the most important strategic growth centre and docklands is identified as the main development opportunity in the city.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands are within the City Centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The said lands will be served by the proposed route of the planned Bus Rapid Transit corridor (Ballincollig to Mahon) and so accords with sustainable development principles; and is adjoining the centre and is the most significant sustainable development opportunity in the greater city area.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response This is a long established area of the city of strategic importance with significant development potential in a very sustainable location.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response The Draft Lee CFRAMS (Management Plan) demonstrates that flood risk to the south docks development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objectives satisfy the Justification Test.

Site 3.2 Horgans Quay – Water Street

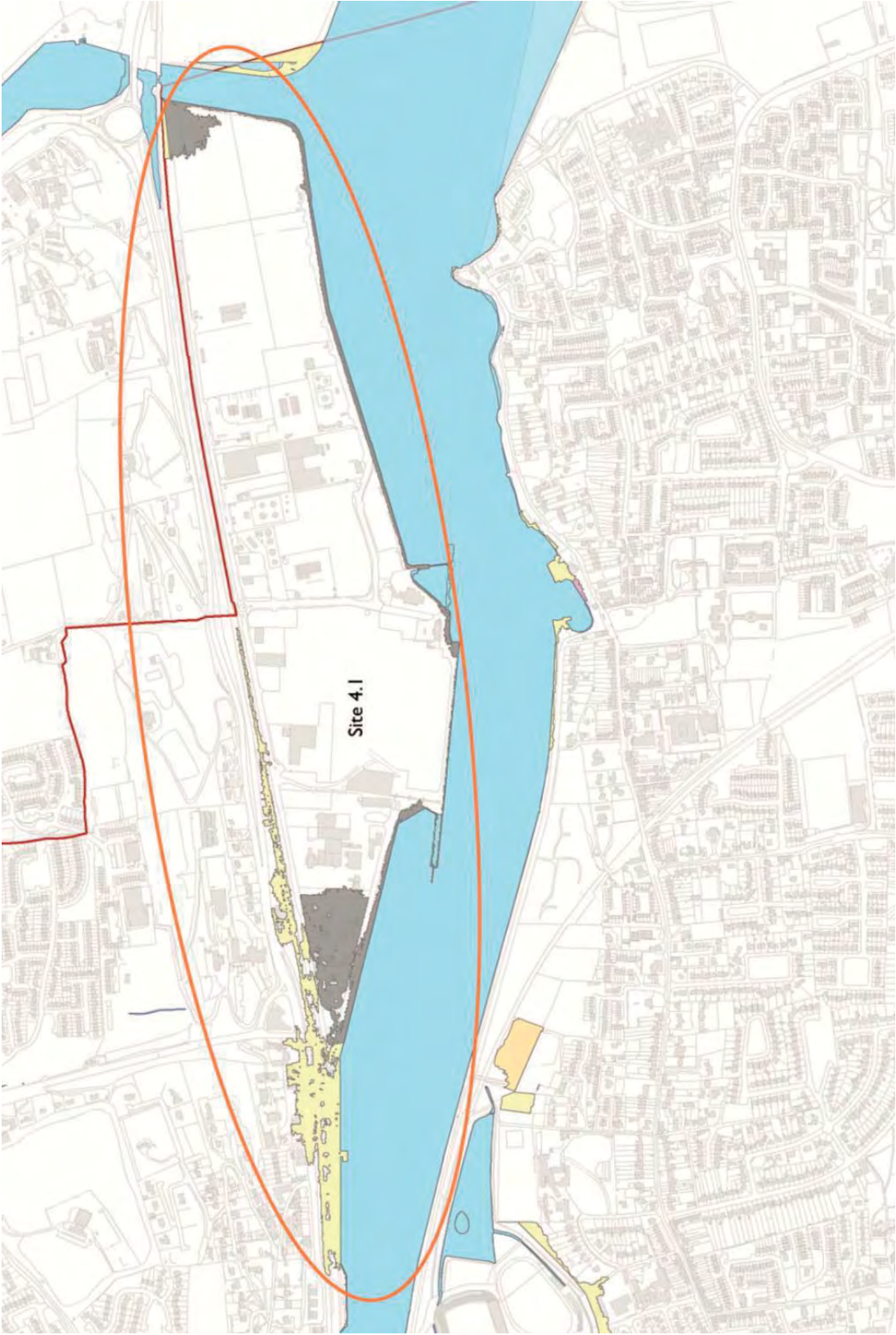
Zoning Objective: Mixed Use

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands adjoin the city centre the most important strategic growth centre.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been subject to significant development.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands are within the City Centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The said lands accord with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative mixed-use zoned lands, but this is a long established urban area that has been identified for redevelopment, next to the rail station and adjoining the city centre. Alternative sites adjoining the adjoining the core are very limited.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the said lands can be adequately managed and will not cause unacceptable adverse impacts elsewhere. Actions are recommended that would mitigate significant negative effects.</p>

Recommendation: The said lands and zoning objectives does not satisfy all criteria of the Justification Test. However, the said lands are considered to be strategically important and essential to facilitate regeneration, and to achieve compact and sustainable urban growth of the city. Therefore, the Council will require the preparation of a masterplan, local area plan or appropriate alternative plan, informed by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

4. Tivoli
Carrigrohane, Glasheen & Lee Rivers



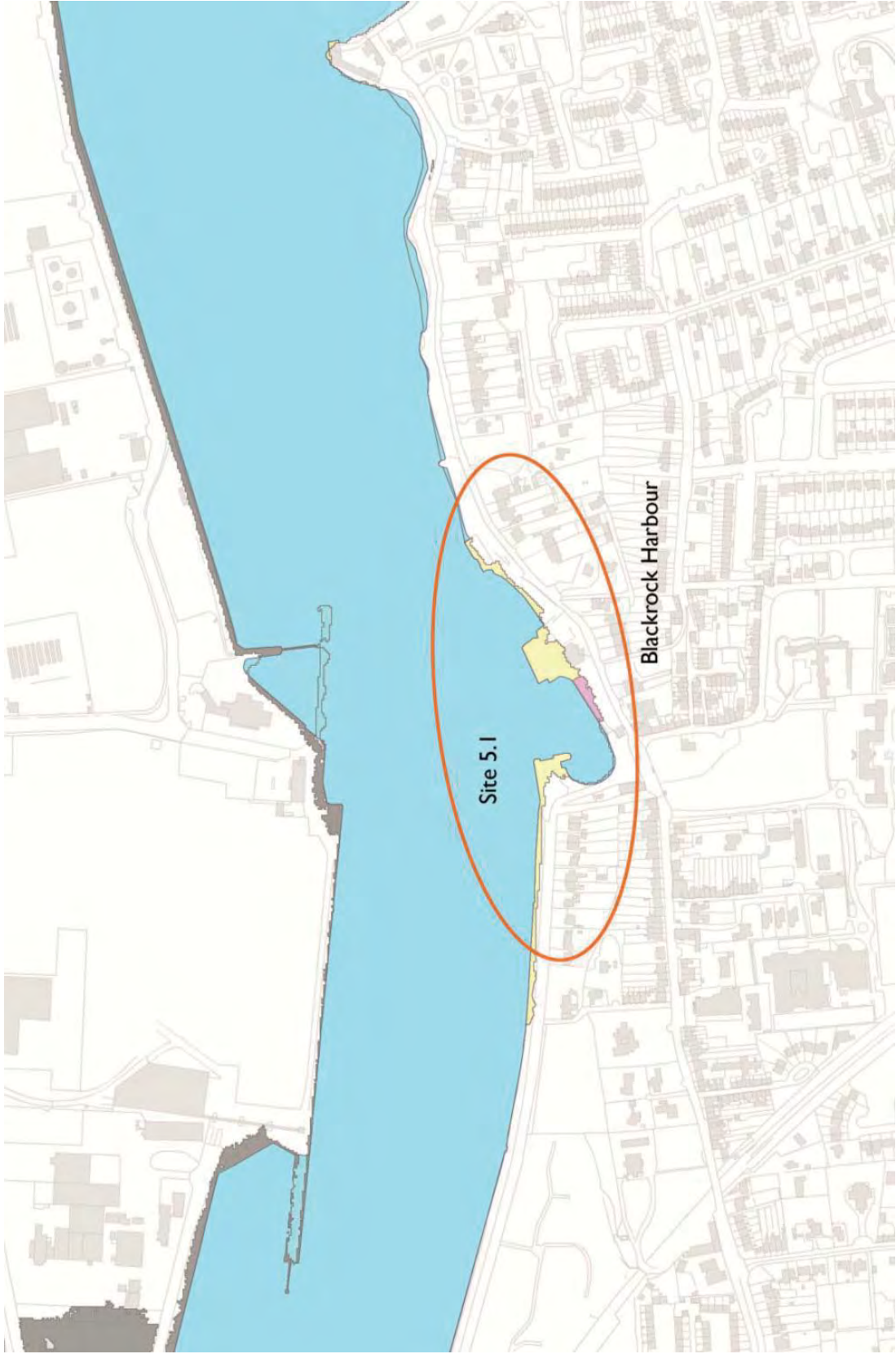
Site 4.1 Tivoli Docks – Lower Glanmire Road

Zoning Objective: Residential Local Services & Institutional Uses; General Industry

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes. The said lands are designated as a future Key Development Area.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands are currently in use as port related uses and gas fuel storage, (Seveso). Low intensity use. There is residential and commercial uses on Lwr. Glanmire Rd.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands is capable of accommodating broad range of employment and residential land - uses and is located on the Cork Commuter rail - line, following the planned relocation of the Port Operations.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. The said lands will be served by existing Cork Commuter Rail-line and so accords with sustainable development principles.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There is no 'lower risk' alternative landbank of this scale within the city. This area is capable of being an important 'core' and new urban quarter within the city. Development would require a local area plan or alternative mechanism informed by a detailed flood risk assessment and/or flood risk management measures.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objectives does not satisfy the Justification Test. The said lands and zoning objectives does not satisfy all criteria of the Justification Test. However, the said lands are considered to be strategically important and essential to facilitate regeneration, and to achieve compact and sustainable urban growth of the city. Therefore, the Council will require the preparation of a masterplan, local area plan or appropriate alternative plan, informed by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

5. Blackrock – Mahon



Site 5.1 Blackrock Harbour

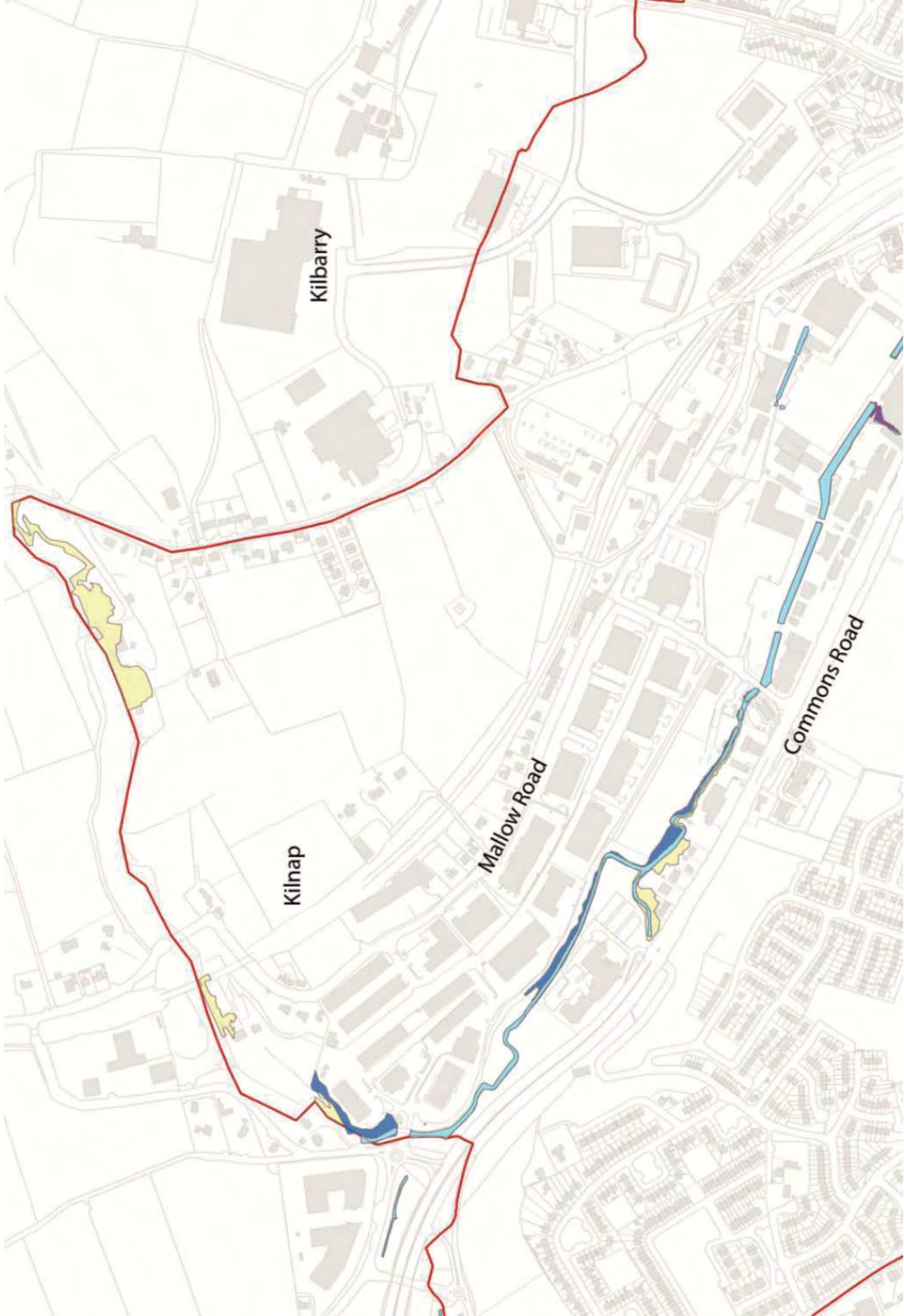
Zoning Objective: Residential Local Services & Institutional Uses; Local Centre

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been previously development as a harbour and boat club but are under utilised.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands adjoin the Blackrock Local Centre, an important core to the locality. This is a long established area serving the local community.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. This is a minor site is no strategic value.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative residential zoned lands.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy the Justification Test. The Council should rezone the said lands from ‘Residential, Local Services and Institutional Uses’ and ‘Local Centre’ to ‘Public Open Space’ and ‘Sports Grounds.’

3

6. Blackpool
Bride & Glen Rivers



Site 6.1 Blackpool Valley

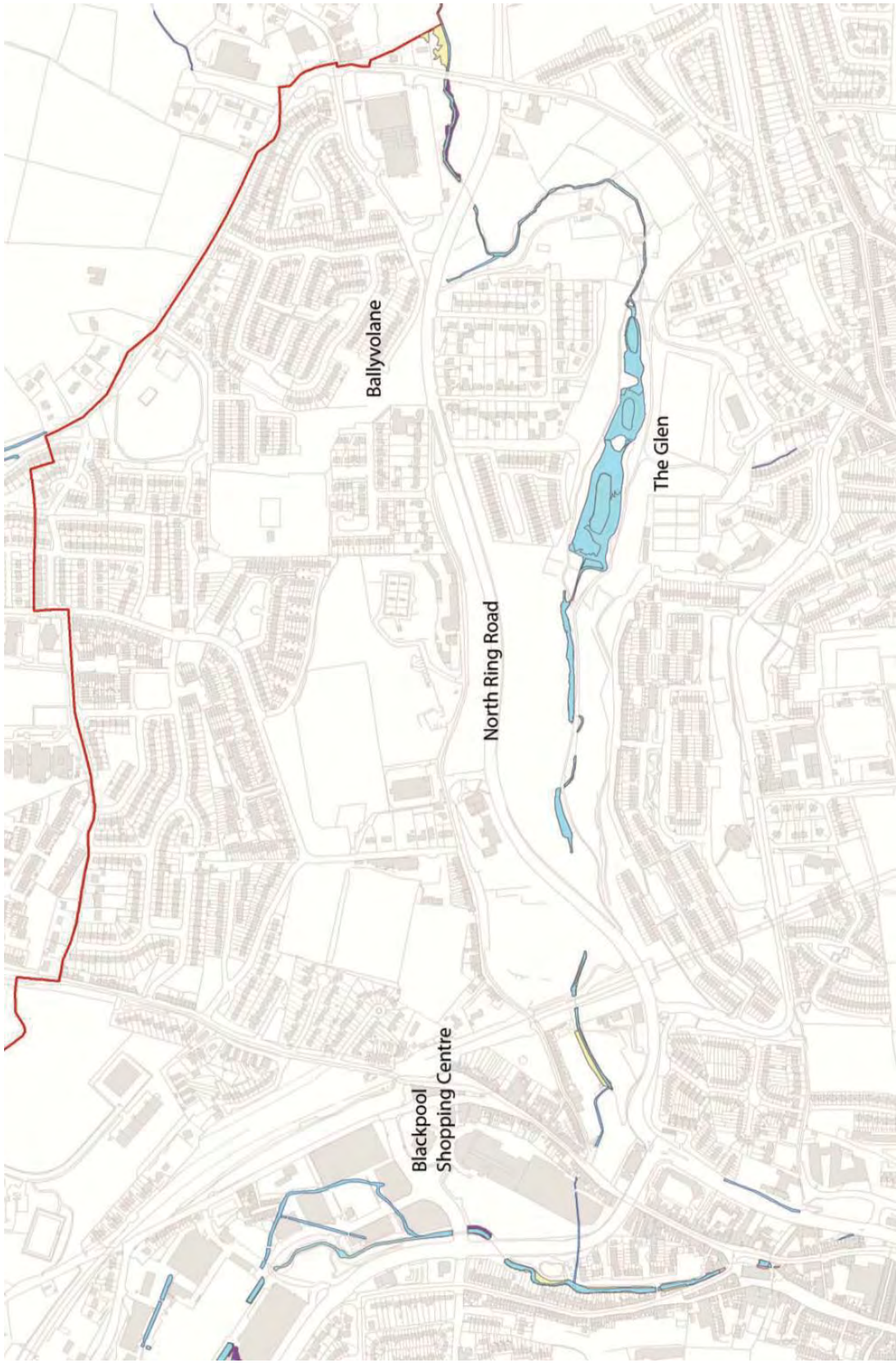
Zoning Objective: Business & Technology; District Centre;
Residential Local Services & Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes the said lands are part of the key development area of Blackpool, much of which is brownfield land.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response Yes. The said lands have been previously development but part of the said lands are currently under utilised and semi-derelict.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands are within or adjoin Blackpool District Centre, a Key Development Area.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response Yes. This is a key development area for the northside of the city in particular and will be served by the planned rail station at Kilbarry, on the Cork Commuter Rail-line.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative zoned lands, but this is a strategic development area with a long history as an employment base.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy the Justification Test. Redevelopment of the sites should be informed by the 'Lower Lee Flood Relief Scheme' currently being prepared and/ or by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

7. Ballyvolane
Glen River



Site 7.1 Ballyvolane

Zoning Objective: District Centre; Residential Local Services & Institutional Uses

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response Yes the said lands are part of or adjoin the District Centre zoning of Ballyvolane.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response No. The respective District Centre zoned lands have not been developed but remain in a semi-natural state forming the boundary of the Glen river valley. The Residential lands form part of the domestic garden to a residential dwelling.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The said lands are within or adjoin Ballyvolane district centre, a second tier retail centre as per the retail strategy.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. They are insignificant sites of no strategic value.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative zoned lands.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands (which are limited in extent) and zoning objective does not satisfy the Justification Test. Redevelopment of the sites should be informed by the 'Lower Lee Flood Relief Scheme' currently being prepared and / or by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

3

8. Glasheen - Wilton
Glasheen River



Site 8.1 ESB lands, Wilton (Sarsfield Road- M40 Interchange)

Zoning Objective: Residential Local Services & Institutional Uses

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response No.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response Yes. The ESB lands are close to the Wilton district centre, a second tier retail centre and important local services centre.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. The sites are insignificant in land area.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative zoned lands for Residential purposes.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy the Justification Test. It is recommended to rezone the ESB lands to water compatible use, namely, Public Open Space.

Site 8.2 Clashduv Road, Glasheen

Zoning Objective: Residential Local Services & Institutional Uses

3

Justification Test for Development Plans	
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 provisions of the Planning and Development Act, 2000, as amended.	<p>Response Yes, Cork is a designated Gateway under the National Spatial Strategy.</p>
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:	
(a) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	<p>Response No.</p>
(b) Comprises significant previously developed and / or under-utilised lands;	<p>Response No.</p>
(c) Is within or adjoining the core of an established or designated urban settlement;	<p>Response No.</p>
(d) Will be essential in achieving compact and sustainable urban growth;	<p>Response No. The sites are insignificant in land area.</p>
(e) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	<p>Response There are alternative zoned lands for Residential purposes. But this is a long established residential area. There is little or no capacity for future development.</p>
3. A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, 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.	<p>Response No. The Draft Lee CFRAMS (Management Plan) does not demonstrate that flood risk to the development area can be adequately managed and will not cause unacceptable adverse impacts elsewhere.</p>

Recommendation: The said lands and zoning objective does not satisfy the Justification Test. Redevelopment proposals should be informed by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

RECOMMENDATIONS

There is growing scientific consensus that global warming is occurring as a result of human activity, namely, greenhouse gas emissions. The implications of climate change for Cork City is rising sea levels and more frequent and more severe rainfall events and increased risk of flooding and coastal erosion.

The need to incorporate flood risk assessment and management into the land-use planning process is becoming ever more apparent. The City Council will promote sustainable settlement and transportation strategies and seek to develop and implement a range of adaptation and mitigation measures to reduce Cork City's vulnerability to the negative impacts of climate change.

This SFRA has examined in detail the existing and proposed land - use zoning objectives that lie within the flood extent zones identified in the Draft Lee CFRAMS.

It is recommended that the City Council incorporates the following principles into the Draft City Development Plan:

- To avoid development in areas at risk of flooding, and to retain existing 'Greenfield' lands at a risk of flooding, in their existing state in order to maintain water holding capacity and function and help reduce flooding.
- Where this is not possible, to consider substituting 'vulnerable' land uses to less vulnerable land uses, i.e. to avoid development other than 'water compatible development' in areas where there is a high probability of flooding, (flood zone A); and to avoid 'highly vulnerable developments' in areas where there is a moderate probability of flooding, (flood zone B).
- Where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks, i.e. to retain the land-use zoning where an overriding strategic need can be demonstrated and that flood risk can be adequately managed without causing adverse impacts elsewhere, namely, satisfy the Justification Test.
- On completion of the South West / Lee CFRAMS Management Plan, to incorporate the updated 'flood extent maps' and recommendations of the management plans into the City Development Plan.

Summary of Land-Use Zoning Recommendations

Site 1.1 Carrigrohane Road, surrounding Traveller halting site.

It is recommended that the said 'Residential Local Services and Institutional Uses' lands are rezoned to water compatible land-use zonings, namely, Landscape Preservation Zones and Public Open Space.

Site 1.2 Carrigrohane Road to the rear (north-west) of Farranlea Park and south of proposed Park & Ride site.

It is recommended that the said 'Residential Local Services and Institutional Uses' lands are rezoned to water compatible land-use zoning, namely, Public Open Space.

Site 1.3 Grasslands Fertiliser Site, Carrigrohane Road (Western End).

It is recommended that the said 'Public Infrastructure and Utilities' lands are rezoned to a water compatible land-use zoning, namely, Landscape Preservation Zone.

Site 1.6 Waterworks, Lee Road.

It is recommended that the said 'Residential Local Services and Institutional Uses' lands are rezoned to Public Infrastructure and Utilities and Public Open Space.

Site 4.1 Tivoli Docks.

It is recommended that the said 'General Industry' zoned lands will be subject to / require the preparation of a local area plan or appropriate alternative plan, informed by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

Site 5.1 Blackrock Harbour.

It is recommended that the said Residential Local Services & Institutional Uses and Local Centre lands be rezoned to a water compatible uses, namely, Public Open Space and Sports Grounds.

Site 6.1 Blackpool Valley.

It is recommended that redevelopment of the sites should be informed by the 'Lower Lee Flood Relief Scheme' currently being prepared and/ or by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development

Site 7.1 Ballyvolane.

It is recommended that redevelopment of the sites should be informed by the 'Lower Lee Flood Relief Scheme' currently being prepared and/ or by a detailed flood risk assessment and / or design flood risk management measures as a prerequisite to any future development.

Site 8. ESB lands Wilton.

It is recommended that the said Residential Local Services and Institutional Uses lands be rezoned to a water compatible use, namely, Public Open Space.

Figure 8 Proposed Land-Use Changes as a result of the Flood Risk Assessment

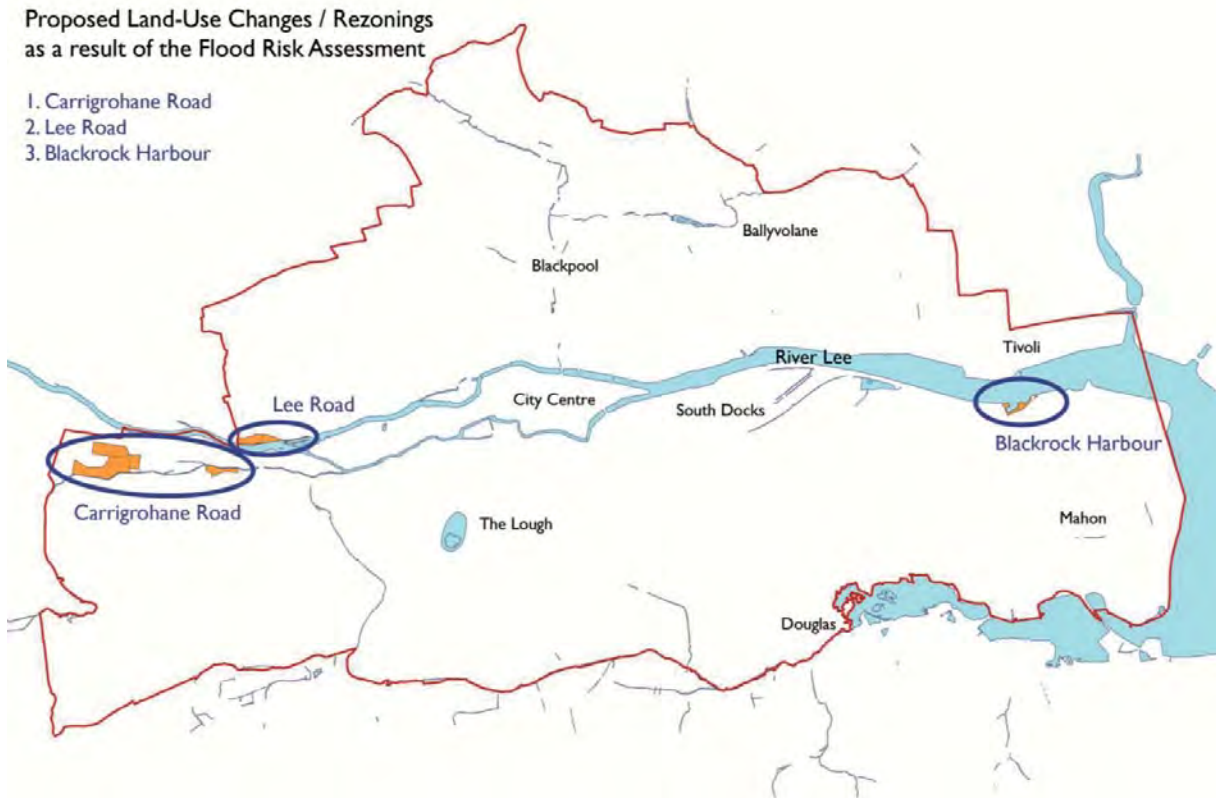
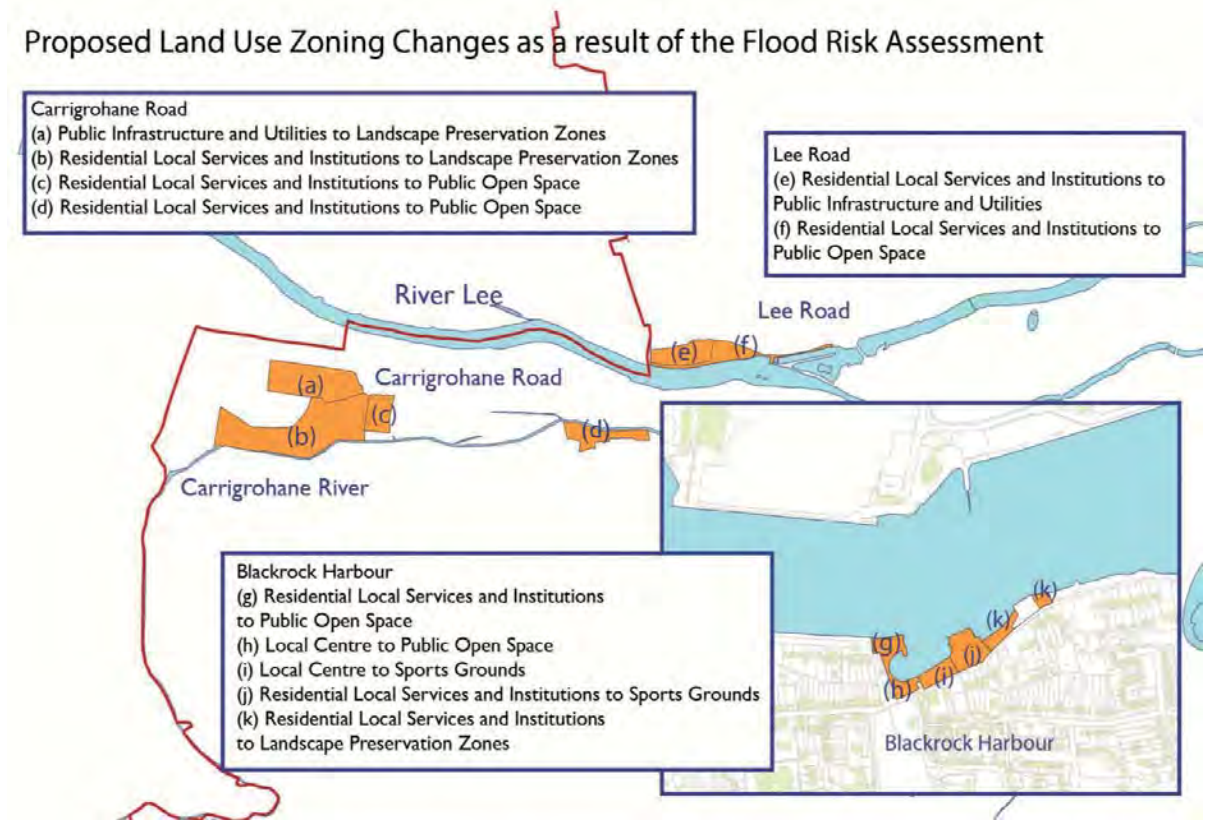


Figure 9 Proposed Land-Use Changes as a result of the Flood Risk Assessment



3

part 3 appendices

Strategic Flood Risk Assessment

Contents

- OPW Flood Hazard Map Report for Cork City, January 1. 255
- Lee CFRAMS Sub-Catchments 258
- Lee CFRAMS Individual Risk Receptors 259
- Lee CFRAMS Analysis Units & Areas of Particular Significant Risk 260
- Lee CFRAMS Management Plan for Cork City APSR (Areas of Particular Significant Risk) 261

3



PART 3

STRATEGIC FLOOD RISK ASSESSMENT APPENDICES

1. OPW FLOOD HAZARD MAP REPORT FOR CORK CITY, JANUARY 1.

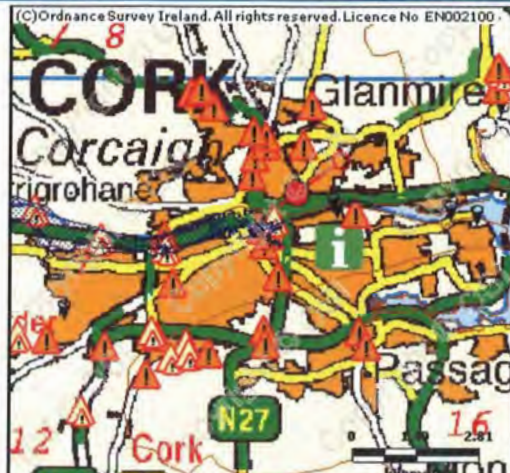
OPW National Flood Hazard Mapping

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: Cork
NGR: W 676 712

This Flood Report has been downloaded from the Web site 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.



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Map Scale 1:116,366

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.

28 Results

	1. Tramore Stream Culvert, Kinsale Rd. Cork 30th. December 2009 County: Cork	Start Date: 30/Dec/2009 Flood Quality Code: 3
	Additional Information: Reports (1) More Mapped Information	
	2. Cork City Flooding 19th. Nov. 2009 County: Cork	Start Date: 19/Nov/2009 Flood Quality Code: 2
	Additional Information: Reports (4) More Mapped Information	
	3. Kinsale Rd Roundabout Cork 30/01/2009 County: Cork	Start Date: 30/Jan/2009 Flood Quality Code: 3
	Additional Information: Reports (1) More Mapped Information	
	4. Blackpool and other locations 28th June 2012 County: Cork	Start Date: 28/Jun/2012 Flood Quality Code: 2
	Additional Information: Reports (3) More Mapped Information	
	5. Watercourse Road (South of O Connell Street) Cork. 28th. June 2012 County: Cork	Start Date: 28/Jun/2012 Flood Quality Code: 3

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Additional Information: Reports (1) More Mapped Information		
	6. Ballyvolane, Co.Cork. 28th June 2012 County:Cork	Start Date: 28/Jun/2012 Flood Quality Code:3
Additional Information: Reports (2) More Mapped Information		
	7. Dublin Street, Cork. 28th June 2012 County:Cork	Start Date: 28/Jun/2012 Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information		
	8. Spring Lane, Cork. 28th June 2012 County:Cork	Start Date: 28/Jun/2012 Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information		
	9. Lee Cork City August 1986 County:Cork	Start Date: 05/Aug/1986 Flood Quality Code:2
Additional Information: Reports (2) Press Archive (3) More Mapped Information		
	10. Lee Victoria Cross November 2000 County:Cork	Start Date: 28/Nov/2000 Flood Quality Code:2
Additional Information: Photos (1) Reports (1) More Mapped Information		
	11. Lee Cork City November 1916 County:Cork	Start Date: 16/Nov/1916 Flood Quality Code:3
Additional Information: Reports (1) Press Archive (6) More Mapped Information		
	12. Lee Cork City November 1853 County:Cork	Start Date: 02/Nov/1853 Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information		
	13. Lee Cork City January 1789 County:Cork	Start Date: 16/Jan/1789 Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information		
	14. Lee University Athletic Grounds Feb 1990 County:Cork	Start Date: 06/Feb/1990 Flood Quality Code:2
Additional Information: Photos (1) More Mapped Information		
	15. Lee Victoria Cross Feb 1990 County:Cork	Start Date: 03/Feb/1990 Flood Quality Code:2
Additional Information: Photos (1) Press Archive (1) More Mapped Information		
	16. Lee Cork City Jan 1996 County:Cork	Start Date: 06/Jan/1996 Flood Quality Code:2
Additional Information: Reports (2) Press Archive (1) More Mapped Information		
	17. Cork City 14th.December 2012 County:Cork	Start Date: 14/Dec/2012 Flood Quality Code:3
Additional Information: Reports (1) More Mapped Information		
	18. Cork City on 17th October 2012 County:Cork	Start Date: 17/Oct/2012 Flood Quality Code:2
Additional Information: Reports (1) More Mapped Information		

Report Produced: 10-Jan-2014 11:57

	19. Turner's Cross, Cork 28th June 2012 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 28/Jun/2012 Flood Quality Code:3
	20. Cork City October 2004 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 27/Oct/2004 Flood Quality Code:1
	21. Glasheen river, Cork City Feb 1994 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 22/Feb/1994 Flood Quality Code:3
	22. Cork City centre Dec 1989 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 16/Dec/1989 Flood Quality Code:2
	23. Centre Park Road Cork Jan 1988 County: Cork Additional Information: Reports (1) More Mapped information	Start Date: 12/Jan/1988 Flood Quality Code:4
	24. Douglas St Cork Jan 1988 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 12/Jan/1988 Flood Quality Code:4
	25. Cork City centre March 1962 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 07/Mar/1962 Flood Quality Code:2
	26. Cork City centre Oct 1901 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: 01/Oct/1901 Flood Quality Code:2
	27. Cork city centre 1945 County: Cork Additional Information: Reports (1) More Mapped Information	Start Date: Flood Quality Code:3
	28. Cork city centre 1955 County: Cork Additional Information: Reports (1) Press Archive (1) More Mapped Information	Start Date: Flood Quality Code:3

Report Produced: 10-Jan-2014 11:57



Lee Catchment Flood Risk Assessment and Management Study
Draft Catchment Flood Risk Management Plan

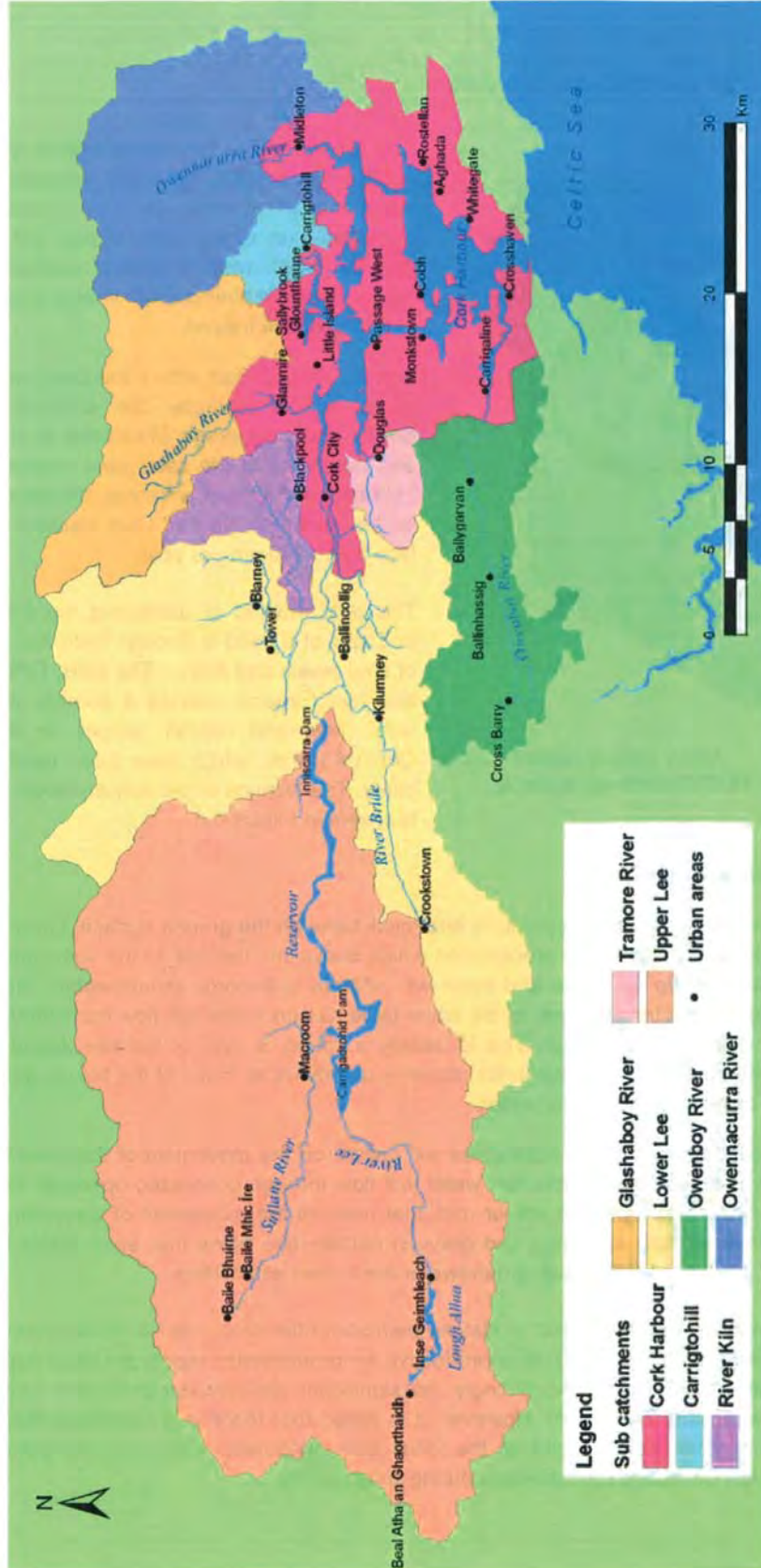


Figure 3-4 Map showing the nine sub-catchments of the Lee catchment (overlap between areas of tidal influence in fluvial subcatchments, and the Cork Harbour catchment, not shown)

3. LEE CFRAMS INDIVIDUAL RISK RECEPTORS



Lee Catchment Flood Risk Assessment and Management Study
 Catchment Flood Risk Management Plan

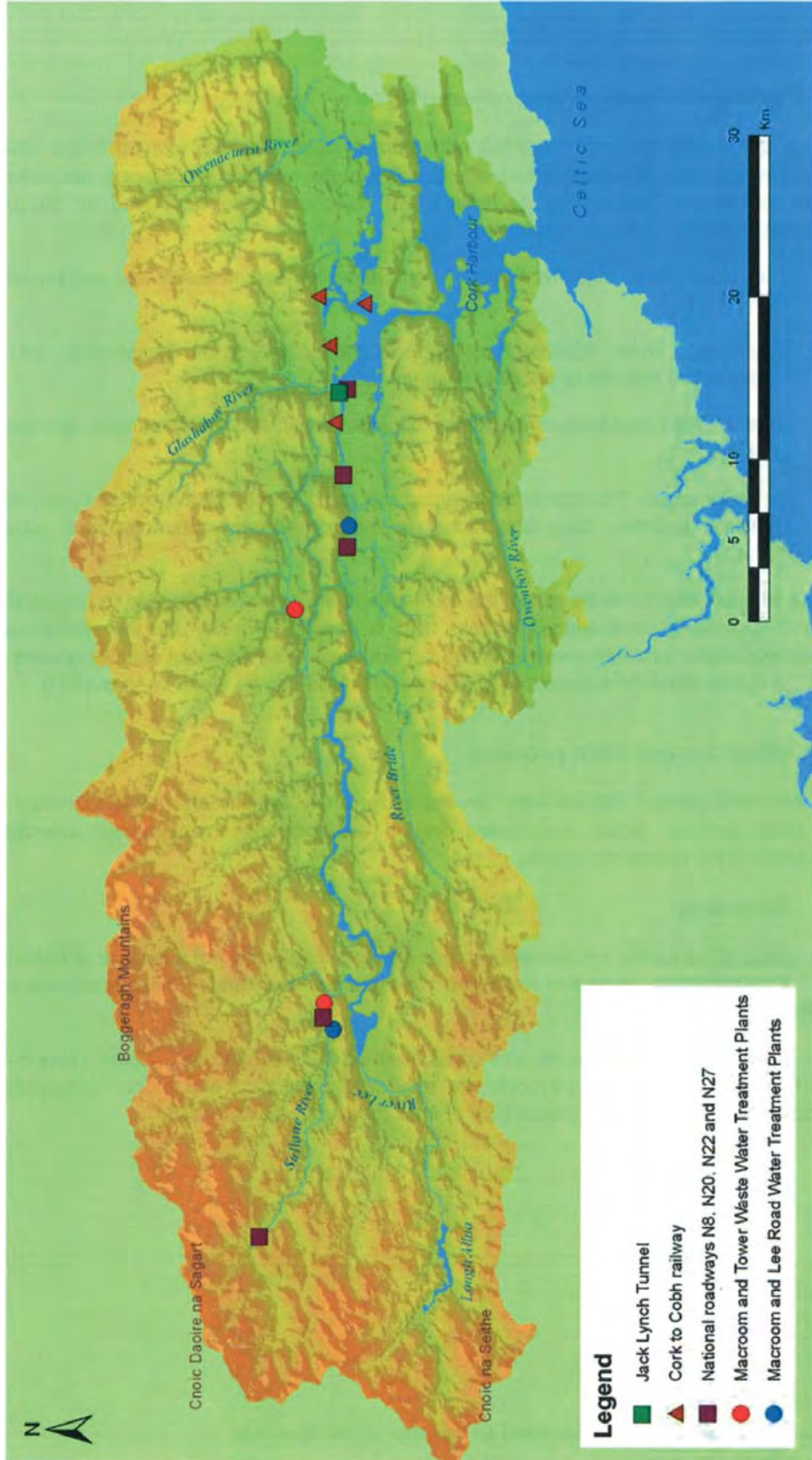


Figure 6-3 Individual risk receptors in the Lee catchment

4. LEE CFRAMS ANALYSIS UNITS & AREAS OF PARTICULAR SIGNIFICANT RISK

Lee Catchment Flood Risk Assessment and Management Study
Draft Catchment Flood Risk Management Plan

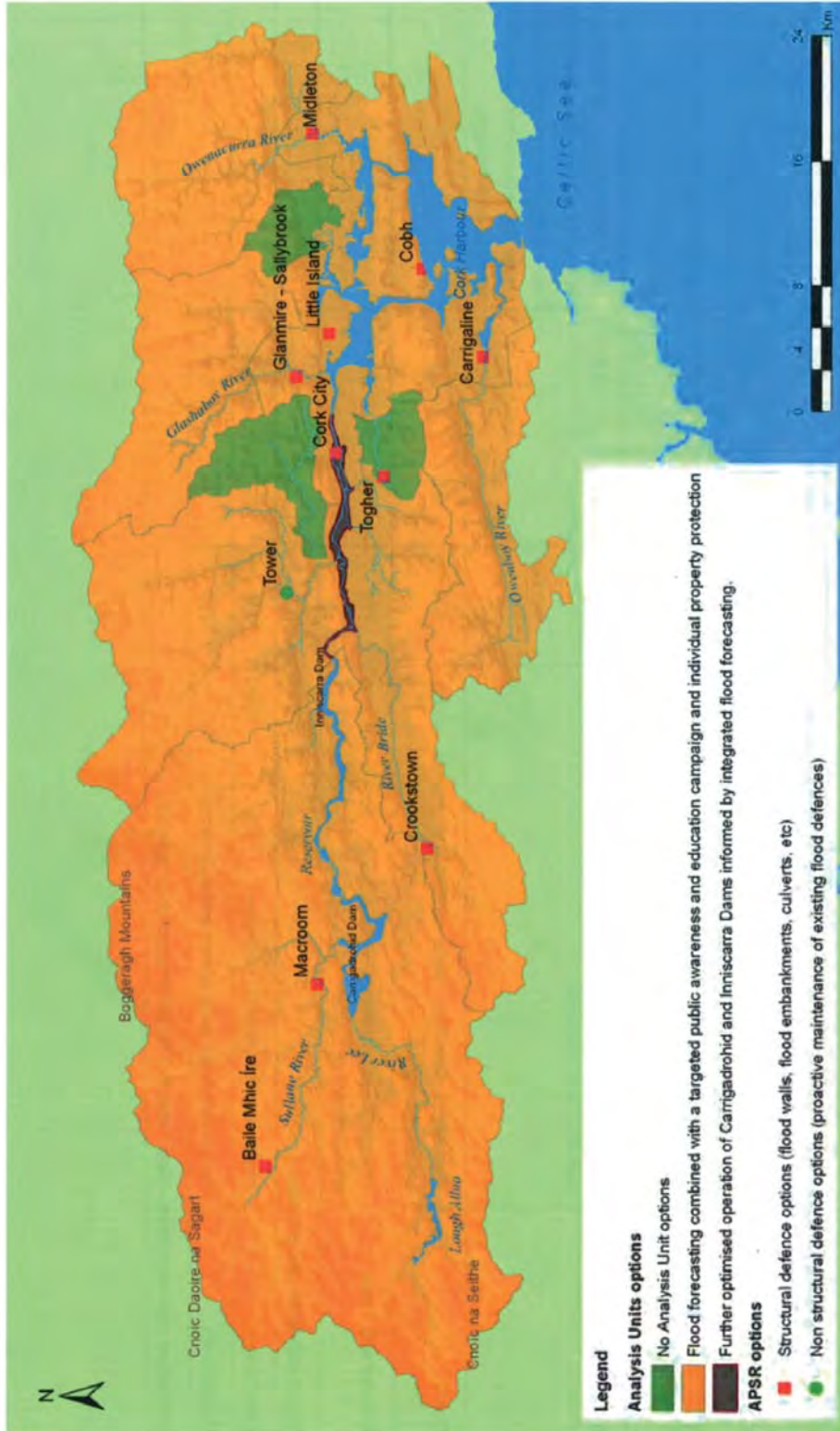


Figure 8-2 Location of Analysis Unit and APSR options recommended in the Lee CFRMP

5. LEE CFRAMS MANAGEMENT PLAN FOR CORK CITY APSR, (AREAS OF PARTICULAR SIGNIFICANT RISK)

Assessment unit	Cork City APSR
Water bodies	Cork Harbour and Rivers Lee, Curragheen and Glasheen
Preferred flood risk management option	Permanent flood walls and/or embankments to manage both tidal and fluvial risk.

Flood Risk (1% AEP fluvial/0.5% AEP tidal event)

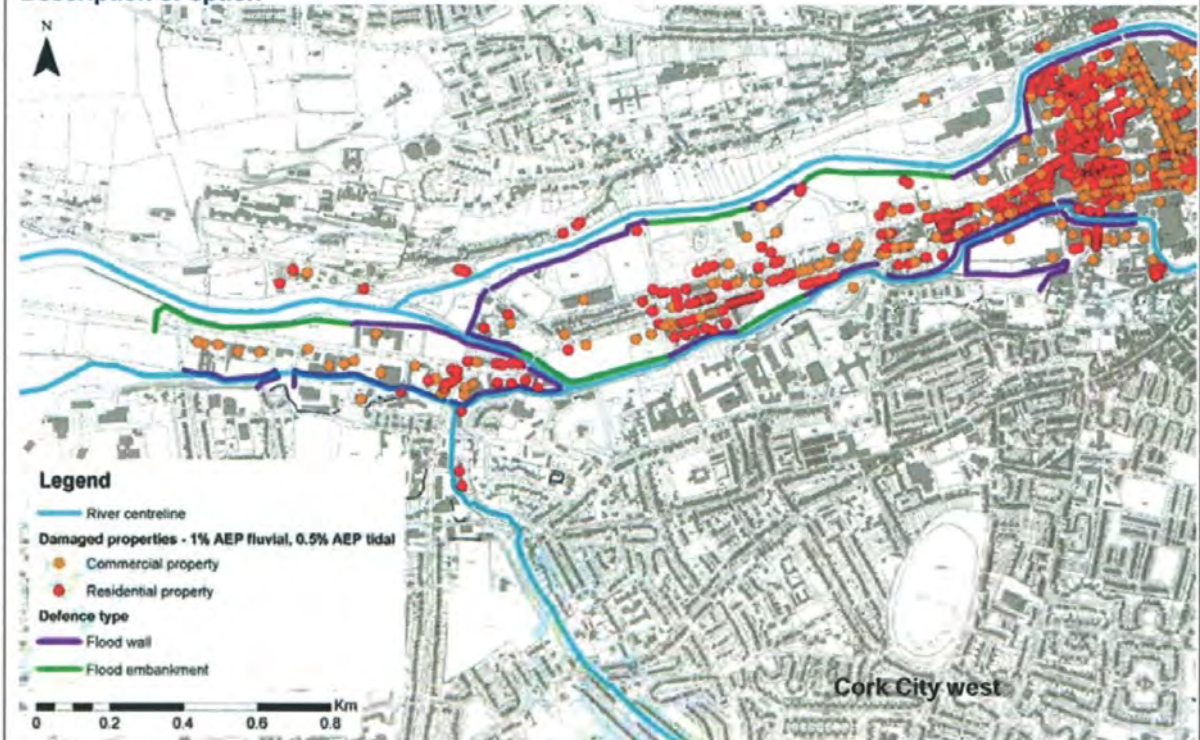
Hydraulic computer modelling indicates that there is significant flood risk in Cork City with 2143 buildings located within the combined flood extent of the estimated 0.5% AEP tidal and 1% AEP fluvial flood event. Tidal flooding predominantly results from high tides and storm surges which cause the water level within Cork Harbour and the tidal reached of the River Lee to rise higher than the normal sea level. Fluvial flooding occurs from the Lee, Curragheen and Glasheen rivers which flow through Cork City.

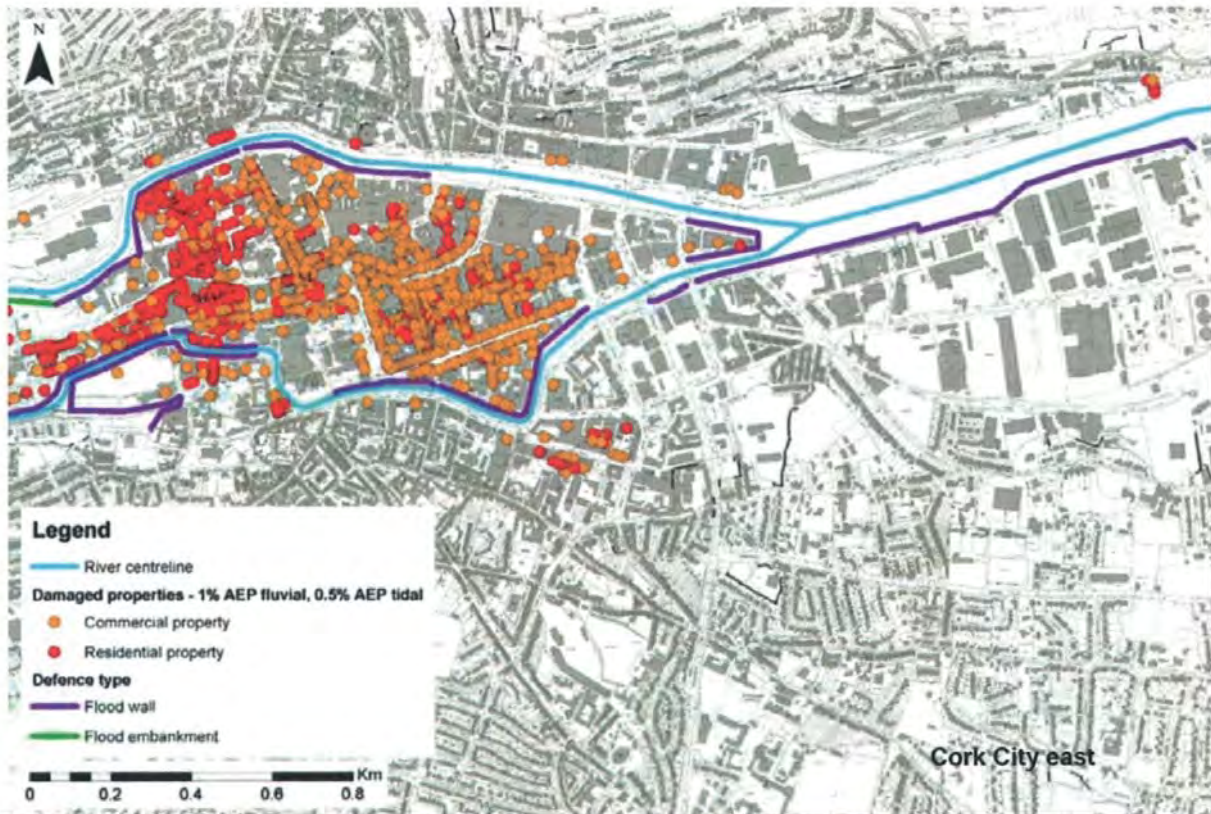
Properties		Utility assets (No.)	Transport routes (length km)	Agricultural land (hectares)	Social amenity sites (No.)
Residential (No.)	Commercial (No.)				
1078	1065	1	9.8	26	19

Environmental features and receptors

- Downstream of Cork City is Cork Harbour SPA/Ramsar site, Douglas River pNHA and Dunkettle Shore pNHA, designated their intertidal habitats and waterbird populations
- The River Lee supports salmonid species and other fisheries, with designated Salmonid Waters in the area to the west and north-west of Jack Lynch tunnel, in Tivoli on dock shore, the area to the south of Montenotte, and in Sundays Well. The river is used for angling.
- Landscape Protection Zones in Blackrock, Ballintemple, and Cork City and there is a Scenic Area along the River Lee corridor.
- 255 sites on SMR/RPS in Cork City at risk (1% AEP) and 28 ACAs in Cork City. The quay walls are of important cultural heritage value.

Description of option





This option would involve the construction of significant lengths of flood walls and embankments through Cork City. They include defences protecting the entire island area in Cork City centre with defences along both the north and south channels of the River Lee. Flood defences are also proposed along the south channel quays from French’s Quay to Albert Quay to protect areas south of the city centre. To the west of the City Centre defences are proposed along the north and south channels at Western Road, Washington Street and Lancaster Quay. Flood defences are also proposed along the downstream reaches of the Curragheen River to its confluence with the River Lee. Upstream of the Waterworks Weir, defences are proposed along the right bank of the channel to protect properties along Western Road. The maps show an indicative alignment of proposed flood defenses to provide protection to damaged properties up to the 0.5% AEP tidal event and 1% AEP fluvial event. Hydraulic computer modeling indicates that approximately 10.5km of walls are required with an average height of 0.8m above ground level. Flood embankments are required for an estimated 1.9km with an average height of 1.3 m

Hydraulic computer modeling indicates that defences raise water levels in the north and south channels of the River Lee by approximately 0.35m to the west of the City Centre (Western Road and Washington Street). The defences have a negligible impact on water levels through Cork City Centre. There would be no change to flow regime in the rivers under normal flow conditions, however there is likely to be increased conveyance under flood flows due to constriction of flows in the floodplain. This option does not impact on flood risk upstream of Cork City or on water levels in Cork Harbour.

Multi Criteria Analysis (MCA) Results

Benefit Cost Ratio (BCR)		MCA scores				
Benefits of option	€169.8million	Technical	Economic	Social	Environmental	Overall
Cost of option	€144.7million	75	197	660	-155	774
BCR	1.2					

As can be seen in Table 8.3 in the Plan, this option is in Phase 1A (2010-11) in options for Cork City. The overall MCA score provided the basis for prioritisation of options; prioritisation was then refined and agreed between key stakeholders.

SEA Conclusions and Recommendations

The SEA has identified that this option would result in the following significant (i.e. moderate or major) effects. Where negative changes are predicted relative to existing conditions, actions are recommended to mitigate these significant effects.

Effect	+ve/-ve	Mitigation
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<p>Estimated to result in reduced flood risk to local roads local roads and a stretch of railway, 959 residential properties and 1044 community properties.</p>	<p>+ve</p>	<p>None required</p>
<p>The introduction of the floodwalls would also result in a permanent change in visual amenity in this sensitive cityscape, which includes sensitive areas designated as Landscape Protection Zones.</p>	<p>-ve</p>	<p>The appearance of floodwalls would be designed appropriately to minimise visual impacts, particularly on areas of sensitive cityscape value. The use of demountable defences could be considered in any areas of particularly sensitive views/landscape (previously considered as an option but discounted on economic grounds.</p>
<p>This option will also result in minor negative effects. Details are provided in the SEA Environmental Report. Where negative changes are predicted relative to existing conditions, actions are also recommended to mitigate these minor effects.</p>		

Assessment unit		Cork City APSR			
Water bodies		Cork Harbour and Rivers Lee, Curragheen and Glasheen			
Preferred flood risk management option		Localised Works Option for fluvial and/or tidal protection.			
Flood Risk (1% AEP fluvial/0.5% AEP tidal event)					
<p>Hydraulic computer modelling indicates that there is significant flood risk in Cork City with 2143 buildings located within the combined flood extent of the estimated 0.5% AEP tidal and 1% AEP fluvial flood event. Tidal flooding predominantly results from high tides and storm surges which cause the water level within Cork Harbour and the tidal reaches of the River Lee to rise higher than the normal sea level. Fluvial flooding occurs from the Lee, Curragheen and Glasheen rivers which flow through Cork City.</p>					
Properties		Utility assets (No.)	Transport routes (length km)	Agricultural land (hectares)	Social amenity sites (No.)
Residential (No.)	Commercial (No.)				
1078	1065	1	9.8	26	19
Environmental features and receptors					
<ul style="list-style-type: none"> Downstream of Cork City is Cork Harbour SPA/Ramsar site, Douglas River pNHA, and Dunkettle Shore pNHA, designated their intertidal habitats and waterbird populations The River Lee supports salmonid species and other fisheries, with designated Salmonid Waters in the area to the west and north-west of Jack Lynch tunnel, in Tivoli on dock shore, the area to the south of Montenotte, and in Sundays Well. The river is used for angling. Landscape Protection Zones in Blackrock, Ballintemple, and Cork City and there is a Scenic Area along the River Lee corridor. 255 sites on SMR/RPS in Cork City at risk (1% AEP) and 28 ACAs in Cork City. The quay walls are of important cultural heritage value. 					
Description of option					
<p>This option can be progressed to provide a certain standard of protection against tidal and fluvial flooding.</p> <p>To defend against tidal flooding, the localised works can raise or create defences to achieve a consistent standard of protection (although not necessarily 100-year or 200-year protection) along the quays through the City, and hence significantly reduce the frequency of tidal inundation of the City. Modelling work already undertaken on this Study will inform the appropriate defence levels through the City.</p> <p>In relation to providing fluvial flood protection, the measure can act alone, or in conjunction with the further optimised dam operation option, whereby:</p> <ul style="list-style-type: none"> it would provide protection against the residual risk of discharges from the dam (and inflows from 					

tributaries downstream); and / or,

- it would enable greater discharges from the dam without flooding properties in advance of the flood peak to create further storage (i.e., providing protection to properties that would otherwise flood during moderate discharges from the dam).

The option in either form (stand-alone or integrated with dam operation), and in relation **tidal and / or fluvial** flood protection, is likely to involve a range of components, including:

- detailed structural inspection and assessment of some existing defences;
- raising of low defences, and / or infilling of gaps in defences;
- strengthening or replacing existing defences; and
- installation of temporary defences across low access points (e.g., road bridges)

Development of the option as a component of the improved dam operation option will also involve hydraulic computer model runs to simulate flooding under a range of discharges from the dam and corresponding, appropriate inflows from the tributaries downstream of the dam, against appropriate tidal levels. From this localised protection options (for properties downstream of the dam as well as in Cork City) can be assessed for a range of discharge / inflow levels, to derive the most cost-effective and robust option.

The works would be progressed on a 'no regrets' basis, to provide protection for the most vulnerable areas in the short-term, with further works undertaken as necessary to optimise the reduction in flood risk in conjunction with the amendments in dam operation.

Multi Criteria Analysis (MCA) Results A detailed MCA process for this option has not been carried out, as it would involve detailed and localised investigations that are not appropriate for a catchment-scale study. During the detailed assessment and design of the works, an MCA will be undertaken against sub-options for varying standards of protection to determine the optimum design. However, the MCA score for this option is not likely to be significantly different to the MCA score for a full defence scheme, as detailed in the previous ODS. As can be seen in Table 8.3 in the Plan, this option is in Phase 1A (2010-11) in options for Cork City.

SEA Conclusions and Recommendations

A separate assessment was not undertaken for this option as it is assumed that the impacts are likely to be similar to, and most likely less significant, than those identified for the structural flood defence scheme proposed for Cork City, as detailed in the relevant option description sheet and the SEA Environmental Report.

3

part 4

4

Screening for Appropriate Assessment

4



Screening for Appropriate Assessment of the Draft Cork City Development Plan 2015-2021

DOCUMENT CONTROL SHEET

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1 INTRODUCTION

This report comprises information in support of screening for an Appropriate Assessment in line with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora; the Planning and Development Act 2000 (as amended); and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) of the draft Cork City Development Plan 2015-2021.

1.1 PURPOSE OF THE DRAFT CORK CITY DEVELOPMENT PLAN 2015-2021

The draft Cork City Development Plan 2015-2021 sets out a vision and an overall strategy for the proper planning and sustainable development of the City for the six year period; and sets out guiding policies and objectives for the development of the city in terms of physical growth and renewal, economic, social and cultural activity and environmental protection and enhancement. The management and provision of growth in a balanced, comprehensive and spatially sustainable manner in line with regional and national planning requirements is the central aim of the draft City Development Plan.

Provision of educational, health, recreational, employment and transport facilities will be required in order to maintain the attractiveness of Cork City as a place for future development and as a place to live and do business.

1.2 LEGISLATIVE CONTEXT

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC) as codified by Directive 2009/147/EC.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (AA):

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) states:

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

These Articles mean that where the implementation of the draft Plan has potential to have a significant effect on a Natura 2000 site, the relevant Local Authority (Cork City Council) must ensure that an appropriate assessment is carried out in view of that site's conservation objectives. The draft Plan can be approved by Cork City Council only if it has been ascertained that it will not adversely affect the integrity of the Natura 2000 site(s) concerned, or in the case of a negative assessment and where there are no alternative solutions, the scheme can only be approved for reasons of overriding public interest.

1.3 STAGES OF THE APPROPRIATE ASSESSMENT

Both EU and national guidance exists in relation to Member States fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in relation to this AA screening has had regard to the following guidance:

- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government. <http://www.npws.ie>
- Managing Natura 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, referred to as MN2000, European Commission 2000; <http://ec.europa.eu>
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, referred to as the "EC Article 6 Guidance Document (EC2000); <http://ec.europa.eu>
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. <http://ec.europa.eu>

In complying with the obligations under Article 6(3) and following the EC2000 and MN2000 Guidelines, this AA has been structured in a stage by stage approach as follows:

1) Screening stage

- Description of the draft Plan;
- Identification of Natura 2000 sites potentially affected;
- Identification and description of individual and cumulative impacts likely to result from the draft Plan;
- Assessment of the significance of the impacts identified on site integrity;
- Exclusion of sites where it can be objectively concluded that there will be no significant effects; and
- Screening conclusion.

2 SCREENING

2.1 DESCRIPTION OF DRAFT PLAN

2.1.1 The Vision for Cork City

The vision for Cork City over the period of this Development Plan and beyond is to be a successful, sustainable regional capital and to achieve a high quality of life for its citizens and a robust local economy, by balancing the relationship between community, economic development and environmental quality. It will have a diverse innovative economy, will maintain its distinctive character and culture, will have a network of attractive neighbourhoods served by good quality transport and amenities and will be a place where people want to live, work, visit and invest in.

2.1.2 Strategic Goals

The vision for Cork City will be achieved through a series of seven interconnected strategic goals and related Development Plan Chapters, as outlined below:

2.1.2.1 Goal 1 Increase population and households to create a compact sustainable city

The South West Regional Planning Guidelines (SWRPG) sets an ambitious target for population growth in Cork City with a view to concentrating development and creating a compact, sustainable city. While the number of households in the city has been increasing steadily, household size has declined in line with national trends and much new development has occurred outside the city boundary, resulting in a falling population. This Plan will show that there is capacity within the city to meet the population target but acknowledges that this target will only be met by the implementation of a co-ordinated approach to the development of the greater city area, significant investment in infrastructure and an increase in the attractiveness of the city as a place to live in.

2.1.2.2 Goal 2 Achieve a higher quality of life and make the city an attractive place to live, work, visit and invest in

The first step in reversing the decline in city population will be to improve its attractiveness as a living environment. A city that's attractive and provides a good quality of life and health for residents will also be attractive for workers, investors and visitors. The approach will centre on the '5 minute city' concept focused on residential neighbourhoods served by a range of amenities, as well as an attractive city centre. This is addressed particularly in Chapters 6 Residential, and 7 Sustainable Neighbourhoods of the draft City Development Plan; while wider measures to increase the attractiveness of the city and improve quality of life are a cross cutting principle in the rest of the draft Plan. Promoting social inclusion is an integral part of this strategic goal and is also a cross cutting principle in the draft Plan.

2.1.2.3 Goal 3 Support the revitalisation of the economy

Supporting the creation of a diverse, connected, innovative economy in the city is a central goal of the draft Plan. Key to revitalisation of the city's economy is regeneration of the city centre and adjoining areas. This will increase employment opportunities and build on the city centre's role as the main retail, commercial and cultural centre for the region (see Chapter 13 of the draft Plan). The suburban areas also play a key role in the economy in particular the key development areas and district centres outlined in the Chapter 14 of the draft Plan. Overall economic strategy is addressed in Chapter 3 and Retail Strategy is addressed in Chapter 4 of the draft Plan.

2.1.2.4 Goal 4 Promote sustainable modes of transport and integration of land use and transportation

At the national level there is a mandate to reduce emissions caused by fossil-fuelled transport, to reduce use of the private car for commuting and to increase journeys by public transport, walking and cycling. These objectives are central to the land-use and transport strategies in this plan and as well as having the significant societal benefits of a better quality environment can also give health benefits and cost-savings to the individual citizen. Achieving national targets is a long term objective which will require a move to more sustainable land use planning and a significant upgrade to public transport in the greater city area – this draft Plan will set interim targets which are achievable in the shorter term. This strategic goal is particularly addressed in Chapter 5 Transportation of the draft Plan.

2.1.2.5 Goal 5 Maintain and capitalise on Cork’s unique form and character

Cork’s unique character derives from the combination of plan, topography, built fabric and the setting provided by the River Lee valley. The dramatic east west ridges create the visual setting for the city. The goal of the draft Plan is to protect and capitalise on the unique character of the city, both the character derived from the natural environment and the man-made character created by the built form, while providing opportunities for new development. New development will need to respect and reflect the dramatic topography as well as the landscape and ecology of the city. It must also respect the built heritage of the city, in particular areas of significant historic character such as the city centre, the historic north-south spine and the suburban villages. There are also opportunities for creation of new character areas in locations such as Docklands, Mahon and Blackpool and at the arrival points or gateways into the city. This strategic goal is addressed in Chapter 9 Built Heritage and Archaeology, Chapter 10 Landscape and Natural Heritage and Chapter 8 Arts, Cultural Heritage and Tourism of the draft Plan.

2.1.2.6 Goal 6 Tackle climate change through reducing energy usage, reducing emissions and mitigating against flood risk

A key aim of the draft Plan is to reduce emissions that lead to global warming through sustainable energy usage in transport and buildings. It also aims to mitigate and adapt to the challenges of climate change such as the increased risk of flooding, through the design, layout and location of appropriate land-uses. This is particularly addressed in Chapter 12 Environment and Infrastructure and Chapter 16 Development Management of the draft Plan.

2.1.2.7 Goal 7 Protect and expand the green infrastructure of the city

The draft Plan seeks to strengthen the green infrastructure of the city for recreational purposes, to promote biodiversity and to protect the landscape of the city. A diverse range of recreation and open spaces facilities, such as sports pitches, public parks, amenity spaces, indoor sports centres, and walking / cycling routes are vital to the health and wellbeing of Cork’s residents, as well as those working and visiting the city. This green infrastructure also provides a key ingredient for making the city an attractive place to live, visit and do business in. The aim of the draft Plan is to ensure that people have access to an appropriate level of provision of the right quality. The draft Plan also seeks to provide linkages and green corridors between areas of open space to support bio-diversity. These issues are addressed in Chapter 11 Sport and Recreation and Chapter 10 Landscape and Natural Heritage of the draft Plan.

2.1.3 Core Strategy for the Development of Cork City

2.1.3.1 Selected Development Scenario

The Core Strategy establishes a framework for the development of the city. It is derived from the strategic goals of the draft City Development Plan, and the population, economic, land-use and

transportation strategies of the South West Regional Planning Guidelines (SWRPG) 2010 and the Cork Area Strategic Plan (CASP) Update 2008. The need to promote social inclusion, sustainable economic development, and access to sustainable transport are central to the strategy. A number of alternative development scenarios have been considered for the city as part of the Strategic Environmental Assessment Process of the draft City Development Plan.

The Core Strategy includes the selected development scenario, which focuses development on selected Key Development/Regeneration Areas and Key Centres. The key development areas, which are mainly 'brownfield' land, will be developed for a range of uses based on strategies in the draft City Development Plan or which have been developed in Local Areas Plans. They are becoming available for development because of the decline of low density uses such as traditional industries in the Docklands and elsewhere, and their replacement by more intensive employment and residential uses. These areas will accommodate the majority of growth and development within the city and they are selected based on their potential to accommodate growth and to be served by sustainable modes of transport. Other parts of the city will develop based on their capacity to absorb development without undue impact on existing character and residential amenities. In addition to these mixed use redevelopment areas, a housing regeneration area in the North West of the city will see significant redevelopment over the period of the draft Plan.

As well as having potential for development some of these key development areas are also major approaches to the city and, if developed to a high quality urban design standard, have the capacity to greatly improve the image of the city at the major city approaches by road and also by rail and air. Strategies for these areas will therefore place considerable emphasis on design quality.

The Key Centres complement the City Centre and consist of a series of District Centres around the city which traditionally were mainly retail centres but the strategy sees them evolving into mixed use urban centres, providing a range of services and employment to their local population. Objectives for the Key Centres are outlined in Chapter 14 of the draft Plan. The retail strategy for the city and the wider area is set out in Chapter 4 of the draft Plan and is based on providing for the needs of the expanded population envisaged in CASP and the RPGs, having had regard to the Retail Planning Guidelines.

The Core Strategy includes an integrated transport strategy with particular focus on public transport, walking and cycling, with particular emphasis on providing sustainable transport choices to serve the key development areas, and this is outlined in Chapter 5 of the draft Plan.

2.1.3.2 Development Strategy

The areas which will be the main focus of new development in the city over the period of the draft Plan and beyond are outlined below. These areas are mainly 'brownfield' sites which can be redeveloped to enable the city to provide for the needs of the existing and expanded population as well as facilitating the implementation of the CASP updated economic strategy. These areas will act as key development and employment nodes in the city. They will meet sustainable development objectives through the provision of:

- A mixture of residential and non-residential development;
- Economic activity and employment provision;
- Higher density development, where appropriate;
- Potential for high quality public transport provision;
- Good quality environment and services; and
- High quality urban design.

The strategy for each area is set out in the plan in Chapters 13 and 14 of the draft Plan. In most cases Local Area Plans or Regeneration plans have been prepared or are envisaged. The regeneration of the City Centre and the development of a new urban quarter in Docklands are the key development opportunities for the city. However, it is necessary to have a range of other development opportunities to allow choice in location and to facilitate a range of development types. In addition to these key development areas early opportunities for development are likely to come on stream on infill sites in other locations in the suburbs, some of which may already have planning permission.

City Centre

A healthy City Centre is essential for the city region as a whole. There is considerable potential for further expansion in the economy of the City Centre through new developments in the retail core area and at the edge of the City Centre. A Cork City Centre Strategy (2013) has been prepared and this has informed Development Plan policy for the future development of the City Centre. The transition area to the east between the City Centre and Docklands has been identified as having particular potential for expansion of offices and other activities. The City Centre also has capacity for further expansion in residential and tourism functions, particularly in the Shandon and South Parish areas. The strategy is for the City Centre to continue as the economic, social, and cultural heart of the city, supported by further public realm improvements, protection and enhancement of its existing character and upgrade in access through investment in public transport, walking and cycling. This is described in more detail in Chapter 13 of the draft Plan.

Docklands

The redevelopment of the North and South Docks as a major new mixed use quarter is the most significant sustainable development opportunity for the City Region. It has an attractive waterfront location adjoining the city centre which can be well served by public transport. The overall strategy for Docklands is set out in Chapter 13 of the draft Plan and the South Docks Local Area Plan 2008 (SDLAP) contains the detailed planning strategy for the South Docks area. The SDLAP runs until 2018 and will be reviewed during the draft City Development Plan period. The delivery of Docklands development is critical to the city achieving its population and employment targets, and to the implementation of the CASP update strategy as a whole. The provision of the appropriate transport and other infrastructure in a timely fashion is essential to facilitate the development of Docklands as envisaged. It is envisaged that the western end of Docklands adjoining the city centre has most potential for growth over the period of the draft Plan, while other areas may develop over a longer time period.

Mahon

The Mahon area has seen significant new development since the last Development Plan with new residential developments in Jacobs Island and Eden, retail development at Mahon Point, and large scale office and technology developments in Loughmahon Technology Park. There is however potential for further development in the area through the development of remaining "greenfield" land and through the intensification of existing sites, in particular areas currently in use for industrial and technology sites. There is a need for a balance between residential and employment uses and upgraded public transport provision is also required. The detailed strategy for the area is contained in the Mahon Local Area Plan 2014 (see Chapter 14 of the draft Plan for further details).

Blackpool

The Blackpool Valley, Kilbarry and the Old Whitechurch Road area, have opportunities for both 'brownfield' and 'greenfield' development for a range of uses. There is potential for mixed use development in Blackpool itself and in the Sunbeam Complex to the North, while there are opportunities for residential development at Old Whitechurch Road and technology/office based industry development at Kilbarry. The opening of the new Blackpool commuter rail station will improve

access to the area. The Strategy for the area is detailed in the North Blackpool Local Area Plan 2011 (see Chapter 14 of the draft Plan for further details).

North-West Regeneration

A major housing regeneration initiative is underway in the north-west of the city focussed on the Knocknaheeny and Hollyhill areas as set out in the North-West Regeneration Masterplan 2011. When complete it will yield up to 600 residential units (a net increase of over 200 units), both social housing and private housing, and associated recreational and community facilities and services, as well as employment opportunities.

Tivoli

The planned relocation of the Port of Cork container operations from Tivoli creates the potential to consider the future development of this area for alternative more intensive uses. It is envisaged that the development of this area will follow on after significant progress has been made in the development of the North and South Docks. A local area plan will be prepared to determine the appropriate mix of uses, extent and timing of development and access over the course of this development plan (see Chapter 14 of the draft Plan). The timing of the preparation of a local area plan will be linked to the programme for relocation and the likely timetable for lands to come available for redevelopment.

Tramore Road

There is some potential for redevelopment of this area for a wider mix of uses which could help support the development of a high quality public transport route from the Northside through the City Centre to the airport. It currently houses low density employment uses and performs a suitable location for such uses in the city, however some land in the area may be surplus to requirements for such purposes and its potential for other uses, such as residential uses, will be examined over the period of the draft City Development Plan by a Local Area Plan or other suitable mechanism. The strategy for this area is considered in more detail in chapter 14 of the draft Plan.

Key Suburban Centres

The key suburban centres are Mahon, Douglas and Wilton District Centres on the south side, and Blackpool and Ballyvolane District Centres on the north side, with potential for a further District Centre in Hollyhill. While retailing to serve the local market will be the primary function of these centres the objective is that these centres would over time evolve into mixed use urban centres with good public transport access and high quality urban design. Objectives for these centres are outlined in Chapters 4 and 14 and the draft Plan.

2.1.4 Environmental Management

Chapter 12 outlines Cork City Council's policies and objectives for providing public infrastructure and managing environmental issues.

It should also be noted that Cork City is not directly responsible for the provision of many aspects of environmental infrastructure, but rather works in conjunction with Uisce Éireann, ESB Networks, Eirgrid, Cork County Council, and various regional authorities.

The strategic environmental infrastructure objectives (**Objective 12.1**) are as follows:

- a. Promote sustainable settlement and transportation strategies in response to climate change, including measures to reduce energy demand; to reduce anthropogenic greenhouse gas emissions; and to address the necessity for adaptation to climate change, in particular, having regard to location, layout and design of new development.
- b. Ensure sufficient infrastructure to serve population targets set out in the Core Strategy (Chapter 2).
- c. Maximise efficiencies in respect of infrastructure provided.
- d. Improve the environmental quality of the city's rivers and surface water bodies; maintain the quality of ground water, and generally protect existing and potential water resources in accordance with EU directives.
- e. To ensure an adequate, sustainable and economic supply of good quality water for domestic, commercial and industrial needs for the lifetime of the Plan (subject to compliance with Article 6 of the Habitats Directive)
- f. To provide adequate wastewater treatment facilities to serve the existing and future population of the city and to ensure that adequate and appropriate wastewater infrastructure is in place prior to the occupations of new development. 21
- g. To ensure that development would not have an unacceptable impact on water quality and quantity including surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters.
- h. Follow a waste hierarchy that starts with prevention, preparing for re-use, recycling, other recovery (e.g. energy recovery) and finally disposal (including landfill).
- i. Restrict landuse or require appropriate design as necessary to reduce risk of hazard, including those arising from flooding and controlled substances in industrial processes.
- j. Improve air quality and maintain acceptable levels of light and noise pollution in the city in accordance with requirements set out in European Union, National and Regional policy.
- k. Ensure adequate ICT infrastructure to develop Cork as a "Smart City".
- l. Improve the energy efficiency of new and existing buildings and promote renewable energy use in the city's building stock and infrastructure.

Furthermore, the Council is committed to protecting its natural heritage, in particular designated areas and protected species, and so it is an objective of the Council to:

Objective 10.7 Designated Areas and Protected Species

'To ensure that any plan/project and any associated works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening to ensure there are no likely significant effects on the integrity (defined by the structure and function) of any Natura 2000 site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied. When a plan/project is likely to have a significant effect on a Natura 2000 site or there is uncertainty with

regard to effects, it shall be subject to Appropriate Assessment. The plan/project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Article 6(3) and 6(4) of the EU Habitats Directive.'

In addition, the Council recognises that areas of nature conservation value are not confined to designated sites and to this end have included specific objectives (e.g. Objective 10.7, 10.8, 10.9, 10.10, 10.13) to ensure that not only are Natura 2000 Sites protected and enhanced, but that the ecological corridors connected to Natura 2000 Sites are also managed appropriately.

2.2 EXISTING ENVIRONMENT OF THE DRAFT CORK CITY DEVELOPMENT PLAN

2.2.1 Water Quality

The Water Framework Directive requires the implementation of measures to prevent deterioration of the status of all waters (i.e. rivers, ground waters, estuaries and coasts) and ensure that all waters remain unpolluted. It specifically sets an objective of restoring all waters to “good” status (as defined in the Directive) by 2021. In order to implement the Directive, Ireland has been divided into eight districts. Cork City and Harbour fall within the South Western River Basin District; a strategy for the area is set out in the *South Western River Basin Management Plan (2009-2015)*.

The status of the five rivers flowing through Cork’s administrative area is set out in **Table 2.1**. Cork City also impacts on Cork Harbour, as any pollutant streams emanating in the city reach the Harbour via the River Lee.

Table 2.1: Rivers Flowing Through Corks’s Administrative Area

Name	Current Status
Lee (Sunday’s Well to Lough Mahon)	Poor
Lee (Western boundary to Sunday’s Well)	Moderate
Tramore	Moderate
Curragheen	Poor
Bride	Moderate
Bride (west)	Moderate
Glasheen	n/a

The City Council is committed to improving the water quality of the rivers within and adjacent to the City’s administrative area, and this is clearly recognised in the strategic environmental objectives, **Objective 12.1** – Improve the environmental quality of the city’s rivers and surface water bodies;

maintain the quality of ground water, and generally protect existing and potential water resources in accordance with EU directives.¹

Further, specific measures to ensure the ecological value of these waterways are protected and enhanced in a co-ordinated manner are included on **Objective 10.9 – Rivers and Waterway Corridors**, which states – To protect and maintain the integrity and maximise the potential of the natural heritage and biodiversity value of the River Lee and its associated watercourses;

To promote an integrated approach to the future development of the River Lee so that it includes all aspects of use e.g. recreation, maritime history and economic factors; and

Development proposals in river corridors will be considered favourably providing they, where practical:

- Dedicate a minimum of 10m from the waters edge in channelized rivers for amenity, biodiversity and walkway purposes;
- Dedicate a minimum of 15m from the top of the bank in non- channelized rivers for amenity, biodiversity and walkway purposes
- Preserve the biodiversity value of the site subject to Ecological Assessment by a suitably qualified Ecologist
- Do not involve landfilling, diverting, culverting or realignment of river and stream corridors;
- Do not have a negative effect on the distinctive character and appearance of the waterway corridor and the specific characteristics and landscape elements of the individual site and its context.

Groundwater in and around Cork City's administrative area has been deemed to have "good" status per the terms of the Water Framework Directive. Maintaining this status will require guarding against over-abstraction and preventing contamination. Planning applications / abstraction proposals are currently assessed on a case-by-case basis. The Council is committed to protecting the groundwater in and around Cork City's administrative area, and to this end have committed to preparing a groundwater protection strategy:

Objective 12.4 Cork City Council will prepare a groundwater protection strategy, which will include policies related to abstraction and to the disposal of post-geothermal "reject water."

2.2.2 Water supply

Cork City has two sources of drinking water. The Lee Road Waterworks, which extracts water from the River Lee, provides around 70% of the city's total water supply. It primarily serves the city centre

¹The Water Framework Directive (2000/60/EC) and the European Communities (Water Policy) Regulations 2003 (as amended); European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended); European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended); South Western River Basin Management Plan 2009-2015 or any updated version of this document; Pollution Reduction Programmes for Designated Shellfish Areas; Groundwater Protection Schemes, Urban Wastewater Treatment Directive and Urban Waste Water Treatment Regulations 2001 (as amended).

and northern suburbs. The eastern, western, and southern suburbs are served by the Cork Harbour and City Water Supply Scheme, which extracts water from the Inniscarra Reservoir. This scheme is jointly owned by the City and County Councils. The construction of a new treatment plant at Lee Road is currently underway, and two new interconnectors further connecting the two schemes will help ensure security of supply.

Water supply capacity will impose no constraints on development in Cork City. The two schemes have adequate capacity to serve metropolitan Cork through 2071 with regard to population forecasts, treatment capacity, abstraction limits, and a reduction in “unaccounted for water” (i.e. primarily leakage).

There are no material issues in respect to drinking water quality, which is in accordance with EU drinking water regulations.

2.2.3 Wastewater Facilities

Cork City is served by two main sewerage schemes. Cork Main Drainage (completed 2004) serves as the primary scheme, while the older Tramore Valley scheme serves the south eastern portion of the city. The waste water treatment plant for Cork City is provided at Carrigrennan, to the east of the City. Based on current usage rates the plant has adequate capacity to serve the city region through to 2020 with regard to population forecasts. A detailed capacity analysis is underway (2013), and the existing treatment plant will be expanded on a modular basis during the lifetime of the Development Plan if required. It is anticipated that some capacity may be regained through addressing infiltration (i.e. the leakage of groundwater into foul or combined sewers) and inflow (storm water connection to foul sewers). Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive are also under assessment (2013). There are no plans for the construction of any major infrastructure within the City administrative area through 2021.

2.2.4 Surface Water Management

The majority of development in Cork City currently uses traditional methods of handling rainwater. Runoff from impermeable surfaces (such as roofs, roads, and carparks) is collected and redirected to drainage systems. This approach can cause a number of problems. Drainage systems can become overloaded and contribute to flooding and/ or result in higher waste water treatment costs. Rivers can become polluted by contaminants (such as oil from carparks) contained in the runoff. A rivers' ability to recharge naturally is also affected.

Sustainable Urban Drainage Systems (“SUDS”) is an alternative approach that helps alleviate these problems by mimicking natural drainage systems. During the lifetime of the draft Development Plan, Cork City will prepare a storm water management plan to include specific development standards for Cork City. In the interim, developments shall comply with criteria set out in *Irish SuDS: Guidance and Tools*.

The Council recognises the significance of storm water management and have identified a number of objectives specific to this:

Objective 12.2: Cork City Council will prepare a Storm Water Management Plan for the City.

Objective 12.3: Planning applications shall include proposals for managing stormwater in accordance with details set out at www.irishsuds.com (unless superseded by policies and standards set out in the adopted “Storm Water Management Plan per Objective 12.2) and shall minimise and limit the extent of hard surfacing and paving.

Climate change will result in rising sea levels and more frequent and more severe rainfall events and will significantly increase the risk of flooding and coastal erosion. Cork City has experienced a number of flood events in recent years, and is at particular risk of flooding from the River Lee, its tributaries and Cork Harbour. As the risk to property is increasing, the need to incorporate flood risk assessment and management into the land-use planning process is becoming more apparent.

National policies in respect of flood risk are set out in The Planning System and Flood Risk Management: Guidelines for Planning Authorities (2009). In considering development proposals, the Guidelines advocate the Sequential approach, namely, to avoid development in areas at risk of flooding; and if this is not possible, to consider substituting the land-use to one less vulnerable to flooding; and only where avoidance and substitution is not possible to consider mitigation measures and management of the flood risks.

Secondly, proposals for vulnerable types of development in areas of moderate and high flood risk should be examined against the criteria set out in the Justification Test with Flood Risk Assessment, in order to demonstrate an overriding strategic planning need and that flood risk can be adequately managed without causing adverse impacts elsewhere.

The Council recognise the significance of flooding within and adjacent to the City and have identified a number of objectives specific to this:

Objective 12.9: Cork City Council shall have regard to “The Planning System and Flood Risk Management: Guidelines for Planning Authorities, 2009” in the preparation of land-use plans and determining planning applications.

Objective 12.10: To restrict development in identified flood risk areas, in particular, floodplains, except where the applicant satisfies the Justification Test as outlined in “The Planning System and Flood Risk Management: Guidelines for Planning Authorities 2009.

Objective 12.11: To protect, enhance and manage the City’s floodplains, wetlands and coastal habitat areas that are subject to flooding as vital ‘green infrastructure’ which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reduce the need to provide flood defence infrastructures.

Lee Catchment Flood Risk Assessment and Management Study, (Lee CFRAMS)

The Draft Catchment Flood Risk Management Plan was completed in December 2011. However, the “National Preliminary Flood Risk Assessment (PFRA) – Designation of the Areas for Further Assessment” Report, (March 2012) identifies Cork City as an Area for Further Assessment and as such Cork City is subject to further assessment through the CFRAM study. The target date for completion is September 2015.

In the interim, the content and recommendations of the Draft Lee CFRAMS will be integrated into the Draft City Development Plan and revised accordingly, when the updated study maps and recommendations are made available. The following objective is included in the draft Plan:

Objective 12.8: Cork City Council shall have regard to the recommendations of the Draft Lee Catchment Flood Risk Assessment and Management Plan and to incorporate the recommendations of the South West CFRMP / Lee CFRMP and the Lower Lee Flood Relief Scheme into the Cork City Development Plan when available.

2.2.5 Natural Heritage

Wildlife habitats occur throughout the city with many mammals, birds, invertebrates, trees and plants having adapted to live alongside humans in the urban environment.

The River Lee and its associated waterways support an immense variety of wildlife while also providing a corridor for the movement of species between the surrounding countryside and urban areas.

The built environment provides habitats for a variety of species of flowering plants, mosses, and lichens and various species of invertebrates, birds and bats. Other important wildlife areas in the urban environment include trees, parks, recreational and other green spaces, gardens, and graveyards, all of which play a significant role in supporting the local biodiversity.

The City Council is committed to protecting and conserving the biodiversity of Cork City with the inclusion of a number of objectives within the draft Plan, with the overall aim:

To protect, promote and conserve Cork City's natural heritage and biodiversity.

The overall Natural Heritage and Biodiversity Objectives include:

- To protect, enhance and conserve designated areas of natural heritage, biodiversity and protected species;
- To ensure that sites and species of natural heritage and biodiversity importance in non-designated areas are identified, conserved and managed appropriately;
- To protect and maintain the integrity and maximise the potential of the River Lee and its associated watercourses;
- To protect and enhance the city's trees and urban woodlands;
- To promote best practice guidelines for management, control and eradication of invasive alien species; and
- To acknowledge and adhere to all relevant biodiversity and natural heritage legislation.

Cork City Biodiversity Action Plan (2009-2014)

The *National Bio-diversity Plan* (2002) underlines the principle that environmental concerns should be integrated into all relevant sectors stating that "Environmental policy is now based on the internationally recognised principle of sustainability, 'the precautionary principle', the integration of environmental considerations into all areas, 'the polluter pays principle' and the principle of shared responsibility for environmental protection by public bodies, private enterprise and the general public." This implies basing policies and decisions on ecological principles, which recognise the conservation, enhancement and sustainable use of biological diversity in Ireland and contribute to conservation and sustainable use of bio-diversity globally.

The *National Biodiversity Plan* sets out the strategy for conserving and enhancing Ireland's biodiversity through a series of actions. At a local level the plan highlights the key role that local Authorities can

play in promoting local natural heritage and requires each Local Authority to prepare a Biodiversity Plan in consultation with relevant stakeholders.

The *Cork City Biodiversity Action Plan (2009-2014)*:

- Provides a framework for the conservation of biodiversity and coordinates new and existing conservation initiatives;
- Translates international and national biodiversity obligations into effective local actions;
- Assists sustainable planning and development and provides a framework that is complementary to the Local Development Plan and Local Heritage Plan;
- Aims to raise public awareness and stimulate involvement in the conservation of biodiversity; and
- Collects and collates information on local biodiversity.

The City Council is committed to protecting the biodiversity and natural heritage of the City and to this end have included specific objections to ensure that not only are Natura 2000 Sites protected and enhanced, but that the ecological corridors connected to Natura 2000 Sites are also managed appropriately (e.g. **Objectives 10.7, 10.8, 10.9, 10.10, 10.12, 10.13**).

2.3 BRIEF DESCRIPTION OF THE NATURA 2000 SITES

This section of the screening process describes the Natura 2000 sites within a 15km radius of the draft Plan boundary. A 15km buffer zone has been chosen as a precautionary measure, to ensure that all potentially affected Natura 2000 sites are included in the screening process. This is in line with, *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*, produced by the Department of the Environment, Heritage and Local Government.

Table 2.2 lists the SACs and **Table 2.3** lists the SPAs that are within 15km of the Plan boundary, and **Figure 2.1** shows their locations in relation to the draft Cork City Development Plan 2015-2021.

The integrity of a Natura 2000 site (referred to in Article 6.3 of the EU Habitats Directive) is determined based on the conservation status of the qualifying features of the SAC or SPA. The qualifying features for each site have been obtained through a review of the Conservation Objectives available from the NPWS.

Table 2.2: SACs within 15km of the Draft Cork City Development Plan 2015-2021

Site Code	Site Name	Qualifying Habitats	Conservation Status ¹	Qualifying Species	Conservation Status ¹
001058	Great Island Channel SAC	Mudflats and sandflats not covered by seawater at low tide [1140]; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330];	Good Good	-	-
002170	Blackwater River (Cork/Waterford) SAC	Estuaries [1130]; Mudflats and sandflats not covered by seawater at low tide [1140]; Perennial vegetation of stony banks [1220]; Salicornia and other annuals colonizing mud and sand [1310]; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]; Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]; Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]; Old sessile oak woods with	Good Good Good Good Good Excellent Poor	Freshwater pearl mussel (<i>Margaritifera margaritifera</i>) [1029]; White-clawed crayfish (<i>Austropotamobius pallipes</i>) [1092]; Sea lamprey (<i>Petromyzon marinus</i>) [1095]; Brook lamprey (<i>Lampetra planeri</i>) [1096]; River lamprey (<i>Lampetra fluviatilis</i>) [1099]; Twaite shad (<i>Alosa fallax fallax</i>) [1103]; Salmon (<i>Salmo salar</i>) [1106]; Otter (<i>Lutra lutra</i>) [1355]; and Killarney fern (<i>Trichomanes speciosum</i>) [1421].	Good Good Excellent Excellent Good Good Good Excellent Good

Site Code	Site Name	Qualifying Habitats	Conservation Status ¹	Qualifying Species	Conservation Status ¹
		<i>Ilex</i> and <i>Blechnum</i> in British Isles [91A0]; Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0]; and <i>Taxus baccata</i> woods of the British Isles [91J0].	Excellent Poor		

1 = Information on conservation status for each habitat and species within the SACs and SPAs was extracted from the Natura 2000 Standard Data Forms (in December 2013) on the NPWS website <http://www.npws.ie/protectedsites/>. This information provides specific details on the conservation status of each habitat and species within the SAC and SPA rather than status of the habitats which is available in The Status of EU Protected Habitats and Species in Ireland.

Table 2.3: SPAs within 15km of the Draft Cork City Development Plan 2015-2021

Site Code	Site Name	Qualifying Feature Annex I species	Conservation Status
004030	Cork Harbour SPA	To maintain or restore the favourable conservation conditions of the bird species listed as Special Conservation Interests for this SPA: Little Grebe (<i>Tachybaptus ruficollis</i>) [A004]; Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]; Cormorant (<i>Phalacrocorax carbo</i>) [A017]; Grey Heron (<i>Ardea cinerea</i>) [A028]; Shelduck (<i>Tadorna tadorna</i>) [A048];	N/A Excellent Excellent N/A Excellent

Site Code	Site Name	Qualifying Feature Annex I species	Conservation Status
		Wigeon (<i>Anas penelope</i>) [A050];	Excellent
		Teal (<i>Anas crecca</i>) [A052];	Excellent
		Pintail (<i>Anas acuta</i>) [A054];	Excellent
		Shoveler (<i>Anas clypeata</i>) [A056];	Excellent
		Red-breasted Merganser (<i>Mergus serrator</i>) [A069];	Excellent
		Oystercatcher (<i>Haematopus ostralegus</i>) [A130];	Excellent
		Golden Plover (<i>Pluvialis apricaria</i>) [A140];	Good
		Grey Plover (<i>Pluvialis squatarola</i>) [A141];	Excellent
		Lapwing (<i>Vanellus vanellus</i>) [A142];	Excellent
		Dunlin (<i>Calidris alpina</i>) [A149];	Excellent
		Black-tailed Godwit (<i>Limosa limosa</i>) [A156];	Excellent
		Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157];	Good
		Curlew (<i>Numenius arquata</i>) [A160];	Excellent
		Redshank (<i>Tringa totanus</i>) [A162];	Excellent
		Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179];	Excellent
		Common Gull (<i>Larus canus</i>) [A182];	Excellent
		Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183];	Excellent
		Common Tern (<i>Sterna hirundo</i>) [A193]; and	Good
		Wetlands & Waterbirds [A999].	N/A

2.4 IDENTIFICATION OF POTENTIAL IMPACTS

The following potential impacts on Natura 2000 Sites owing to the implementation of the draft Plan have been identified.

2.4.1 Direct loss of Habitats

The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in the direct loss of habitats which support Qualifying Interests of Cork Harbour SPA, located on the eastern boundary of the Cork's administrative area, which would likely constitute a significant negative effect. As can be seen on the Land Use Zoning in the draft Plan, no zonings for new development are within the boundaries of Cork Harbour SPA.

2.4.2 Reduction in Water Quality

The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in a reduction in the water quality of the receiving waters and Cork Harbour through an increase in the waste water discharged. A reduction in water quality could have a negative impact on protected species within Cork Harbour SPA.

The waste water treatment plant for Cork City is provided at Carrigrennan, to the east of the City. Based on current usage rates the plant has adequate capacity to serve the city region through to 2020 with regard to population forecasts. A detailed capacity analysis is underway (2013), and the existing treatment plant will be expanded on a modular basis during the lifetime of the Development Plan if required. It is anticipated that some capacity may be regained through addressing infiltration (i.e. the leakage of groundwater into foul or combined sewers) and inflow (storm water connection to foul sewers). Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive are also under assessment (2013). There are no plans for the construction of any major infrastructure within the City administrative area through 2021.

The wastewaters discharged from the Cork City WwTP is licenced by the EPA under the Waste Water Discharge (Authorisation) Regulations, 2007. It is noted that in 2011 the Carrigrennan WwTP "*failed to meet the overall requirements of the Urban Waste Water Treatment Regulations 2001*".

The status under the WFD of the five rivers flowing through Cork's administrative area is set out in **Table 2.1**. Cork City also impacts on Cork Harbour, as any pollutant streams emanating in the city reach the Harbour via the River Lee.

Additional hard surfaces also create the potential for an increase in surface water run-off into these rivers, with related negative impact on water quality.

Any construction activities have the potential to release suspended solids and chemical pollutants into these watercourses and Cork Harbour, which could impact negatively on water quality.

Any negative impact on the five rivers flowing through Cork's administrative area has the potential to impact on Cork Harbour SPA and Great Island Channel SAC.

2.4.3 Damage / Degradation of Habitats and Disturbance to Species

The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in the disturbance to species listed as

Qualifying Interests of Cork Harbour SPA. Areas where land has been zoned are close to the Cork Harbour SPA. An increase in human population and associated infrastructure can lead to negative effects on habitats and species due to potential increases in public visitations to the Natura 2000 site and an increase in recreational pressures.

The quantification of this impact is extremely difficult; however, given the fact that any increase in site usage will be gradual over a period of time, it is unlikely to constitute a significant adverse effect. Site monitoring by the NPWS should identify any pressures from overuse and recommend appropriate measures.

2.4.4 Reduction in Water Flows

Water supply capacity will impose no constraints on development in Cork City. The two schemes have adequate capacity to serve metropolitan Cork through 2071 with regard to population forecasts, treatment capacity, abstraction limits, and a reduction in “unaccounted for water” (i.e. primarily leakage). The construction of new residential and other developments to cater for an increasing population within Cork’s administrative area will not result in an increase in the water abstractions from the River Lee or Cork Harbour, and therefore, will not impact on the habitats and species for which Cork Harbour SPA and Great Island Channel SAC are designated.

2.4.5 Spread of Alien Invasive Species

Construction works related to the construction of new residential and other developments for an increasing population within Cork City has the potential to result in the spread of alien invasive species (both flora and fauna) into Natura 2000 sites. This has the potential to impact negatively on the habitats and species for which Natura 2000 sites have been designated.

2.5 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

2.5.1 Direct, Indirect or Secondary Impacts

Tables 2.1 and **2.2** list the Natura 2000 sites within 15 km of the draft Plan area. There are three sites in all, two SACs and one SPA.

It is the overall aim of the City Council to protect, promote and conserve Cork City’s natural heritage and biodiversity. The Council is committed to protecting and enhancing sites designated or proposed for designation under European and national legislation, and have specific policies relating to their protection and maintenance, as appropriate (e.g. **Objective 10.7**). In particular, it is an objective of the Council to ensure that all plans and projects which could, either individually or in combination with other plans and projects have significant effects on a Natura 2000 site(s) will be subject to Appropriate Assessment Screening (**Objective 10.7**). Further, it is an objective of the Council to work with local communities, groups, landowners, National Parks and Wildlife Service and other relevant parties to identify, protect, manage and, where appropriate, enhance sites of biodiversity value (**Objective 10.8**).

Cork Harbour SPA is located on the eastern boundary of Cork’s administrative area, which Great Island Channel SAC is located approximately 4 km to the east of Cork’s administrative area. The significance of this SPA and SAC is fully recognised by the council and it is committed to protecting the SPA and SAC together with all other ecological corridors and areas of natural heritage within and adjacent to Cork’s administrative area. There are no areas of the SPA zoned for developmental purposes, therefore, the draft Cork City Development Plan will not result in direct impacts on the SPA or SAC through land take or fragmentation of habitats.

Increased development and construction of residential and commercial units will lead to increased demand for potable water and increased pressure on existing and future waste water treatment systems. Water supply capacity will impose no constraints on development in Cork City. The two supply schemes have adequate capacity to serve metropolitan Cork through 2071 with regard to population forecasts, treatment capacity and abstraction limits.

The Council is committed to ensuring the implementation of the EU Urban Waste Water Directive and its transposition into Irish legislation. To this regard there are a number of objectives within the draft Plan which focus on wastewater and its appropriate treatment (**Objective 12.1**). The waste water treatment plant for Cork City is provided at Carrigrennan, to the east of the City. Based on current usage rates the plant has adequate capacity to serve the city region through 2020 with regard to population forecasts. Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive are also under assessment (2013). There are no plans for the construction of any major infrastructure within the City administrative area through to 2021.

It is an objective of the Council (**Objective 12.1**) to provide adequate wastewater treatment facilities to serve the existing and future population of the City, subject to complying with the Water Framework Directive, the South Western River Basin Management Plan 2009-2015 or any updated version of this document, Pollution Reduction Programmes for Designated Shellfish Areas, the Urban Waste Water Treatment Directive and the Habitats Directive.

Such wastewater objectives will ensure that sewage will be treated to an appropriate standard such that it will not impact on receiving waters, and therefore, will not result in any indirect impacts on the Natura 2000 sites.

There are a number of other watercourses within and adjacent to the draft Plan area which drain into the River Lee and Cork Harbour. The Council is committed to protecting these watercourses and to this regard there are a number of objectives within the draft Plan which focus on maintaining and protecting the natural character, ecological value and water quality of these watercourses (e.g. **Objective 10.9**). Development proposals will be required to provide a buffer zone having a minimum of 10-15m each side of the waters edge. These watercourses will require an Ecological Assessment to be completed on all development proposals in their vicinity (**Objective 10.9**).

The management of surface and storm water is important so as to avoid increased flood or pollution risk in the storm water network, rivers and streams. New development can exacerbate the problems of flooding by accelerating and increasing surface water run-off. The Council will require the application of Sustainable (urban) Drainage Systems (SuDS) in new developments and have identified specific objectives in this regard (e.g. **Objective 12.2, 12.3, 12.8, 12.9, 12.10, 12.11**). Reducing the extent of hard surfacing and using permeable pavements will aid in minimising the risk of flooding and contamination, and protect the environmental and water resources.

Further, it is the aim of the Council to ensure that the EU Water Framework Directive is implemented. To this end the Council has a strategic environmental objective (**Objective 12.1**) to protect existing and potential water resources in accordance with:

- The Water Framework Directive (2000/60/EC) and the European Communities (Water Policy) Regulations 2003 (as amended);
- European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended);
- European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended);
- South Western River Basin Management Plan 2009-2015 or any updated version of this document;
- Pollution Reduction Programmes for Designated Shellfish Areas;

- Groundwater Protection Schemes;
- Urban Waste Water Treatment Directive and Urban Waste Water Treatment Regulations 2001 (as amended); and
- Any other protection plans for water supply sources or updates to the above regulations.

This objective is to ensure that development would not have an unacceptable impact on water quality and quantity, which includes surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters.

Such water quality objectives will ensure that the River Lee, its tributaries, Cork Harbour and the SPA and Great Island Channel SAC are protected, and therefore, will not result in any indirect impacts on the Natura 2000 sites.

Invasive non native plant and animal species can represent a major threat to local, regional and national bio-diversity. They can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. The Council is committed (e.g. **Objective 10.12**) to controlling invasive species, which includes the implementation of measures to control and prevent the introduction and establishment of ecologically damaging alien invasive species. Preventative measures include ensuring that good site hygiene practices are employed for the movement of materials into, out of and around the site and ensuring that imported soil is free of seeds and rhizomes of key invasive plant species.

The Blackwater River (Cork/Waterford) SAC are a sufficient distance (13km) from the draft Plan area and has no connecting pathways (i.e. rivers or streams) to be impacted by the present or future development of the draft Cork City Development Plan area.

This AA has examined each objective within the draft Cork City Development Plan and has determined that there is no potential to impact on the Cork Harbour SPA or the Great Island Channel SAC, in fact, there are a number of objectives which would result in an overall positive impact on Biodiversity, Flora and Fauna within and adjacent to the Plan area, including the identified Natura 2000 sites.

2.5.2 Cumulative and In Combination Impacts

This step aims to identify at this early stage any possible significant in-combination or cumulative effects/impacts of the proposed draft Plan with other such Plans and projects on the Natura 2000 network. Other Plans and projects specific to the relevant Natura 2000 sites are the following:

- Regional Planning Guidelines for the South-West Region 2010-2022;
- South-Western River Basin Management Plan 2009-2015;
- Cork City Biodiversity Plan 2009-2014;
- Draft Cork County Development Plan 2015-2021;
- Cork Area Strategic Plan Update 2008;
- Draft Mahon Local Area Plan 2014-2020
- South Docks Local Area Plan 2008-2018;
- Blackpool Local Area Plan 2011-2017;

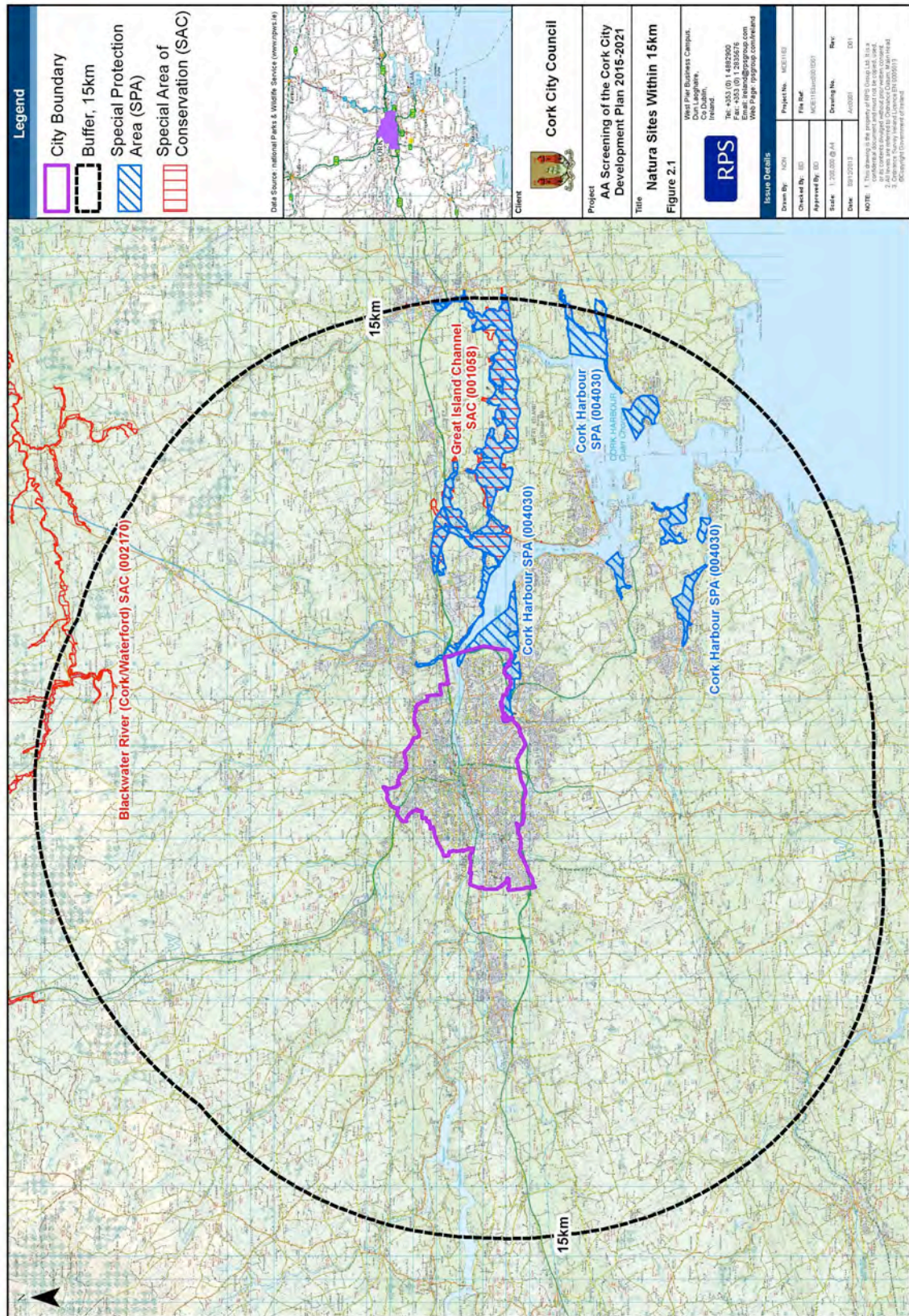
- Farranferris Local Area Plan 2009-2015;
- North-West Regeneration Masterplan 2011;
- Water Services Investment Programme;
- IPPC Programme;
- Local Authority Discharge;
- Groundwater Pollution Reduction Programmes;
- Surface Water Pollution Reduction Programmes;
- Draft Lee Catchment Flood Risk Assessment and Management Study;

The Regional Planning Guidelines for the South-West Region 2010-2022 provides the framework within which regional development plans are to be prepared. Chapter 6 of this document (Environment and Amenities Strategy) sets a policy (REAS-03) to “state that all projects likely to have a significant effect on Natura 2000/European sites will be subject to Habitats Directive assessment, and projects will only be approved if they comply with the Habitats Directive”. There is also a policy (REAS-04) “It is an objective to achieve regional water quality targets by implementing the River Basin Management Plans and ensure that development undertaken or permitted by local authorities; other public agencies or private operators, shall not contravene the objectives of the Water Framework Directive, the European Communities Environmental Objectives (Surface Waters) Regulations 2009 SI 272 of 2009 and the European Communities Environmental Objectives (Groundwaters) Regulations 2010, SI 9 of 2010”.

The County Development Plans and Local Area Plan identified all include numerous policies and objectives aimed at protecting the natural environment, including Natura 2000 sites. Explicit reference to Appropriate Assessment Screening for plans and projects are made in these plans, and the plans themselves have been subject to Appropriate Assessment, with findings of no significant adverse effects.

No other pathway has been identified by which any of the Plans and Programmes identified could have a significant ‘in combination’ effect on any of the Natura 2000 sites identified. In fact, the in combination effect of the water related Plans and Programmes would have positive effects on water quality resulting in positive indirect impacts on Cork Harbour SPA and Great Island Channel SAC.

Figure 2.1: Natura 2000 Sites within a 15km Radius of the draft Plan Area.



3 SCREENING CONCLUSION AND STATEMENT

The likely impacts that will arise from the draft Cork City Development Plan alone and in combination with other plans and programmes have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network. No Natura 2000 site within 15km of the City area will be adversely affected. A Finding of No Significant Effects Matrix has been completed and is presented in Section 4 of this Screening Statement.

On the basis of the findings of this Screening for Appropriate Assessment of Natura 2000 sites, it is concluded that the proposed draft Cork City Development Plan will not have a significant effect on the Natura 2000 network and a Stage 2 Appropriate Assessment is not required.

4 FINDING OF NO SIGNIFICANT EFFECTS REPORT MATRIX

Name of project or Plan	Draft Cork City Development Plan 2015-2021
Name and location of Natura 2000 site	Great Island Channel SAC; Blackwater River (Cork/Waterford) SAC; and Cork Harbour SPA.
Description of the project or Plan	<p>The Vision for Cork City</p> <p>The vision for Cork City over the period of this Development Plan and beyond is to be a successful, sustainable regional capital and to achieve a high quality of life for its citizens and a robust local economy, by balancing the relationship between community, economic development and environmental quality. It will have a diverse innovative economy, will maintain its distinctive character and culture, will have a network of attractive neighbourhoods served by good quality transport and amenities and will be a place where people want to live, work, visit and invest in.</p> <p>Strategic Goals</p> <p>The vision for Cork City will be achieved through a series of seven interconnected strategic goals and related Development Plan Chapters, as outlined below:</p> <p><i>Goal 1 Increase population and households to create a compact sustainable city</i></p> <p>The South West Regional Planning Guidelines (SWRPG) sets an ambitious target for population growth in Cork City with a view to concentrating development and creating a compact, sustainable city. While the number of households in the city has been increasing steadily, household size has declined in line with national trends and much new development has occurred outside the city boundary, resulting in a falling population. This Plan will show that there is capacity within the city to meet the population target but acknowledges that this target will only be met by the implementation of a co-ordinated approach to the development of the greater city area, significant investment in infrastructure and an increase in the attractiveness of the city as a place to live in.</p> <p><i>Goal 2 Achieve a higher quality of life and make the city an attractive place to live, work, visit and invest in</i></p> <p>The first step in reversing the decline in city population will be to improve its attractiveness as a living environment. A city that's attractive and provides a good quality of life and health for residents will also be attractive for workers, investors and visitors. The approach will centre on the '5 minute city' concept focused on residential neighbourhoods served by a range of amenities, as well as an attractive city centre. This is addressed particularly in Chapters 6 Residential, and 7 Sustainable Neighbourhoods of the draft City Development Plan; while wider measures to increase the attractiveness of the city and improve quality of life are a cross cutting principle in the rest of the draft Plan. Promoting social inclusion is an integral part of this strategic goal and is also a cross cutting principle in the draft Plan.</p>

	<p>Goal 3 Support the revitalisation of the economy</p> <p>Supporting the creation of a diverse, connected, innovative economy in the city is a central goal of the draft Plan. Key to revitalisation of the city's economy is regeneration of the city centre and adjoining areas. This will increase employment opportunities and build on the city centre's role as the main retail, commercial and cultural centre for the region (see Chapter 13 of the draft Plan). The suburban areas also play a key role in the economy in particular the key development areas and district centres outlined in the Chapter 14 of the draft Plan. Overall economic strategy is addressed in Chapter 3 and Retail Strategy is addressed in Chapter 4 of the draft Plan.</p> <p>Goal 4 Promote sustainable modes of transport and integration of land use and transportation</p> <p>At the national level there is a mandate to reduce emissions caused by fossil-fuelled transport, to reduce use of the private car for commuting and to increase journeys by public transport, walking and cycling. These objectives are central to the land-use and transport strategies in this plan and as well as having the significant societal benefits of a better quality environment can also give health benefits and cost-savings to the individual citizen. Achieving national targets is a long term objective which will require a move to more sustainable land use planning and a significant upgrade to public transport in the greater city area – this draft Plan will set interim targets which are achievable in the shorter term. This strategic goal is particularly addressed in Chapter 5 Transportation of the draft Plan.</p> <p>Goal 5 Maintain and capitalise on Cork's unique form and character</p> <p>Cork's unique character derives from the combination of plan, topography, built fabric and the setting provided by the River Lee valley. The dramatic east west ridges create the visual setting for the city. The goal of the draft Plan is to protect and capitalise on the unique character of the city, both the character derived from the natural environment and the man-made character created by the built form, while providing opportunities for new development. New development will need to respect and reflect the dramatic topography as well as the landscape and ecology of the city. It must also respect the built heritage of the city, in particular areas of significant historic character such as the city centre, the historic north-south spine and the suburban villages. There are also opportunities for creation of new character areas in locations such as Docklands, Mahon and Blackpool and at the arrival points or gateways into the city. This strategic goal is addressed in Chapter 9 Built Heritage and Archaeology, Chapter 10 Landscape and Natural Heritage and Chapter 8 Arts, Cultural Heritage and Tourism of the draft Plan.</p> <p>Goal 6 Tackle climate change through reducing energy usage, reducing emissions and mitigating against flood risk</p> <p>A key aim of the draft Plan is to reduce emissions that lead to global warming through sustainable energy usage in transport and buildings. It also aims to mitigate and adapt to</p>
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	<p>the challenges of climate change such as the increased risk of flooding, through the design, layout and location of appropriate land-uses. This is particularly addressed in Chapter 12 Environment and Infrastructure and Chapter 16 Development Management of the draft Plan.</p> <p><i>Goal 7 Protect and expand the green infrastructure of the city</i></p> <p>The draft Plan seeks to strengthen the green infrastructure of the city for recreational purposes, to promote biodiversity and to protect the landscape of the city. A diverse range of recreation and open spaces facilities, such as sports pitches, public parks, amenity spaces, indoor sports centres, and walking / cycling routes are vital to the health and wellbeing of Cork's residents, as well as those working and visiting the city. This green infrastructure also provides a key ingredient for making the city an attractive place to live, visit and do business in. The aim of the draft Plan is to ensure that people have access to an appropriate level of provision of the right quality. The draft Plan also seeks to provide linkages and green corridors between areas of open space to support bio-diversity. These issues are addressed in Chapter 11 Sport and Recreation and Chapter 10 Landscape and Natural Heritage of the draft Plan.</p> <p>Core Strategy for the Development of Cork City</p> <p><i>Selected Development Scenario</i></p> <p>The Core Strategy establishes a framework for the development of the city. It is derived from the strategic goals of the draft City Development Plan, and the population, economic, land-use and transportation strategies of the South West Regional Planning Guidelines (SWRPG) 2010 and the Cork Area Strategic Plan (CASP) Update 2008. The need to promote social inclusion, sustainable economic development, and access to sustainable transport are central to the strategy. A number of alternative development scenarios have been considered for the city as part of the Strategic Environmental Assessment Process of the draft City Development Plan.</p> <p>The Core Strategy includes the selected development scenario, which focuses development on selected Key Development/Regeneration Areas and Key Centres. The key development areas, which are mainly 'brownfield' land, will be developed for a range of uses based on strategies in the draft City Development Plan or which have been developed in Local Areas Plans. They are becoming available for development because of the decline of low density uses such as traditional industries in the Docklands and elsewhere, and their replacement by more intensive employment and residential uses. These areas will accommodate the majority of growth and development within the city and they are selected based on their potential to accommodate growth and to be served by sustainable modes of transport. Other parts of the city will develop based on their capacity to absorb development without undue impact on existing character and residential amenities. In addition to these mixed use redevelopment areas, a housing regeneration area in the North West of the city will see significant redevelopment over the period of the</p>
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	<p>draft Plan.</p> <p>As well as having potential for development some of these key development areas are also major approaches to the city and, if developed to a high quality urban design standard, have the capacity to greatly improve the image of the city at the major city approaches by road and also by rail and air. Strategies for these areas will therefore place considerable emphasis on design quality.</p> <p>The Key Centres complement the City Centre and consist of a series of District Centres around the city which traditionally were mainly retail centres but the strategy sees them evolving into mixed use urban centres, providing a range of services and employment to their local population. Objectives for the Key Centres are outlined in Chapter 14 of the draft Plan. The retail strategy for the city and the wider area is set out in Chapter 4 of the draft Plan and is based on providing for the needs of the expanded population envisaged in CASP and the RPGs, having had regard to the Retail Planning Guidelines.</p> <p>The Core Strategy includes an integrated transport strategy with particular focus on public transport, walking and cycling, with particular emphasis on providing sustainable transport choices to serve the key development areas, and this is outlined in Chapter 5 of the draft Plan.</p> <p><i>Development Strategy</i></p> <p>The areas which will be the main focus of new development in the city over the period of the draft Plan and beyond are outlined below. These areas are mainly 'brownfield' sites which can be redeveloped to enable the city to provide for the needs of the existing and expanded population as well as facilitating the implementation of the CASP updated economic strategy. These areas will act as key development and employment nodes in the city. They will meet sustainable development objectives through the provision of:</p> <ul style="list-style-type: none"> • A mixture of residential and non-residential development; • Economic activity and employment provision; • Higher density development, where appropriate; • Potential for high quality public transport provision; • Good quality environment and services; and • High quality urban design. <p>The strategy for each area is set out in the plan in Chapters 13 and 14 of the draft Plan. In most cases Local Area Plans or Regeneration plans have been prepared or are envisaged. The regeneration of the City Centre and the development of a new urban quarter in Docklands are the key development opportunities for the city. However, it is necessary to have a range of other development opportunities to allow choice in location and to facilitate a range of development types. In addition to these key development areas early opportunities for development are likely to come on stream on infill sites in other locations in</p>
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	<p>the suburbs, some of which may already have planning permission.</p> <p>City Centre</p> <p>A healthy City Centre is essential for the city region as a whole. There is considerable potential for further expansion in the economy of the City Centre through new developments in the retail core area and at the edge of the City Centre. A Cork City Centre Strategy (2013) has been prepared and this has informed Development Plan policy for the future development of the City Centre. The transition area to the east between the City Centre and Docklands has been identified as having particular potential for expansion of offices and other activities. The City Centre also has capacity for further expansion in residential and tourism functions, particularly in the Shandon and South Parish areas. The strategy is for the City Centre to continue as the economic, social, and cultural heart of the city, supported by further public realm improvements, protection and enhancement of its existing character and upgrade in access through investment in public transport, walking and cycling. This is described in more detail in Chapter 13 of the draft Plan.</p> <p>Docklands</p> <p>The redevelopment of the North and South Docks as a major new mixed use quarter is the most significant sustainable development opportunity for the City Region. It has an attractive waterfront location adjoining the city centre which can be well served by public transport. The overall strategy for Docklands is set out in Chapter 13 of the draft Plan and the South Docks Local Area Plan 2008 (SDLAP) contains the detailed planning strategy for the South Docks area. The SDLAP runs until 2018 and will be reviewed during the draft City Development Plan period. The delivery of Docklands development is critical to the city achieving its population and employment targets, and to the implementation of the CASP update strategy as a whole. The provision of the appropriate transport and other infrastructure in a timely fashion is essential to facilitate the development of Docklands as envisaged. It is envisaged that the western end of Docklands adjoining the city centre has most potential for growth over the period of the draft Plan, while other areas may develop over a longer time period.</p> <p>Mahon</p> <p>The Mahon area has seen significant new development since the last Development Plan with new residential developments in Jacobs Island and Eden, retail development at Mahon Point, and large scale office and technology developments in Loughmahon Technology Park. There is however potential for further development in the area through the development of remaining "greenfield" land and through the intensification of existing sites, in particular areas currently in use for industrial and technology sites. There is a need for a balance between residential and employment uses and upgraded public transport provision is also required. The detailed strategy for the area is contained in the Mahon Local Area Plan 2014 (see Chapter 14 of the</p>
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	<p>draft Plan for further details).</p> <p>Blackpool</p> <p>The Blackpool Valley, Kilbarry and the Old Whitechurch Road area, have opportunities for both 'brownfield' and 'greenfield' development for a range of uses. There is potential for mixed use development in Blackpool itself and in the Sunbeam Complex to the North, while there are opportunities for residential development at Old Whitechurch Road and technology/office based industry development at Kilbarry. The opening of the new Blackpool commuter rail station will improve access to the area. The Strategy for the area is detailed in the North Blackpool Local Area Plan 2011 (see Chapter 14 of the draft Plan for further details).</p> <p>North Regeneration</p> <p>A major housing regeneration initiative is underway in the north-west of the city focussed on the Knocknaheaney and Hollyhill areas as set out in the North-West Regeneration Masterplan 2011. When complete it will yield up to 600 residential units (a net increase of over 200 units), both social housing and private housing, and associated recreational and community facilities and services, as well as employment opportunities.</p> <p>Tivoli</p> <p>The planned relocation of the Port of Cork container operations from Tivoli creates the potential to consider the future development of this area for alternative more intensive uses. It is envisaged that the development of this area will follow on after significant progress has been made in the development of the North and South Docks. A local area plan will be prepared to determine the appropriate mix of uses, extent and timing of development and access over the course of this development plan (see Chapter 14 of the draft Plan). The timing of the preparation of a local area plan will be linked to the programme for relocation and the likely timetable for lands to come available for redevelopment.</p> <p>Tramore Road</p> <p>There is some potential for redevelopment of this area for a wider mix of uses which could help support the development of a high quality public transport route from the Northside through the City Centre to the airport. It currently houses low density employment uses and performs a suitable location for such uses in the city, however some land in the area may be surplus to requirements for such purposes and its potential for other uses, such as residential uses, will be examined over the period of the draft City Development Plan by a Local Area Plan or other suitable mechanism. The strategy for this area is considered in more detail in chapter 14 of the draft Plan.</p> <p>Key Suburban Centres</p> <p>The key suburban centres are Mahon, Douglas and Wilton District Centres on the south side, and Blackpool and Ballyvolane District Centres on the north side, with potential for a further District Centre in Hollyhill. While retailing to serve the local market will be the primary function of these centres the objective is that these centres would over time</p>
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	<p>evolve into mixed use urban centres with good public transport access and high quality urban design. Objectives for these centres are outlined in Chapters 4 and 14 and the draft Plan.</p> <p>Environmental Management</p> <p>Chapter 12 outlines Cork City Council's policies and objectives for providing public infrastructure and managing environmental issues.</p> <p>It should also be noted that Cork City is not directly responsible for the provision of many aspects of environmental infrastructure, but rather works in conjunction with Uisce Éireann, ESB Networks, Eirgrid, Cork County Council, and various regional authorities.</p> <p>The strategic environmental infrastructure objectives are as follows:</p> <ol style="list-style-type: none"> a. Promote sustainable settlement and transportation strategies in response to climate change, including measures to reduce energy demand; to reduce anthropogenic greenhouse gas emissions; and to address the necessity for adaptation to climate change, in particular, having regard to location, layout and design of new development. b. Ensure sufficient infrastructure to serve population targets set out in the Core Strategy (Chapter 2). c. Maximise efficiencies in respect of infrastructure provided. d. Improve the environmental quality of the city's rivers and surface water bodies; maintain the quality of ground water, and generally protect existing and potential water resources in accordance with EU directives. e. To ensure an adequate, sustainable and economic supply of good quality water for domestic, commercial and industrial needs for the lifetime of the Plan (subject to compliance with Article 6 of the Habitats Directive) f. To provide adequate wastewater treatment facilities to serve the existing and future population of the city and to ensure that adequate and appropriate wastewater infrastructure is in place prior to the occupations of new development. 21 g. To ensure that development would not have an unacceptable impact on water quality and quantity including surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters. h. Follow a waste hierarchy that starts with prevention, preparing for re-use, recycling, other recovery (e.g. energy recovery) and finally disposal (including landfill). i. Restrict landuse or require appropriate design as necessary to reduce risk of hazard, including those arising from flooding and controlled substances in industrial processes. j. Improve air quality and maintain acceptable levels of light and noise pollution in the city in accordance with
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	<p>requirements set out in European Union, National and Regional policy.</p> <p>k. Ensure adequate ICT infrastructure to develop Cork as a “Smart City”.</p> <p>l. Improve the energy efficiency of new and existing buildings and promote renewable energy use in the city's building stock and infrastructure.</p> <p>Furthermore, the Council is committed to protecting its natural heritage, in particular designated areas and protected species, and so it is an objective of the Council to:</p> <p>Objective 10.7 Designated Areas and Protected Species</p> <p>‘To ensure that any plan/project and any associated works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening to ensure there are no likely significant effects on the integrity (defined by the structure and function) of any Natura 2000 site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied. When a plan/project is likely to have a significant effect on a Natura 2000 site or there is uncertainty with regard to effects, it shall be subject to Appropriate Assessment. The plan/project will proceed only after it has been ascertained that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Article 6(3) and 6(4) of the EU Habitats Directive.’</p> <p>In addition, the Council recognises that areas of nature conservation value are not confined to designated sites and to this end have included specific objectives (e.g. Objective 10.7, 10.8, 10.9, 10.10, 10.13) to ensure that not only are Natura 2000 Sites protected and enhanced, but that the ecological corridors connected to Natura 2000 Sites are also managed appropriately.</p>
Is the project or Plan directly connected with or necessary to the management of the site (provide details)?	No
Are there other projects or Plans that together with the project or Plan being assessed could affect the site (provide details)?	<p>Regional Planning Guidelines for the South-West Region 2010-2022;</p> <p>South-Western River Basin Management Plan 2009-2015;</p> <p>Cork City Biodiversity Plan 2009-2014;</p> <p>Draft Cork County Development Plan 2015-2021;</p> <p>Cork Area Strategic Plan Update 2008;</p> <p>Draft Mahon Local Area Plan 2014-2020</p> <p>South Docks Local Area Plan 2008-2018;</p> <p>Blackpool Local Area Plan 2011-2017;</p> <p>Farranferris Local Area Plan 2009-2015;</p> <p>North-West Regeneration Masterplan 2011;</p> <p>Water Services Investment Programme;</p>

	IPPC Programme; Local Authority Discharge; Groundwater Pollution Reduction Programmes; Surface Water Pollution Reduction Programmes; and Draft Lee Catchment Flood Risk Assessment and Management Study.
The Assessment of Significance of Effects	
Describe how the project or Plan (alone or in combination) is likely to affect the Natura 2000 site.	<p>The following potential impacts on Natura 2000 Sites owing to the implementation of the draft Plan have been identified.</p> <p>Direct loss of Habitats</p> <p>The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in the direct loss of habitats which support Qualifying Interests of Cork Harbour SPA, located on the eastern boundary of the Cork's administrative area, which would likely constitute a significant negative effect. As can be seen on the Land Use Zoning in the draft Plan, no zonings for new development are within the boundaries of Cork Harbour SPA.</p> <p>Reduction in Water Quality</p> <p>The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in a reduction in the water quality of the receiving waters and Cork Harbour through an increase in the waste water discharged. A reduction in water quality could have a negative impact on protected species within Cork Harbour SPA.</p> <p>The waste water treatment plant for Cork City is provided at Carrigrennan, to the east of the City. Based on current usage rates the plant has adequate capacity to serve the city region through to 2020 with regard to population forecasts. A detailed capacity analysis is underway (2013), and the existing treatment plant will be expanded on a modular basis during the lifetime of the Development Plan if required. It is anticipated that some capacity may be regained through addressing infiltration (i.e. the leakage of groundwater into foul or combined sewers) and inflow (storm water connection to foul sewers). Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive are also under assessment (2013). There are no plans for the construction of any major infrastructure within the City administrative area through 2021.</p> <p>The wastewaters discharged from the Cork City WwTP is licenced by the EPA under the Waste Water Discharge (Authorisation) Regulations, 2007. It is noted that in 2011 the Carrigrennan WwTP "failed to meet the overall requirements of the Urban Waste Water Treatment Regulations 2001".</p> <p>The status under the WFD of the five rivers flowing through Cork's administrative area is set out in Table 2.1. Cork City also impacts on Cork Harbour, as any pollutant streams emanating in the city reach the Harbour via the River Lee.</p>

	<p>Additional hard surfaces also create the potential for an increase in surface water run-off into these rivers, with related negative impact on water quality.</p> <p>Any construction activities have the potential to release suspended solids and chemical pollutants into these watercourses and Cork Harbour, which could impact negatively on water quality.</p> <p>Any negative impact on the five rivers flowing through Cork's administrative area has the potential to impact on Cork Harbour SPA and Great Island Channel SAC.</p> <p><i>Damage / Degradation of Habitats and Disturbance to Species</i></p> <p>The construction of new residential and other developments to cater for an increasing population within Cork's administrative area has the potential to result in the disturbance to species listed as Qualifying Interests of Cork Harbour SPA. Areas where land has been zoned are close to the Cork Harbour SPA. An increase in human population and associated infrastructure can lead to negative effects on habitats and species due to potential increases in public visitations to the Natura 2000 site and an increase in recreational pressures.</p> <p>The quantification of this impact is extremely difficult; however, given the fact that any increase in site usage will be gradual over a period of time, it is unlikely to constitute a significant adverse effect. Site monitoring by the NPWS should identify any pressures from overuse and recommend appropriate measures.</p> <p><i>Reduction in Water Flows</i></p> <p>Water supply capacity will impose no constraints on development in Cork City. The two schemes have adequate capacity to serve metropolitan Cork through 2071 with regard to population forecasts, treatment capacity, abstraction limits, and a reduction in "unaccounted for water" (i.e. primarily leakage). The construction of new residential and other developments to cater for an increasing population within Cork's administrative area will not result in an increase in the water abstractions from the River Lee or Cork Harbour, and therefore, will not impact on the habitats and species for which Cork Harbour SPA and Great Island Channel SAC are designated.</p> <p><i>Spread of Alien Invasive Species</i></p> <p>Construction works related to the construction of new residential and other developments for an increasing population within Cork City has the potential to result in the spread of alien invasive species (both flora and fauna) into Natura 2000 sites. This has the potential to impact negatively on the habitats and species for which Natura 2000 sites have been designated.</p>
<p>Explain why these effects are not considered significant.</p>	<p>It is the overall aim of the City Council to protect, promote and conserve Cork City's natural heritage and biodiversity. The Council is committed to protecting and enhancing sites designated or proposed for designation under European and national legislation, and have specific policies relating to their protection and maintenance, as appropriate (e.g.</p>

	<p>Objective 10.7). In particular, it is an objective of the Council to ensure that all plans and projects which could, either individually or in combination with other plans and projects have significant effects on a Natura 2000 site(s) will be subject to Appropriate Assessment Screening (Objective 10.7). Further, it is an objective of the Council to work with local communities, groups, landowners, National Parks and Wildlife Service and other relevant parties to identify, protect, manage and, where appropriate, enhance sites of biodiversity value (Objective 10.8).</p> <p>Cork Harbour SPA is located on the eastern boundary of Cork's administrative area, which Great Island Channel SAC is located approximately 4 km to the east of Cork's administrative area. The significance of this SPA and SAC is fully recognised by the council and it is committed to protecting the SPA and SAC together with all other ecological corridors and areas of natural heritage within and adjacent to Cork's administrative area. There are no areas of the SPA zoned for developmental purposes, therefore, the draft Cork City Development Plan will not result in direct impacts on the SPA or SAC through land take or fragmentation of habitats.</p> <p>Increased development and construction of residential and commercial units will lead to increased demand for potable water and increased pressure on existing and future waste water treatment systems. Water supply capacity will impose no constraints on development in Cork City. The two supply schemes have adequate capacity to serve metropolitan Cork through 2071 with regard to population forecasts, treatment capacity and abstraction limits.</p> <p>The Council is committed to ensuring the implementation of the EU Urban Waste Water Directive and its transposition into Irish legislation. To this regard there are a number of objectives within the draft Plan which focus on wastewater and its appropriate treatment (Objective 12.1). The waste water treatment plant for Cork City is provided at Carrigrennan, to the east of the City. Based on current usage rates the plant has adequate capacity to serve the city region through 2020 with regard to population forecasts. Measures to address nutrient removal (tertiary treatment) and compliance with the Shellfish Water Directive are also under assessment (2013). There are no plans for the construction of any major infrastructure within the City administrative area through 2021.</p> <p>It is an objective of the Council (Objective 12.1) to provide adequate wastewater treatment facilities to serve the existing and future population of the City, subject to complying with the Water Framework Directive, the South Western River Basin Management Plan 2009-2015 or any updated version of this document, Pollution Reduction Programmes for Designated Shellfish Areas, the Urban Waste Water Treatment Directive and the Habitats Directive.</p> <p>Such wastewater objectives will ensure that sewage will be treated to an appropriate standard such that it will not impact on receiving waters, and therefore, will not result in any indirect impacts on the Natura 2000 sites.</p> <p>There are a number of other watercourses within and</p>
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	<p>adjacent to the draft Plan area which drain into the River Lee and Cork Harbour. The Council is committed to protecting these watercourses and to this regard there are a number of objectives within the draft Plan which focus on maintaining and protecting the natural character, ecological value and water quality of these watercourses (e.g. Objective 10.9). Development proposals will be required to provide a buffer zone having a minimum of 10-15m each side of the waters edge. These watercourses will require an Ecological Assessment to be completed on all development proposals in their vicinity (Objective 10.9).</p> <p>The management of surface and storm water is important so as to avoid increased flood or pollution risk in the storm water network, rivers and streams. New development can exacerbate the problems of flooding by accelerating and increasing surface water run-off. The Council will require the application of Sustainable (urban) Drainage Systems (SuDS) in new developments and have identified specific objectives in this regard (e.g. Objective 12.2, 12.3, 12.8, 12.9, 12.10, 12.11). Reducing the extent of hard surfacing and using permeable pavements will aid in minimising the risk of flooding and contamination, and protect the environmental and water resources.</p> <p>Further, it is the aim of the Council to ensure that the EU Water Framework Directive is implemented. To this end the Council has a strategic environmental objective (Objective 12.1) to protect existing and potential water resources in accordance with:</p> <ul style="list-style-type: none"> • The Water Framework Directive (2000/60/EC) and the European Communities (Water Policy) Regulations 2003 (as amended); • European Communities Environmental Objectives (Surface Waters) Regulations 2009 (as amended); • European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended); • South Western River Basin Management Plan 2009-2015 or any updated version of this document; • Pollution Reduction Programmes for Designated Shellfish Areas; • Groundwater Protection Schemes; • Urban Waste Water Treatment Directive and Urban Waste Water Treatment Regulations 2001 (as amended); and • Any other protection plans for water supply sources or updates to the above regulations. <p>This objective is to ensure that development would not have an unacceptable impact on water quality and quantity, which includes surface water, ground water, designated source protection areas, river corridors and associated wetlands, estuarine waters, coastal and transitional waters.</p> <p>Such water quality objectives will ensure that the River Lee, its tributaries, Cork Harbour and the SPA and Great Island Channel SAC are protected, and therefore, will not result in</p>
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	<p>any indirect impacts on the Natura 2000 sites.</p> <p>Invasive non native plant and animal species can represent a major threat to local, regional and national bio-diversity. They can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. The Council is committed (e.g. Objective 10.12) to controlling invasive species, which includes the implementation of measures to control and prevent the introduction and establishment of ecologically damaging alien invasive species. Preventative measures include ensuring that good site hygiene practices are employed for the movement of materials into, out of and around the site and ensuring that imported soil is free of seeds and rhizomes of key invasive plant species.</p> <p>The Blackwater River (Cork/Waterford) SAC are a sufficient distance (13km) from the draft Plan area and has no connecting pathways (i.e. rivers or streams) to be impacted by the present or future development of the draft Cork City Development Plan area.</p> <p>This AA has examined each objective within the draft Cork City Development Plan and has determined that there is no potential to impact on the Cork Harbour SPA or the Great Island Channel SAC, in fact, there are a number of objectives which would result in an overall positive impact on Biodiversity, Flora and Fauna within and adjacent to the Plan area, including the identified Natura 2000 sites.</p>
List of agencies consulted: provide contact name and telephone or e-mail address.	<p>Environmental Protection Agency, (EPA);</p> <p>Department of Environment, Community and Local Government, (DECLG);</p> <p>Department of Agriculture, Food and the Marine, (DAFM);</p> <p>Department of Communications, Energy and Natural Resources, (DCENR); and</p> <p>Department of Arts, Heritage and the Gaeltacht, (DAHG)</p> <p>Cork County Council.</p> <p>A copy of the “Strategic Environmental Assessment Draft Scoping Report, June 2013” was sent to the listed Environmental Authorities who were invited to make a written submission. One submission was received from the Environmental Protection Agency, (EPA).</p>
Response to consultation.	-

Data Collected to Carry Out the Assessment	
Who carried out the assessment?	RPS
Sources of data	NPWS database Information from Cork City Council
Level of assessment completed	Desktop
Where can the full results of the assessment be accessed and viewed?	Cork City Council
Overall Conclusion	Stage 1 Screening indicates that the draft Cork City Development Plan alone and in combination with other plans and programmes will not have a significant negative impact on the Natura 2000 network. Therefore, a Stage 2 'Appropriate Assessment' under Article 6(3) of the Habitats Directive 92/43/EEC is not required.





Comhairle Cathrach Chorcaí
Cork City Council