

## NON-TECHNICAL SUMMARY



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The purpose of the non-technical summary is to provide an accurate synthesis of the information contained in the Environmental Report in a comprehensive manner that is readily understood by decision-makers and the general public.

## Background

This is the second Strategic Environmental Assessment (SEA) conducted by the Dublin Docklands Development Authority. It is being conducted in tandem with the review of the Dublin Docklands Area Master Plan 2008 (also referred to in this document as 'Master Plan 2008') and will inform the Plan on any significant environmental impact.

The Master Plan is prepared under Section 24 of the Dublin Docklands Development Authority Act, 1997. In accordance with the provisions of Section 24(2)(a) of the Act, the Master Plan indicates the objectives for:

- the social and economic regeneration of the Dublin Docklands Area, on a sustainable basis
- improvements in the physical environment of the Dublin Docklands Area
- the continued development in the Docklands of services of, for, and in support of, or ancillary to, the financial sector of the economy

The Master Plan 2008 establishes the social, economic and physical framework for the redevelopment of the area, identifying key strategic objectives and a range of policies. Master Plan 2008 seeks to achieve sustainable development, with the Authority pursuing a policy of mixed-use development in the Docklands Area with the aim of creating a sustainable environment integrating living, working and leisure. The aims of the Master Plan 2008 are ambitious; existing Planning Schemes will be amended and new Planning Scheme Areas introduced. The Plan will cater for a target population of up to 34,600 by 2013 and up to 47,000 by 2018.

## SEA Methodology

The methodology adopted for the SEA process was based on the SEA Directive (Directive 2001/42/EC) and upon experience gained since the introduction of the SEA Directive in July 2004. The DoEHLG Guidelines for Regional Authorities and Planning Authorities, EPA guidelines, current literature in the subject area and various national and international published reports have been referred to during the preparation of this Environmental Report.

The following is a brief summary of the steps taken during the preparation of the Environmental Report.

The carrying out of an SEA of the Dublin Docklands Area Master Plan is mandatory under Irish legislation the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004. Scoping letters were circulated to the designated environmental authorities and other relevant authorities and organisations. This consultation resulted in a number of suggestions that were addressed in the report. Baseline data was collected on the basis of the environmental receptors (biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape) listed in Annex 1(f) of the Directive and where data was not available the relevant gaps were highlighted. Environmental protection objectives were established for each environmental receptor and used to evaluate the plan alternatives and assess the preferred plan alternative. In addition, associated environmental protection targets and indicators were established to allow the environmental impact of the Master Plan to be monitored.

Three plan alternatives were examined in the course of the preparation of the Dublin Docklands Area Master Plan 2008. The alternatives were developed by the Master Plan team in the course of the

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preparation of the plan and were assessed for their impact on the environment. In order to assess the impact of the Master Plan on the environment, proposed plan policies were assessed against the environmental protection objectives already identified. Following this, mitigation measures were devised in the form of new, replacement or amended policies and were subsequently included in the Master Plan, thus formalising mitigation. A monitoring programme was devised which will be used to monitor the ongoing impact of the Master Plan on the environment.

## Relationship of the Master Plan with other plans

A number of strategic policy instruments at national, regional and local level relevant to the Master Plan Review 2008 were identified.

Level	Plan	Brief Description
National	Sustainable Development – A Strategy for Ireland, 1997	The central aim is to apply principles of sustainability to policy-making and to integrate them into the decision-making process.
	National Climate Change Strategy, 2007-2012	Sets out a strategy to reduce greenhouse gas emissions.
	National Development Plan 2007-2013	Sets out a regional development strategy supported by a quantified multi-annual investment commitment in the key areas of education and training, infrastructural development, the productive sector and the promotion of social inclusion.
	National Spatial Strategy, 2002	Seeks to achieve a better balance of social, economic, physical development and population growth between Ireland's regions, in a sustainable manner.
	Transport 21	Establish the means by which the transport system in Ireland will be developed over the period 2006-2015. It will transform the Docklands Area into one of the most accessible parts of Dublin City.
	National Biodiversity Plan, 2002	Establish the means by which Ireland will provide for the conservation and sustainable use of biodiversity.
	Sustainable Urban Housing: Design Standards for Apartments - Consultation Draft Guidelines for Planning Authorities, 2007 Sustainable Residential	The central aim is to promote sustainable urban housing.
	Development in Urban Areas – Consultation Draft Guidelines for Planning Authorities February 2008	The central aim is to promote policies and objectives which underpin the creation of sustainable residential developments.
Regional	Regional Planning Guidelines for the Greater Dublin Area, 2004-2016	Provides a long term strategic planning framework for the future development of the Greater Dublin Area until 2016.
	Waste Management Plan for the Dublin Region 2005-2010	Develops a co-ordinated policy framework for waste management in the Dublin Region.
Local	Dublin City Development Plan 2005-2011	Comprehensive strategy document which sets out a planning strategy and framework to steer future growth in the city.
	Dublin City Council Biodiversity Action Plan, 2008	Sets out a programme of actions to protect and enhance the city's natural heritage.
	Dublin City Council Maximising the City's Potential: Draft Strategy for Intensification and Height, 2007	Seeks to consolidate Dublin City in order to achieve a compact urban form.

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## Environmental Baseline

The Environmental Report describes the existing state of the environment in the Dublin Docklands Area. The description is based on the environmental receptors listed in the SEA Directive, which are biodiversity, flora and fauna, population and human health, soil, water, air, climatic factors, material assets, cultural heritage and landscape.

## Biodiversity, flora and fauna

The Docklands Area has significant areas of open space which, together with lands in public ownership, private gardens and other green space all contribute significantly to the biodiversity resource in the Dublin Docklands Area. In addition, buildings, bridges and undeveloped sites provide important wildlife refuges in the Area. Together these areas support a wide variety of common flora and fauna typical of an urban environment.

More significantly, as regards biodiversity flora and fauna, there are 8 areas designated for nature conservation within or in the vicinity of the Dublin Docklands Area. These areas mainly relate to the water-bodies; Dublin Bay, the Rivers Liffey and Tolka, and the Royal and Grand Canals. These areas are protected under the European Habitats and Birds Directives, the Wildlife Act 1976, and the Wildlife (Amendment) Act 2000. Species of note are the salmon and trout species, brent geese, terns and bats.

According to Dublin City Biodiversity Action Plan (2008) 33 different water bird species regularly occur in Dublin Bay, and frequently the bay supports in excess of 20,000 water birds over winter months. Internationally important concentrations of brent geese among other species also occur here. Other waterways such as the Rivers Liffey and Tolka support a significant wildlife resource including otters, bats, Atlantic salmon, brown trout sea trout and the kingfisher. Many waterways in the Area provide important feeding grounds and commuting corridors for a range of species.

## Population and human health

The Docklands Area has traditionally been made up of five residential communities, centred loosely in villages within the Area, three on the north side and two on the south side. However, more recently the residential profile of the Docklands Area has been strengthened considerably with the development of new residential communities. Over the period 1996-2006, the population of the Area grew by approximately 26.8%. The most vibrant area of growth is evidenced in the 25-44 age cohort. In the 10 year period from 1996 to 2006 an absolute growth of 2,682 households over the period occurred or 32%. Apartment building is the primary type of residential accommodation being constructed in the Area. In 2006, walking had the highest mode share for journey to work and education for Docklands residents. At 46%, this is more than twice that of Dublin City (which includes the Dublin Docklands Area) of 22%. At least 19% of the population of the Area walks more than 2km to work or education.

## Soil

Much of the Dublin Docklands Area is built on reclaimed land. A desktop study of former land uses within the Area, together with site investigation data from development proposals within the Area, indicated that some sites have been contaminated by former industrial uses. This is consistent with dockland areas throughout the world. Development in the Area results in the removal of previously contaminated soil to suitably licensed landfill facilities. Where hotspots of contamination exist, arrangements have been put in place to remove the soil to appropriate disposal sites either within Ireland or abroad.

## Water

The Dublin Docklands Area is dominated by water-bodies which are classified as either surface, coastal or groundwater. There is little or no systematic monitoring of these types of water-bodies within the Area. However, point data exists for some boreholes for groundwater and the Environmental Protection Agency (EPA) monitors water quality in the River Liffey and River Dodder, albeit outside the Master Plan boundary. From the available data both the River Liffey and the River Dodder are reported to be moderately polluted (ie have a Q rating of 3) mainly due to polluted surface water and effluent from the wastewater treatment plant in Ringsend. The water quality in both George's Dock and the Inner Dock has improved through the actions of the Authority. Aeration has been introduced to both docks.

The water quality of the Liffey estuary and Dublin Bay has significantly improved since the upgrade of the Ringsend wastewater treatment plant to include tertiary treatment. The latest water quality data for these sites is from 2005 which reports an intermediate (signs of some nutrient enrichment) water quality for the Liffey estuary whereas Dublin Bay is classified as being unpolluted.

A recent report highlighted the fact that there is currently very little information regarding the overall extent and nature of the Dublin aquifer system. In addition, little is known about the quality of groundwater in the Dublin aquifer and there is currently no groundwater monitoring being carried out in the Dublin Region. Groundwater in the Dublin Region including the Docklands Area could be considered as having high to extreme vulnerability as the groundwater level is relatively close to the surface. Contamination of groundwater by hydrocarbons, arsenic, heavy metals and volatile organic compounds, typical of industrial activity, has been reported in a number of Environmental Impact Statements of development proposals in the Docklands Area.

## Air

Air quality in the Dublin Docklands Area is considered to be typical of urban areas with concentrations of air pollutants being well within EU limit values. The use of the city centre by heavy goods vehicles (HGVs) has been restricted with the opening of the Dublin Port Tunnel which would contribute to an improvement in air quality in the Area.

## Climatic factors

There is currently no data available on greenhouse gas (GHG) emissions in the Docklands Area. However, the Draft Climate Change Strategy for Dublin City, 2008, reports that CO<sub>2</sub> emissions in the city can be divided between three major sectors – commercial 37%, residential 37% and transport 26%. There are also some emissions from the waste management sector.

There are a number of strategies underway to deal with the issue of flooding particularly in relation to predicted climate change. Because of the predicted increase in intensity and frequency of rainfall events it is anticipated that it will not be possible in future to remove the predicted volume of storm water through the current drainage system. Accordingly new strategies involving attenuation of rainwater at source to limit the maximum flow of any development during heavy rainfall have been introduced. In addition, finished floor levels of all new buildings are being raised to accommodate any further increases in water level. Dublin City Council are partners in an EU initiative entitled SAFER (Strategies and Actions for Flood Emergency Risk Management) the aim of which is to develop innovative strategies and prevent and mitigate flood damage by working with organizations and agencies at different levels. Results will be presented in 2008. As part of the work on the Greater Dublin Strategic Drainage Study (GSDSDS) and the SAFER project the issue of coastal zone flood risk management has also been identified and addressed in part. The City Council has commissioned a pre-feasibility study for a project called Project 2030 that will investigate the potential for tidal barrages to protect the city

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and region. The significant investment in coastal zone flood risk management has already been put in place and will be further developed through the coastal zone flood risk assessment study (DCFRAS). In the timeframe 2025-2035 it is likely that the city will require the construction of tidal barrages and possibly off-shore islands, to dissipate wave energy.

## Material assets

The material assets of the Docklands Area may be divided into 3 categories; wastewater and water supply infrastructure, transport infrastructure and Seveso sites. The water supply infrastructure in the Area has developed in a piecemeal fashion but plans to upgrade the network are in progress. The wastewater infrastructure consists of several pumping stations and the main wastewater treatment facility in Ringsend. Upgrading of wastewater and water supply infrastructure is taking place in line with new development. The Area is well served by the transport infrastructure which consists of a network of cycle and pedestrian routes, rail, light rail, tram, bus and road networks. There are 2 Seveso sites in the Docklands Area at present with further sites anticipated to come on-stream on the Poolbeg peninsula.

## Cultural Heritage

The cultural heritage and landscape of the Docklands Area includes its architectural and archaeological heritage, the waterbodies, open spaces and views within and of the Area.

The transport, maritime and industrial past of the Area has left a legacy of buildings and other features, many of which are Protected Structures. Some of the architectural heritage is of national/international significance. Protected Structures include a former gas holder, railway viaducts, a former power station, quay walls, bridges and warehouses. The architectural heritage of the Docklands Area is protected under two mechanisms. These are; The Record of Protected Structures (RPS) and Conservation Areas under the Dublin City Development Plan 2005-2011. following this baseline study, the RPS for the Docklands Area can be updated.

The relatively high proportion of the Area covered by Conservation Area status reflects the unique character of the Area.

The Docklands Area also displays a rich archaeological heritage which is protected under two mechanisms: The Record of Monuments and Places and Zones of Archaeological Interest under the Dublin City Development Plan 2005-2011. The Record of Monuments and Places establishes recorded monuments in the Docklands Area. These include quays, the sea wall at York Road/Pigeon House Road, a former battery and fort site, churches and a graveyard.

The Department of the Environment, Heritage and Local Government (DoEHLG) considers the Dublin Docklands Area to be an area of high archaeological potential. As yet, previously unrecorded archaeological sites such as submerged cultural landscapes or shipwrecks may lie undiscovered in and adjoining the Dublin Docklands Area. Other important archaeological maritime sites may survive in areas of reclaimed land, such as jetties, quay structures and fish traps.

The waterbodies in the Area play an important role in defining the character of the Area. The River Liffey is the great 'form giver' of the city and the Docklands Area. The river and other water-bodies have many recreational uses. In addition, many of the water-bodies are included as Conservation Areas in the Dublin City Development Plan, 2005-2011.

The Docklands Area includes open space areas / public realm of diverse character and includes parks, squares, riverside/dockside walkways and coastal public amenity areas.

Extensive views are available of the city from the Docklands Area and of the Docklands Area from the city. The most significant view corridor in the Area is the River Liffey. Views from Dublin Bay and the

south city are dominated by the Poolbeg peninsula, which forms a significant landmark feature with its low rise land mass punctuated by high power generating chimneys, piled containers and a variety of utility and industrial buildings. Other views of Docklands are available from a variety of vantage points and view corridors in the city.

## EXISTING ENVIRONMENTAL PROBLEMS AND ISSUES

### Biodiversity, flora and fauna

The 1997 and 2003 Dublin Docklands Area Master Plans have led to the creation of more green space in which biodiversity, flora and fauna can potentially flourish. However, any potential removal of habitat, reduction in size of habitats or risk to protected species will have to be safeguarded against.

### Water

Water quality (surface, coastal and groundwater) in the Area is a result of complex interactions at both the local and regional levels. The upstream catchment areas of the various rivers in the Docklands contribute to the pollution load recorded in water quality the Area. In addition, the natural vulnerability of the groundwater to contamination needs to be borne in mind.

### Water supply and wastewater infrastructure

Deficiencies exist in the capacity of the wastewater collection system in the Docklands Area. Dublin City Council Drainage Area Plan, 2002/ 2003, examined the drainage system then in place in the Docklands Area and made recommendations for upgrading of sewers based on the level of development then envisaged. The City Council are examining whether there might be scope to carry out some of the works in the short term as development proceeds. Upsizing of the proposed network may be required.

Spencer Dock Pumping Station was built for the Spencer Dock development and was based on the level of development envisaged in the original North Lotts Planning Scheme. Another pumping station, rising main and new tunnel under the River Liffey may be required to facilitate new development.

The Ringsend wastewater treatment plant is considered to be operating at capacity. The expansion of the facility is proposed. When the treatment plant is expanded, the increased capacity will not be sufficient for the future needs of the Dublin Region. A second major treatment plant will be required in another location in the Region. Provision of the second plant will allow for areas in the city centre, including the Dockland Area, to convey their anticipated sewage loads to the expanded Ringsend wastewater treatment plant. The Ringsend wastewater treatment plant is critical to sewerage treatment in the Dublin Region. All Dublin City Council's drainage infrastructure throughout the city converges on the Ringsend plant. Its operations are vital to maintaining the water quality in Dublin Bay.

The level of development now envisaged in the Area is at a much higher density than when the water supply network upgrades were designed. The trunk mains serving the Docklands Area are over a hundred years old. Even the most recently laid pipelines are considered to be inadequate for the level of development now being proposed.

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All current indications are that the trunk main network is inadequate for the proposed new development in the Dublin Docklands Area and other development areas in the city. It is likely that major new trunk mains will be required.

The water supply infrastructure in the Docklands Area is considered to be close to capacity. Studies are currently underway on the two most feasible options for the new major drinking water source for the region i.e. water from the Shannon River or desalination of seawater from the Irish Sea (Draft Climate Change Strategy for Dublin). A report on the outcome of these studies will be available in late 2008.

## Transport infrastructure and movement

Connectivity and permeability within and outside the Docklands Area is affected by the presence of the River Liffey, the canals and existing rail infrastructure which create barriers to local movement. Cycling infrastructure in the Area, although extensive, is disjointed and does not encourage cycling activity. The lack of cycling network in the surrounding area discourages cycling in general. There are no crossing points for cyclists between the East Link Toll Bridge and Butt Bridge/Talbot Memorial Bridge. The challenge exists to provide for improved pedestrian, cycling, public transport and private vehicular cross river linkages while also facilitating river regeneration.

## Cultural heritage

The integration of Protected Structures into new development in a sensitive manner poses challenges for designers. For example, mitigation to prevent flooding requires raised floor level in new development and can pose a challenge for integration with existing Protected Structures. In addition, the Authority has experienced difficulties in convincing developers to find appropriate public (as distinct from private) uses for Protected Structures within their ownership.

Whereas the Area displays a wide variety of open space areas/public realm, it is acknowledged that the full potential of such spaces is not always fully realised. In addition some parts of the Docklands Area are not well provided with open space/public realm. Public access is not currently available to some potential amenity areas at Spencer Dock and Pigeon House Dock.

## KEY ISSUES

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Key issues looking forward will be

- Delivery of water, wastewater and transport infrastructure simultaneously with development
- Delivery of public transport
- Protection and enhancement of the exiting natural and built environment in the Area
- Creation of improved pedestrian and cycling networks
- Continued 'greening' of the Docklands Area, including the on-going development of open spaces and recreational amenities for a variety of users including children, the youth and senior citizens

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## DATA GAPS

A number of data gaps were identified while compiling the baseline data for the Docklands Area. Data gaps could be broken down into two main groups, as follows; (a) data on the particular Environmental Receptor was not in existence and (b) data on the particular Environmental Receptor was available but at an inappropriate scale.

## EVALUATION OF THE MASTER PLAN ALTERNATIVES

Three plan alternatives were examined in the course of the preparation of the Master Plan 2008. The alternatives were:

- ALTERNATIVE 1: Continue with Policies and Objectives of Dublin Docklands Master Plan 2003
- ALTERNATIVE 2: Part Optimisation of Development Potential of the Dublin Docklands Area
- ALTERNATIVE 3: Further Optimisation of Development Potential of the Dublin Docklands Area.

### Alternative 1: Continue with Policies and Objectives of Master Plan 2003

The first plan alternative assessed is the continuation of the policies and objectives of the Dublin Docklands Area Master Plan 2003.

### Alternative 2 Part Optimisation of Development Potential of the Dublin Docklands Area

The second plan alternative assessed allows for:

- Creation of a Section 25 Planning Scheme Area for the Poolbeg peninsula
- Amendment to North Lotts and Custom House Docks Planning Schemes

In Alternative 2, an overall average gross Plot Ratio of 1 is proposed for the development areas of the Poolbeg peninsula.

### Alternative 3: Further Optimisation of Development Potential

Alternative 3 mirrors Alternative 2 in that it allows for new amended and extended Planning Schemes as follows:

- Creation of a Section 25 Planning Scheme Area for the Poolbeg peninsula
- Amendment to North Lotts and Custom House Docks Planning Schemes

Alternative 3 however proposes to further optimise the development potential of the Docklands Area by allowing for:

- An increase in the density of development on the Poolbeg peninsula. In this alternative, an overall average gross Plot Ratio in the order of 2 is proposed on the Poolbeg peninsula, allowing for a higher density of development
- A possible extension of the North Lotts, Custom House Docks, Grand Canal Dock and Poolbeg Planning Scheme Areas

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The three plan alternatives were assessed for their environmental impact and the preferred alternative identified. The exercise allowed for the identification of the environmental impacts of each of the plan alternatives to inform decision-making.

## Preferred Plan Alternative

The preferred plan alternative is Alternative 3.

Whereas Alternative 1 has an overall positive outcome in terms of protection and enhancement of the environment, it was considered that this alternative would not maximise the development potential of the Docklands Area. Both Alternatives 2 and 3 strive to maximise development potential while at the same time providing protection and enhancement of the environment. The Authority has decided that Alternative 3 provides the most appropriate framework to develop the Area. Since the adoption of the Master Plan 2003, a framework for the delivery of significant public transport has come on-stream in the form of Transport 21. As part of Transport 21, the Docklands Area will become highly accessible and will become one of best served locations in Dublin City in terms of public transport. On a city wide and regional level, a failure to maximise the development potential of the Docklands Area would be unsustainable leading to overall negative impacts on air quality and greenhouse gas emissions. It is recognised that the provision of public transport, water conservation measures and wastewater infrastructure consistent with the coming on-stream of development, will be necessary to avoid adverse environmental impacts.

## EVALUATION OF THE MASTER PLAN

The environmental impact of the Master Plan 2008 was assessed. The assessment was carried out using matrices to evaluate the impact of each of the proposed Master Plan policies on the environmental receptors. In this way, the potential environmental impact of implementing the policies was determined and any potential conflict between the proposed policies and environmental protection highlighted.

## MITIGATION

Following from the assessment of the environmental impact of the Master Plan 2008, mitigation measures have been developed in order to address any significant adverse environmental impacts arising. The measures aim to prevent negative impacts, reduce their magnitude, remedy adverse effects or compensate for negative impacts by providing environmental benefits elsewhere. The steps involved in devising the mitigation measures were as follows;

- Proposed Master Plan policies developed by the Master Plan team were assessed for their environmental impact
- A Mitigation Workshop was conducted where mitigation measures were devised by the Master Plan and the SEA teams following on from the environmental assessment of proposed policies. The mitigation measures took the form of new, replacement and amended Master Plan policies

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- The mitigation measures were brought to the DDDA Executive Steering Group and DDDA Board by the Master Plan and SEA teams and further refined
- The mitigation measures were agreed with the Council of the Authority in the form of new, amended or replacement policies and were incorporated into the Master Plan 2008
- Dublin City Council was consulted in relation to mitigation measures, in particular those devised in relation to water, material assets and climate

The incorporation of mitigation measures into the Master Plan 2008 in the form of policies has the advantage of formalising mitigation and reflects the iterative nature of SEA. The following is a summary of the mitigation measures taken.

## Biodiversity, flora and fauna

Any potential contamination of waterbodies in and adjoining the Area could have adverse consequences on the biodiversity of Dublin Bay which has several designations for nature conservation.

Four mitigation measures are proposed which seek to protect biodiversity, flora and fauna:

- Any Planning Scheme or any Amended Planning Scheme to be implemented in a manner that protects the integrity of the designated nature areas (SPA, cSAC and pNHA)
- Prevent contamination of waters (surface, ground and coastal) arising from disturbance of existing contaminated lands. Minimise potential negative impacts on waters (surface, ground and coastal) during construction reflecting best practice
- Cooperate with Dublin City Council in the achievements of the objectives of the Dublin City Biodiversity Action Plan 2008-2012

## Population

All of the mitigation measures proposed in this section of the report are relevant to the population residing, working and visiting the Docklands Area. Two specific additional mitigation measures are proposed in the form of one Urban Design and one Implementation Master Plan Policies as follows:

- All relevant Section 25 applications to be assessed for daylight, sunlight and shadow impact on existing and proposed residential development and on existing and proposed open spaces
- Develop, promote and implement Sustainability Appraisal as a requirement for all future applications for Section 25 consent in the Docklands Area. The features to be incorporated into Sustainability Appraisal to be established and included in Section 25 Planning Schemes

## Water

Potential negative impacts in relation to surface water quality and water supply infrastructure reflect existing deficiencies in both wastewater and water supply infrastructure in the Greater Dublin Area which impact on development throughout the Dublin Region. Three mitigation measures are proposed which:

- Require the use of water saving devices and measures in new buildings to support city-wide water conservation measures, in compliance with Dublin City Council's Bye laws for the Management of Water Services and the Conservation of Drinking Water 2003
- Promote an awareness of water usage in the Docklands Area
- The use of Sustainable urban Drainage Systems (SuDS) shall be required to minimise flood risk and enhance the quality of storm water runoff and shall be fully integrated into all new development. Encourage the retrofitting of SuDS where possible to remove storm water from the existing sewerage system and enhance water quality in the Liffey/Dublin Bay

## Air

New development areas created under the Master Plan 2008 will generate associated traffic movement and hence will impact on air quality. The level of impact relates to the level of development proposed, the land use mix and the modal split between public and private transport. Uncertainty regarding impacts arises from Land-use policies which seek to promote development (residential and office) and support district centre use at Poolbeg. Three mitigation measures are proposed:

- A land use mix in the order of 60-70% residential/ 30-40% commercial floorspace to be adopted in the Poolbeg Planning Scheme Area
- The Poolbeg Planning Scheme to include a strategy for the phasing of development in tandem with the delivery of high capacity public transport line(s), such as BRT and LUAS
- Require an appropriate provision of supporting retail facilities up to District Centre level, which are served mainly by public transport, to be developed within the Poolbeg Area in tandem with the roll-out of development, in order to serve new residential and workforce populations, and the surrounding area. The scale, location and phased development of the retail facilities to be identified within the Section 25 Planning Scheme for Poolbeg, having regard to the latest Retail Planning Guidelines for the Greater Dublin Area and the Dublin City Development Plan

## Climatic factors

Flood protection will be necessary for new development in the Docklands Area. Three mitigation measures are proposed to strengthen flood protection as follows:

- Create a landscape network as part of the Master Plan that not only acts as a flood protection measure but also enhances the potential for biodiversity and movement
- Flood risk impact assessment to be a requirement for all Section 25 applications. Any flood defences proposed must meet national standards
- Ensure that, in their design and operation, canals, waterways, locks and other infrastructure do not compromise flood protection for the city

## Material assets

Potential negative impacts on material assets reflect existing deficiencies in wastewater infrastructure in the Greater Dublin Area which impact on development throughout the region. Four mitigation measures are recommended as follows:

- Co-operate and liaise with Dublin City Council as Water Services Authority in ensuring that the potable and fire water supply, together with the foul sewer and storm water drainage systems are upgraded to meet the demands arising from the additional physical development in advance of, or in parallel with, the carrying out of the development, while protecting the environment and also having regard to the Greater Dublin Regional water and drainage infrastructural constraints. Measures to include the full integration of SuDS into new development, as well as the separation of foul and storm water and retrofit of SuDS where practical
- Actively support Dublin City Council in the upgrading of the wastewater treatment plant at Ringsend as part of the Greater Dublin Strategic Drainage Strategy
- Additional wastewater infrastructure to facilitate intensification of development in the North Lotts Planning Scheme Area to be identified in the Amended North Lotts Planning Scheme and developed in tandem with the carrying out of development in the Area
- The roll out and phasing of development under the Poolbeg Planning Scheme and other amendments and extensions to Planning Scheme Areas within the Docklands Area to be subject to the provision of adequate wastewater infrastructure provided, in consultation with Dublin City Council and other relevant authorities, at regional and/or local level to serve that development

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## Cultural heritage

The impact of the Master Plan 2008 on cultural heritage is largely positive. Eight mitigation measures are recommended, which in particular, seek to strengthen Master Plan policies in relation to the architectural and archaeological heritage of the Area as follows:

- Seek to retain and incorporate sensitively into new development all Protected Structures in the Docklands Area, other than in exceptional circumstances
- Archaeological material to be protected in-situ by ensuring that only minimal impact on archaeological layers is permitted. In particular, any proposed development at River Liffey quay walls and canal quay walls to minimise interference with the quay wall and keep the historic fabric in-situ
- Site specific mitigation strategies to be formulated by the Authority in conjunction with the Dublin City archaeologist, the National Museum of Ireland, and the National Monuments Section and Underwater Unit of the DoEHLG for development in any Planning Scheme or Amended Planning Scheme Area
- Any proposed developments that may have implications for underwater archaeology to be the subject of underwater archaeological assessment in advance of works. In particular, in areas where disturbance of the River Liffey bed is necessary as part of construction of any Planning Scheme and any Amended Planning Scheme, an inter-tidal and underwater assessment to be carried out by a suitably qualified underwater archaeologist licensed by the DoEHLG
- Archaeological monitoring during geological investigations and the construction phase of any Planning Scheme and any Amended Planning Scheme to be undertaken by an archaeologist licensed by the DoEHLG
- Explore the possibility of exposing and restoring that part of the South Bull Wall currently underground, possibly as a waterfront edge
- Promote the creation of public access to Pigeon House Harbour and investigate the feasibility of developing the harbour for recreational and boating purposes
- An individual specific approach, which reflects emerging best practice, to be taken in addressing flood risk in Protected Structures

## Landscape

The impact of the Master Plan 2008 on landscape will be positive. In particular a strengthening of policy in relation to views is recommended in addition to the enhancement of the use of open space areas. Four mitigation measures are recommended as follows:

- Carry out a views study to inform consideration of the impact of development on city views
- Require all new development carried out under any Planning Scheme and any Amended Planning Scheme to have consideration for the impact of the development on city views
- Create an urban design and architectural process to evaluate new development and proposals within the Docklands Area, including an evaluation of the impact of the development on city views
- Maximise the use of green open spaces to facilitate sustainable drainage systems and enhance the potential for biodiversity

## MONITORING

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The SEA Directive requires that monitoring of significant environmental effects be carried out. Environmental protection objectives and targets were established early on in the SEA process. However, in order to measure progress towards these objectives and targets, environmental protection indicators have also been developed. The indicators are used to describe the baseline situation, monitor the impact of the Master Plan on the environment and predict impacts. Twenty three indicators have been devised that will monitor the environmental receptors listed in the SEA Directive; biodiversity, flora and fauna, soil, water, air, climatic factors, material assets, cultural heritage and landscape. It is expected that monitoring will allow unforeseen adverse effects, if any, to be identified at an early stage and subsequent remedial action to be initiated.

## SEA OF THE MASTER PLAN 2008

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The overall conclusions to be drawn from the SEA of the Master Plan 2008, like its predecessor the Master Plan 2003, are that the plan will have many positive impacts on the environment. The scale of the plan is ambitious involving new and amended Planning Schemes. The mitigation measures devised and incorporated into the Master Plan will reduce and remedy any negative environmental impacts. Key challenges will include provision of infrastructure (water, waste water and transport) to support development, while protecting the natural and built resources of the Area.