

Environmental Impact Statement

of Development Proposals contained in the
Planning Scheme for
Docklands North Lotts

August 2001

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Minimum Headings for Reports on Site Contamination

Non-Technical Summary

This Environmental Impact Statement (EIS), which was prepared by Urban Initiatives on behalf of the Dublin Docklands Development Authority (Authority), accompanies the Planning Scheme for the Docklands North Lotts Area (Area). Environmental Impact Statements are generally prepared in conjunction with applications for planning permission in respect of specific and detailed development proposals and are therefore more detailed than this document. However, this EIS is as robust a document as is feasible given the generic and strategic nature of the Planning Scheme.

The EIS outlines the proposed development, describes the receiving environment and highlights issues relating to the impact, amelioration and mitigation of the proposed development of the Area.

The Area that is the subject of the Planning Scheme and the EIS covers the Docklands North Lotts Area and includes both Spencer Dock and The Point. The development objective for the Area is to seek its economic, physical and social rejuvenation within the constraints and opportunities afforded by the urban context and the Dublin Docklands Area Master Plan, 1997. Proposed land uses include residential, office, enterprise, retail and leisure as well as public open space and water-related activities. Due to the extent of the Area which is characterised by multiple private land ownerships, development is likely to be carried out over an extended period of time. A significant amount of development is however expected within the next 5 to 10 years.

The receiving environment of the Area is largely industrial and warehousing in nature, under-utilised and in need of rejuvenation. A minority of areas may be contaminated as a result of previous uses and may require remedial work to be brought back into use. There is little in the way of valuable flora and fauna in the Area due to the previous use of the land for industrial and related uses. The water quality within Spencer Dock and River Liffey is not at a very high standard. There are a number of important historic buildings and features within the Area and parts of the Area are designated as Conservation Area in the Dublin City Development Plan, 1999. Other features of the Area are typical of an urban area with a considerable, industrial and docking past.

The existing community is situated in small pockets throughout the Area. There are also other established communities surrounding the Area. The North Docklands Area is experiencing higher than average unemployment levels in comparison with Dublin City and County. However, employment opportunities are steadily improving. In addition, there is a shortage of suitable affordable housing for the local community in the locality.

The Area is poorly served by public transport. The development of the Area is dependent on the delivery of significant public transport initiatives including improved bus services, the extension of LUAS to The Point and the construction of a new rail corridor through the Area.

During the construction phase of the development measures should be taken to ensure that impacts on local residents and businesses are minimised. Such measures will include phased construction, restricted working hours and restrictions on the volume and routing of area traffic. The contractors involved in the construction process must be encouraged to provide employment opportunities for local people.

A number of key issues are identified in the Environmental Impact Statement. These are:

- The impact of the development should be favourable to the existing communities of North Wall and other surrounding communities;
- The need for social and/or affordable housing, suitable employment opportunities and additional public amenities is recognised and should be addressed accordingly. Opportunities

to provide new community facilities should be realised;

- The issue of traffic and transportation in the Area is key to the success of the development. Development should focus on environmentally friendly modes of transport and should minimise the impact of car traffic on the Area. Development in the Area will be predicated on the implementation of new public transport in the Area, including improved bus services, LUAS and heavy rail. Traffic generation in the Area will need to remain within the capacity of the local street network.
- The conservation of the historic fabric of the Area including protected structures and other features of historical or architectural merit;
- The visual impact of new development on the cityscape, important views and the surrounding area. The guidelines outlined in the Planning Scheme should ensure that the visual impact of the development on surrounding areas and the city as a whole is positive;
- The need for development to provide opportunities for new habitats for both flora and fauna in the Area through the creation of private and public open spaces and the improvements to the waterbodies;
- The use of Spencer Dock and the Liffey for water-based activities will be promoted. Increased use of the water for recreational uses will require appropriate measures to be taken to improve and maintain the water quality;
- The need to improve existing services infrastructure in the Area and to provide new infrastructure to cater for new development;
- The need for energy conservation. Innovative strategies should be developed for energy conservation and the reduction of harmful emissions from any new development;
- The need to remediate any contaminated sites in the Area prior to development;
- The need to take precautions for possible future changes in the global climate and, in particular, any threat of flooding.

1.0 INTRODUCTION

This Environmental Impact Statement (EIS) has been prepared by Urban Initiatives to accompany the Planning Scheme for the Docklands North Lotts Area (Area) on behalf of the Dublin Docklands Development Authority (the Authority).

1.1 Background

The area of land that is the subject of the Planning Scheme and this EIS comprises the area shown in Diagram 1, Appendix A. It extends to the centre line of the Liffey and includes the area bounded by the Campshires on North Wall Quay to the south, Guild Street to the west, Sheriff Street Upper/ Lower to the north and East Wall Road to the east. The Area covers some 32.7 hectares (80.8 acres) exclusive of the section of the Liffey which forms part of the Area. The total area within the red line is approximately 38.6 hectares (95.4 acres). At present the dominant land use is distribution, warehousing and light industry with small, dispersed pockets of residential development.

The Dublin Docklands Area Master Plan, 1997, proposed the carrying out of a Planning Scheme in the Area. The objective of a Planning Scheme is to provide a more detailed framework upon which the Authority can base the planning and development of an area within the context of the Dublin Docklands Area Master Plan in order to give detailed guidance to the Authority, landowners, developers and interested parties.

The Planning Scheme indicates the manner in which the Authority considers the Area should be redeveloped and includes the following:

- the nature and extent of proposed development;
- the proposed distribution and location of uses;
- proposals in relation to the overall design of the proposed development, including the maximum heights and the external finishes of structures;
- proposals relating to transportation, including the roads layout, the provision of parking places and traffic management; and
- proposals relating to the development of amenities and the conservation of the architectural heritage or other features

1.2 Statutory Context

Section 26 of the Dublin Docklands Development Authority Act, 1997, provides for the carrying out of an Environmental Impact Assessment (EIA) and preparation of an EIS in connection with Planning Schemes proposed under Section 25 of that Act. The EIS is required to comply with the terms of Directive 85/337/EEC and Directive 97/11/EC and the Regulations made pursuant to these Directives (European Communities (EIA) Regulations 1989, the Local Government (Planning and Development) Regulations, 1994 and, the European Communities, Environmental Impact Assessment (Amendment) Regulations, 1999.

1.3 The EIS and the Planning Scheme

The EIS should be read in conjunction with the Planning Scheme, which it accompanies. The Scheme sets out in strategic terms the Authority's aspirations for the long-term development of lands within the Area. It is intended to ensure that future development conforms to relevant development guidelines relating to land use, density of development, building form, building height and conservation etc.

1.4 The Purpose and Scope of the EIS

This EIS is an assessment of the likely, significant (positive and negative) impacts of the development of the Area on the receiving environment. In general terms, the purpose of the EIS is to describe the nature of the existing environment and the nature and extent of the proposed development, to identify the likely significant impacts of the development on the receiving environment and to outline any measures to ameliorate negative impacts.

Environmental Impact Statements are generally prepared in conjunction with applications for planning permission or for individual development projects and are therefore prepared in relation to specific and detailed development proposals. This EIS prepared for the Planning Scheme, by definition, cannot be as detailed as an EIS for orthodox development. The document must balance the need to meet statutory requirements and remain as robust as is feasible to reflect the generic and strategic nature of the Planning Scheme.

The structure of the Statement has been informed by the Environmental Protection Agency's Guidelines on the Information to be contained in Environmental Impact Statements 1995, and has followed the Direct Format Structure.

1.5 Scoping Stage

The scoping exercise was conducted to establish the range of issues to be considered in the preparation of the EIS. The scope of the EIS was established following consultations with the Dublin Docklands Development Authority, Dublin City Council and the community during the preparation of the Planning Scheme. From the scoping exercise it was clear that the main impacts of the Planning Scheme were traffic impact and visual impact. This EIS therefore places particular emphasis on these areas. In respect of visual impact, a three dimensional (3-D) analysis of the visual impact of the Scheme was generated in addition to a views analysis of the proposed development. In respect of traffic impact, the analysis concentrates upon the capacity of the public transportation system to sustain the proposed travel demands.

For the remainder of impacts, it was considered that a review and analysis of existing literature sources and research was sufficient.

1.6 EIS Structure and Contents

This Environmental Impact Statement is divided into the following sections:

- development objectives
- the proposed development
- the construction phase
- the receiving environment, and
- impacts, amelioration, and mitigation measures.

The EIS is supported by a series of images, located in the Appendices, which include the following:

Appendix A contains diagrams extracted from the Planning Scheme

Appendix D contains:

- Shadow images (Figures 1a - 1y)
- Indicative 3-D images (Figures 2a - 2f)

Appendix E contains:

- Views analysis of development proposals (Views 1-15)
- An elevational sketch (Elevation 1) illustrating the relationship between Millennium Tower at Charlotte Quay, the proposed 60 m high landmark building at Sir John Rogerson's Quay and the 100 m high proposed landmark building at Point Square

2.0 DEVELOPMENT OBJECTIVES

2.1 Policy Context

A range of policies and objectives from the national to local level are of direct and indirect relevance to the development of the Docklands North Lotts Area. The following have informed the preparation of the Planning Scheme.

2.1.2 Dublin Docklands Area Master Plan, 1997

The Master Plan provides the vision and strategy for the lasting social, economic and physical rejuvenation of the Docklands Area. It outlines the economic, social, transportation, infrastructural and civic design framework for the development of the Docklands Area. The Master Plan outlines objectives for a range of areas including residential, community and commercial office development, enterprise, industry and utilities, tourism, leisure and cultural uses, retailing, transport, urban design and architecture, conservation, open space, landscaping and amenities, employment, education and training.

The Docklands North Lotts Area is part of the Sheriff Street/North Wall sector identified in the Master Plan. The following relevant sectoral policies are outlined for the Area in Section 7.3 of the Master Plan:

- To expand and consolidate the IFSC (International Financial Service Centre) and the financial sector of the economy further east along North Wall Quay to Spencer Dock and beyond.
- To seek to realise the amenity and leisure potential of the waterbodies.
- To support community involvement in the opening and the restoration of the waterways and to propagate a community wide sense of ownership and pride.
- To promote bus/rail systems and transportation nodes to provide a major infrastructural impetus to the development of the Area, and in particular to the development of major cultural/tourism destinations.
- To promote the development of a district retail centre, "The Point Village", in the North Quays area adjacent to The Point.
- To seek the establishment of a new urban park at the confluence of the Royal Canal and the Liffey at Spencer Dock.

Other objectives for the Area include the development of the Campshires and the Royal Canal Linear Park, the development of a multi-storey car park and a proposed hotel/hotel cluster at The Point.

2.1.3 Dublin City Development Plan, 1999

The Dublin City Development Plan, 1999 contains a number of policies and objectives which are of relevance to the Planning Scheme and EIS. The Area is covered by three zoning objectives.

The Guild Street to Castleforbes Road section is zoned Z14 - "To seek the social, economic and physical rejuvenation of an area with mixed use of which residential and Z6 would be the predominant uses" (Z6 uses relate to enterprise and employment opportunities).

The Castleforbes Road to East Wall Road section is zoned Z4 - "To provide for and improve mixed service facilities" (a wide range of uses is permissible in this zone).

The Campshires, east of Castleforbes Road intersection, are zoned Z9 - "To preserve, provide and improve recreational amenity and open space".

Indicative plot ratios are given for Zone Z4 as 2.0:1 and for Zone 14 as between 2.5 and 3.0:1.

The Development Plan lists a number of protected structures in the Area and designates two Conservation Areas, one on the Liffey Quays and the other on the Royal Canal/Spencer Dock. The Macken Street Bridge is included as a Category One roads objective for completion within five years of the adoption of the Development Plan.

2.1.4 Dublin Transportation Initiative and A Platform for Change, Strategy 2000 to 2016, DTO, 2000

The Dublin Transportation Initiative, the final report of which was published in August 1995, recommended an integrated transportation strategy for the Greater Dublin Area for the period up to 2011. The Government decided that this strategy should provide the planning framework for the future development of the transport network in the Greater Dublin Area. The Dublin Transport Initiative is an integrated initiative and, as such, considers the relationship between transport and land use, economic development, urban renewal, employment and the environment. The Dublin Transportation Office (DTO), which has responsibility to carry on the transportation planning process, and Dublin City Council are committed to ensuring that the development and implementation of a balanced and sustainable transport system for Dublin is achieved.

The DTO has recently published A Platform for Change: Strategy 2000 to 2016. The Strategy promotes an integrated public transport network, strategic but limited road network improvements, traffic and parking policies, freight management policies, cycle and pedestrian networks, demand management policy and guidance on complementary land use policies.

The Strategy includes the construction of a second rail corridor (Interconnector tunnel) through the centre of Dublin and through the Docklands by 2010. The extension of the LUAS to The Point is scheduled for completion in the period 2003 to 2006.

2.1.5 City Canals Plan, 1999 and the Royal Canal Corridor Study, 1995

The City Canals Plan, 1999, by Duchas and Dublin City Council identifies key policies and issues for the development of the canals. The intention of the Plan is to set out a planning framework for the corridor to bring together environmental, commercial and social issues. The proposals which relate specifically to the Royal Canal at Spencer Dock are:

- The full restoration of the canal basin south of Sheriff Street.
- The creation of the linear park alongside the canal.

The Royal Canal Corridor Study, 1995, included objectives for the rejuvenation of the Royal Canal at Spencer Dock. At North Wall Quay the Study recommended the improvement of physical access to the river, the enhancement of river frontage using appropriate planting and the provision of mooring facilities on the Liffey. Between Scherzer Bridge and Sheriff Street Bridge, the study recommended the redevelopment of the east bank to include offices, business, residential and private recreational facilities and the provision of public access to the Canal along both banks, with a link to the International Financial Services Centre (IFSC).

2.1.6 Residential Density: Guidelines for Planning Authorities, 1999

The Guidelines outline Government policy in relation to residential development. They recommend relatively high residential densities on 'brownfield' sites (plot ratio of between 1.0 and 2.5:1). The Docklands North Lotts Area could be included in this category. The Guidelines outline a range of controls and safeguards for residential development at higher densities.

2.1.7 Strategic Planning Guidelines for the Greater Dublin Area, 1999

Although this document refers to the Greater Dublin Area, it has implications for the Area in terms of employment, transport and density of development. The strategic nature of the Area is recognised in the Strategy for the Metropolitan Area with reference to the importance of brownfield sites in accommodating -

- the future population;
- the possible development of a shopping precinct in the general Docklands Area on a new rail link;
- the extension of LUAS into the Docklands; and
- a new rail link east of the existing Loop Line Bridge "to service the IFSC and strengthen proposals for the Docklands Area."

2.1.8 Managing Intensification and Change, A Strategy for Dublin Building Height ,2000

This study was commissioned by Dublin City Council to outline an approach to higher density development and higher buildings in the city. The report details the European context, identifies character areas in the inner city area and details potential for individual high buildings and high buildings clusters. It seeks to establish a framework against which policy for high buildings can be developed.

2.1.9 Retail Planning Guidelines for Planning Authorities, 2000

The Retail Planning Guidelines provide a framework for local authorities in the preparation of development plans and the assessment of applications for retail development. The guidelines impose a sales floor space cap of 3,500 sq2 on new individual convenience food stores in the Greater Dublin Area.

2.2 Development Options and Alternatives

The EIS process of 'development options and alternatives' requires the consideration of other development options. The development area was originally reclaimed from the estuary in the 18th century and therefore returning the Area to its original state is not an option.

2.3 The "Do-Nothing" Option

The "do nothing" option is also available for consideration. This means that the Area would maintain its current physical and economic situation. Adopting the "do nothing" option would result in the Area remaining in part obsolete, vacant and underused with little or no social, physical or economic enhancement. In this context, the designation of the Area by the Minister for the Environment and Local Government as one for which a Section 25 Planning Scheme should be carried out by the Authority presupposes that the Area is in need of regeneration.

2.4 Development Alternatives

A large number of development alternatives were considered as part of the concept and detailed design phase of the project. The range of alternatives evolved as the project progressed and was guided by the stated Master Plan objectives for the Area. The following is a summary of the main development alternatives considered under the categories of land use, urban form and movement.

2.4.1 Land Use

In broad terms two principal alternatives were considered. Alternative A involved the even mix of residential and commercial uses across all the sites in the Area. Alternative B involved meeting the land use mix requirement over the entire Area while allowing for concentrations of uses in certain locations.

Alternative B was chosen as:

- It allowed greater flexibility in achieving the objectives of the Master Plan such as the district retail centre and the hotel/hotel cluster at The Point.
- It allowed for the concentration of similar uses in functional groups in the Area, for example, providing for office uses and supporting services close to improved or new public transport connections and residential uses concentrated in small pockets.
- It allowed locations in the Area to develop different use identities and consequently distinctive urban form.

2.4.2 Urban Form

A wide range of alternatives and scenarios were considered. In summary, two main alternatives were considered. One involved the continuation of the pattern of development in the IFSC into the Area and the other provided for significant, new patterns of urban form.

2.4.2.a Street pattern and urban spaces

Alternative A provided for the retention of the existing street pattern with large development blocks. Alternative B permitted the retention and extension of the existing street pattern with the introduction of new internal streets, pedestrian priority routes, new urban spaces and routes and amenity areas.

Alternative B was favoured as:

- It provided greater permeability and accessibility.
- It provided a greater number and variety of developable land parcels.
- It created spaces which could serve the various functions and amenities the Area was intended to accommodate.
- It allowed for the implementation and interchange of important public transport infrastructure.

2.4.2.b Building height

Alternative A involved relatively consistent building heights across the Area at a level of between 5 office and 7 residential floors. Alternative B included changes in building height at key locations to emphasise functions and to intensify development density and use.

Alternative B was chosen as

- It allowed for good city image by providing a distinctive but appropriately scaled skyline.
- It provided for greater legibility in the Area by providing for distinctive landmarks with increased scale to emphasise important functions in the Area.
- It allowed for the intensification of uses in locations with good accessibility to public transport.

2.4.2 c Other Form Elements

The other elements of urban form and their concept development are outlined in greater detail in Section 3 of this report.

2.4.3 Movement

Alternatives for movement in the Area were determined by current proposals for significant public transport infrastructure and these were taken as given. Movement in the Area was designed to have regard to existing and future capacities for all modes and the modal split required between modes. Two basic, alternative strategies for car parking were considered.

Alternative A was the application of existing standards across the Area. Alternative B involved the progressive tightening of parking standards in the Area over time and the implementation of various elements of public transport.

Alternative B was chosen as:

- The existing capacity for car parking was limited by physical traffic access to the Area. The application of current standards would result in development in the Area exceeding overall capacity at an early stage of its development.
- The requirement for car parking would reflect the improved public transport provision in the Area over time and allow for a more equitable distribution of car parking over the development horizon of the Area.

2.5 Final Development Choice

The final development choice was informed by the Master Plan objectives for the Area. These include:

- current planning policies and objectives.
- the unique urban context of the Area.
- factors encouraging change in the Area which create the potential for further development.
- the development of improved connections with the city centre.
- the creation of new amenities of city wide importance.
- preservation of structures and features of architectural and historical interest in the Area.
- the development of significant public transport infrastructure serving the Area.

In the preparation of the Planning Scheme a number of development alternatives were considered. The final development choice was chosen as it provided the best option in terms of achieving a mixed-use area with a balance of residential, commercial, enterprise and amenity uses in a well-connected, permeable and attractive environment.

2.6 Development Objectives

The nature and extent of development in the Docklands North Lotts Area will be dependent on the delivery of the Interconnector and other transport proposals. The overall strategy for the development of the Area is based on the following set of principles identified in the Planning Scheme:

- Connection of the Area into the city, in particular the IFSC, surrounding communities, the South Docklands and the extended city.
- Provision for a new integrated movement strategy maximising public transport accessibility, quality and capacity, creating a high quality pedestrian and cycling environment and minimising car traffic and its impact on the Area.
- Retention of the essential historical fabric and context of the Area.
- Provision for a range of uses and a density of development which will establish balanced living, working and recreational environments creating a lively, safe and people friendly area which operates over an "eighteen hour day".
- Provision of a new urban structure, which stems from established development patterns, with new spaces and streets.
- Establishment of a new grain of development and building form in accordance with the design guidelines set out in the Planning Scheme.
- Development of significant new and enhanced amenities for the existing and future living/working communities of the Area.

2.7 Public Transport Improvements

It is anticipated that the development proposed will occur over an extended period of time, due to the extent of the Area to be developed. The phasing of development will depend on the release of private development land and the implementation of significant and essential public transport improvements. The DTO's A Platform for Change: Strategy 2000 to 2016 envisages that improved high quality bus services will be introduced, that LUAS will be extended to The Point between 2003 and 2006 and that the Interconnector will be operational by 2010.

The Authority will seek the prompt implementation of public transport improvements in order to ensure that the full development potential of the Area can be realised. Failure or delay in the provision of essential public transport infrastructure will affect the capacity of the Area to accommodate the developments provided for in the Scheme.

2.8 Development Outline

The development of the Area will consist of all basic site improvements including the necessary infrastructure to serve the proposed uses. These will include all new sewer works, other services and landscaping.

The proposed development in its final form is likely to comprise the following:

- residential uses;
- office uses;
- retail uses;
- new civic and local open spaces;
- enterprise uses;
- hotels;
- restaurants;
- leisure uses;
- new and improved rail, LUAS, bus routes, car parking and supporting infrastructure.

2.9 Energy Policy

The Authority will seek to be the catalyst for the implementation of innovative strategies in respect of energy conservation and the reduction of harmful emissions to the environment in addition to the introduction of measures that minimise other negative impacts on the environment arising from the consumption of energy from various sources.

3.0 PROPOSED DEVELOPMENT

3.1 Area Location and Description

The Docklands North Lotts Area comprises the area shown in Diagram 1, Appendix A. It extends to the centre line of the Liffey and includes the area bounded by the Campshires on North Wall Quay to the south, Guild Street to the west, Sheriff Street Upper/ Lower to the north and East Wall Road to the east. The Area covers some 32.7 hectares (80.8 acres) exclusive of the section of the Liffey which forms part of the Area.

The Area is strategically located immediately east of the IFSC and approximately 1 km east of the city centre. Connolly Station and Tara Street Station are both located within 1 km of the western edge of the Area providing DART, suburban and intercity commuter services. Busáras is also located within 1 km of the Area providing intercity and regional bus services. A number of city bus routes terminate on the Liffey Quays east of O'Connell Bridge.

The predominant land use in the Area is warehousing, distribution and light industry. There are a number of small but dispersed pockets of residential development. The Point Depot at the eastern end of the Area is a major entertainment and events venue. Office and retail uses are present but small in scale. The site for the proposed National Conference Centre is located in the south-west corner of the Area.

3.2 Adjacent Land Uses

Surrounding residential areas include Sheriff Street and Seville Place to the north and north west, and the Church Street East/ Abercorn Road, Irvine Terrace area and East Wall Village to the north. Rail distribution and light industry are located to the north of Sheriff Street at the CIE rail freight depot and the Castleforbes Industrial Estate. Dublin Port, a key element in national infrastructure, abuts the eastern boundary of the Area at East Wall Road.

3.3 Land Ownership

The lands in the Area are in multiple ownership. The largest site within the Area is in the ownership of CIE. There are a relatively small number of other landowners.

3.4 Development Area

The approximate total gross floor area of the proposed development including existing developments is likely to be between approximately 710,000 and 760,000 m². (This figure may vary considerably depending on the final built form).

3.5 Topography and Geo-Technical

The Docklands North Lotts Area is composed of land-fill claimed from the estuary in the 18th Century. A generalised summary of known geo-technical characteristics is outlined in Section 5 of this document.

3.6 Area Preparation

For the purposes of the Planning Scheme it is assumed that basic services and utilities will be carried in the existing street network with connections made as appropriate to various phases of development. With reference to the preparation of sites for development, it is assumed that construction will be borne on piles, deep pad foundations and raft foundations, which will be reflective of the composition of the soil.

3.7 Development Character

The Planning Scheme provides a structure for the regeneration of this under-utilised area of the Docklands. The need for a Planning Scheme has been established having regard to the extent of redevelopment needed and the significance of barriers to development including the relative isolation of the Area. The Planning Scheme will be a means to achieving the ordered and appropriate development of the Area, exploiting both the water bodies and a strategic city location. Diagram 2 in Appendix A provides an analysis of the Area in urban design terms.

The proposed development will contain a broad mix of uses. The projected residential population within the proposed development is likely to be between approximately 7,100 and 9,500 persons (assuming final dwelling numbers of between 3,550 units and 3,800 and occupancy of between 2.0 and 2.5 persons per dwelling). This will lead to a significant increase in the resident population with an associated need for the improvement and provision of community facilities and open space areas.

Recent trends in housing development suggest that there is a strong demand for housing in the Area. In addition, the growing demand for leisure and amenity facilities will help realise the potential of the Area and the possibility for water-based leisure opportunities.

Significant commercial development in the Area will result in a large working population. It is estimated that between approximately 16,500 and 17,800 people (figures based on gross floor space for commercial development and rounded) may ultimately be employed in commercial development in the Area

3.8 Urban Design Strategy

A distinct and characteristic urban design strategy has been developed for the Area in the Planning Scheme. The indicative urban form for the Docklands North Lotts Area is shown in Diagram 3, Appendix A. The following sections (3.8.1 to 3.8.4) are extracts from the Planning Scheme which detail the key structuring principles, urban structure, urban grain and architectural design.

3.8.1 Key Structuring Principles

The provision of a robust urban structure for the Docklands North Lotts Area is based on creating a clear hierarchy of major routes and spaces in the Area. This provides the rationale for the location of major buildings and particular land uses in the local area, as well as celebrating civic routes and spaces which operate at city scale. The key principles outlined below have been applied to developing the urban structure for the Area.

Extending the linear city

The Area offers a logical extension of the urban structure of the city eastwards, creating the potential for a linear city which extends along the north bank of the River Liffey from Smithfield in the west to the Port in the east (Diagram 4, Appendix A). The Point becomes an entry point to the city- the first point of arrival for passengers from the ferry and liner terminals. Building on this principle, Mayor Street becomes an extension of the main civic spine on the alignment of the proposed LUAS light rail system. The location of new light rail stops at Station Square and at the Point Village and the proposed Docklands Station establishes the potential for major new development nodes along the spine.

Building on historic street and block patterns

The Area is characterised as having a strong orthogonal grid that clearly defines the pattern of blocks and buildings in the Area (Diagram 5, Appendix A). Although the grid is discontinuous, largely as a result of railway infrastructure, an opportunity exists to reinstate the historic connections in the Area and provide a logical framework of major development blocks. These blocks will form the basis for the detailed layout of internal blocks and plots within the Area.

In this respect, the proposal is to reinstate Mayor Street as the central spine, provide additional north-south streets on the line of historic streets, and improve links to surrounding areas.

Exploiting new accessibility

The proposal for the new rail Interconnector line and the Docklands Station provide an opportunity to create a major new development node along the east west spine (Diagram 6, Appendix A). An opportunity exists to align the route with the orthogonal grid of the Area, locating the station immediately underneath the former North Wall Quay Station complex at Spencer Dock. This has the advantage of re-establishing the use of the former station building as well as providing the opportunity to integrate with the proposed light rail system on Mayor Street and ensure maximum accessibility through the Area.

The existing railway line at The Point provides access to the Port and is part of the overall character of the Area. This route needs to be accommodated in the future development of this Area.

Making better connections

The Grand Canal Dock Planning Scheme proposes the introduction of a new north-south pedestrian spine which follows the quayside of Grand Canal Dock to the south. This route intersects at Grand Canal Square with an east-west pedestrian spine that extends into the city. The north-south route crosses the River Liffey via a proposed pedestrian bridge, setting up a strong desire line to the north through the former station building on North Wall Quay (Diagram 7, Appendix A). A further opportunity exists to strengthen this spine by providing safe and effective access to Docklands Station and light rail stop at Station Square, opening up access to people living south of the river.

The nature of rail infrastructure, topography and major land uses in the vicinity establishes a strong sense of isolation within the Area. An opportunity exists to extend the network of routes to the north by connecting through the triangle of land to the north of Spencer Dock to the East Wall residential area. This could be effected by a pedestrian bridge over the railway line to connect into Church Road. Potential exists for an additional pedestrian crossing of the Royal Canal north of Sheriff Street and improved links along the proposed linear park to the north. Greater integration with adjoining residential communities to the north will be achieved by the creation of new routes through the Area, the development of new urban squares and open spaces (in particular the Royal Canal linear park) and the implementation of an appropriate action plan about to be prepared by Dublin City Council for the triangular area of land above.

Making of a modern main street

In building on the proposal to extend the linear city and create a strong sense of place along the Mayor Street corridor, it is proposed that Mayor Street be widened to 21 metres to cater for the LUAS extension. The street becomes a new urban boulevard, reflecting the scale of importance of the route as a main integrator of urban activity. The scale of buildings should both contain and enhance the character of the street providing active uses at ground floor and a range of uses above.

Creating two new public squares

The proposed station and light rail stops establish a rationale for the creation of two major public spaces in the Area. Station Square should be more formal in nature and provide a strong civic focus to the commercial precinct. In the Planning Scheme Station Square is shown bisected by LUAS in order to achieve animation in the square. The Scheme will however permit, if required in order to achieve the creation of a discreet performance space, the realignment of Station Square in a southerly direction so that the LUAS line runs along the north side of the square. The space is however required to maintain a sense of enclosure similar to that indicated on Diagrams 10 and 11c.

The scale of the Point Square is established by the dimensions of the light rail stop as well as the location of the Point Depot. This establishes a long rectilinear space which could function as a focus for evening activity and events. In this respect, Point Square becomes a livelier flexible space, building on the potential for large outdoor events.

Making a new amenity on the River

The Planning Scheme makes allowance for the proposed conference centre to be accommodated in its realigned position on the site immediately adjacent to Spencer Dock as determined by the decision of An Bord Pleanála. Should the National Conference Centre not be developed, it is proposed that the original Master Plan proposals be adopted. The creation of a major public park in this location is proposed, with the possibility of a cultural building being developed within the park. Any building or architectural feature proposed for the park should be designed to ensure the enclosure of Station Square.

Making a new amenity of Spencer Dock

Spencer Dock provides a unique opportunity to create a more intimate relationship with the canal and river. As a main focus to the proposed linear park along the Royal Canal, Spencer Dock could be developed with new waterside buildings including pubs, cafés, etc., located close to the water and providing a focus for leisure and entertainment activities. This could be achieved through a series of smaller pavilion buildings and boat houses which would add to the vitality of the Area. The operational and locational implications associated with such development would be the subject of consultation with Waterways Ireland.

3.8.2 Urban Grain

The establishment of a clear urban grain of blocks and plots is essential to creating mixed use places. This implies that the creation of a secondary order of routes and spaces is necessary to provide a framework for the subdivision of the larger blocks.

Defining a network of new routes and spaces

The Planning Scheme proposes a series of internal routes and public places (some of which may be shared surface between vehicles and pedestrians) as shown in Diagram 8, Appendix A. The objective is to create a strong east-west series of informal routes and spaces. These routes can be pedestrian or vehicular to suit internal access and design. Those intended for vehicular traffic will be designed to the lowest order of traffic speeds. These routes and spaces are not prescriptive in location. Developments will however be expected to adopt the objectives implied in the layout. A key principle is to imbed in each major block a local open space which could be used as a play area.

Building on the existing pattern of subdivisions and ownerships

A key factor in laying out these blocks is ensuring that a number of the routes and spaces can be delivered by individual landowners without necessarily requiring full scale acquisition. The alignment of internal routes and potential new sub-divisions of blocks therefore largely follows existing known plot ownerships. An important principle in the Planning Scheme is the maintenance of the plot sub-division to ensure finer grain urban development. This applies particularly to the middle section of the Area where land parcels are smaller and a finer grain of mixed use development can be achieved.

Creating a range of development parcels

With a view to creating a finer grain of development, the Planning Scheme proposes the breaking down of larger sites into smaller development parcels. Potential sub-divisions have been indicated in Diagram 9, Appendix A. Should the demands for larger floor spaces require larger sites, development proposals should show how this principle is dealt with in detailed architectural design.

3.8.3 Urban Scale

The identification of a clear set of rules (as follow) to guide the scale of development is critical to creating successful places. As an urban design consideration, the scale of buildings should reflect the nature and importance of the routes and spaces they front. An increase in scale can reinforce the civic qualities of a place and provide points of interest and identity. In other instances, a reduced scale will protect the amenity of streets and backyards to ensure optimum climatic and light conditions.

Promoting a scale of building relative to enclosure of space

The Planning Scheme proposes a series of desired building heights and sections to be applied to various streets and spaces. In promoting the central spine on Mayor Street, it is recognised that buildings should be of a particular urban scale which give importance to the street and clearly enclose the major spaces at Station Square and the Point Square. The Planning Scheme aims to create a lively, safe and people friendly area. This will be achieved by development at the human scale, by high quality architectural design and by an appropriate mix of uses which promote the animation of streets and spaces. Station Square and Point Square will in particular be required to have a mix of uses including office, residential/hotel and retail to ensure enlivenment of the spaces over an "eighteen hour day". Diagram 3 in Appendix A gives an indication of how the overall design criteria are translated into urban form.

Building heights and setbacks

In order to provide a strong sense of street continuity, specific building heights have been identified for the main or primary streets. Diagram 10 in Appendix A illustrates these building heights and makes special provision for landmark buildings. It is generally anticipated that development will take the form indicated in Diagram 10 and the Authority will seek appropriate building heights along the internal route network in the Area as indicated in the diagram. Design solutions will be considered that do not compromise the urban design quality of the Area or existing residential amenities. Building heights will be required to be such that satisfactory standards for sunlighting and daylighting are achieved and residential amenities are protected. However, the Authority also reserves the right to limit building heights on further internal routes to three storeys plus a possible set back. Building heights will not in any case exceed the maximum stated for the adjacent main or primary streets.

Diagrams 11 a-h show selected sections through the Area. An additional storey is allowed behind the roof setback line on commercial buildings. In the case of residential development an additional 1 or linked 2 set back storeys may be allowed. The depth of the set back of buildings located on the southern side of Station Square shall be increased to allow for increased sunlight penetration to the square.

In the particular case of the residential development fronting Spencer Dock, the Authority will also consider a series of tower blocks having a maximum height of nine storeys, plus a possible feature storey, as an alternative to the height indicated in Diagram 10 subject to the maximum height at the junction of Sheriff Street and Spencer Dock remaining at six storeys residential plus two set back and the design of such towers to reflect and have respect for the context of the surrounding area.

Ensuring effective sunlighting

The orthogonal grid provides the opportunity to easily identify a set of guidelines to ensure that maximum sunlight is achieved to building frontages and into backyards. The orientation of the sun during the Spring and Autumn solstice at midday gives an appropriate angle (38 degrees) to be used. The principle applies for north-south cross sections and is based on ensuring that sunlight penetrates first floor windows on south facing facades at these times. This determines the scale of the building and width of the street, as well as the extent of roof setback line above building height. The Authority will require the achievement of good standards of sunlighting and daylighting throughout the Area.

Creating new landmarks

A major cultural building on the National Conference Centre site provides the opportunity to create a strong new urban landmark which operates at city scale.

An opportunity exists to celebrate particular nodes and spaces through high buildings of outstanding architectural design. In order to preserve views in a northerly direction from Fitzwilliam Street, it is necessary to restrict the maximum height of the landmark buildings located within this view corridor. The relevant maximum building heights for landmark buildings 1 and 3 in Diagrams 12 a and b (Appendix A) determined by the cone of vision are circa 42 metres on North Wall Quay and circa 44 metres along the centre line of Mayor Street. The Planning Scheme recognises the potential for landmark buildings to be located north of the Station Square which are within this height limit. These buildings shall be designed with a disaggregated form in order to reduce their bulk. The Authority will require the highest quality of architectural design for these landmarks and will encourage an international design competition.

A tall building, up to a height of 100 metres, is proposed on the axis of Mayor Street at the Point Square to terminate the central spine road. The building shall have a minimum height of 60 metres. If exceeding the 60m minimum height it shall incorporate a public viewing area at the top floor. The architecture of this unique building shall be required to display particular beauty and grandeur. Whereas it is envisaged that the eastern edge of the Area will be developed for predominantly commercial use, the Authority will permit hotel use within the tall building. Residential use will be open to consideration but only to the extent that it is not conflicting with ongoing Port operations. In considering an application with regard to development of this building which includes any residential element, the Authority will consult with Dublin Port.

The tall building at the Point should be slender, following a slenderness ratio of not less than 4:1 in the case of a building having an integrated three-dimensional form or 2:1 in the case of a building with a disaggregated three-dimensional form.

Due to the generic nature of the Planning Scheme and its accompanying Environmental Impact Statement the detailed impact of a non specific tall landmark building cannot be measured. The Authority will require the submission of a detailed Environmental Impact Statement as part of any application for certification of any such building proposal. The purpose of such an Environmental Impact Statement is to ensure that the urban design and other environmental objectives of the Planning Scheme are achieved.

3.8.4 Architectural Design

The Planning Scheme establishes the principles for the built form of the Area. The architectural design should be of the highest quality. In order to promote high quality of design and diversity in architectural style, the Authority will encourage the use of architectural design competitions for key sites in the Area. The following guidelines establish principles for proposed development:

Building typology

The development of a range of building typologies is essential to creating a robust and adaptable built fabric that responds to economic, social and market needs. Ideally buildings should be designed in a manner which would permit the buildings to be adapted for other uses over time and so facilitate a more sustainable built environment.

Ground floors

The ground floor of all buildings should be clearly expressed and have a higher floor to floor dimension than the storeys above.

Entrances

The primary access to buildings should be from the street with entrances at no more than 15 metre intervals. This increases activity and improves surveillance on the street. Accommodation on the ground floor should have private front doors, thereby maximising the number of entrances on the street. The number of units accessed from a common stair should be minimised, giving people more privacy and control.

The entrances of all buildings should be reflected both in scale and form to establish a clear identity to the building. This should be achieved by use of vertical elements which project beyond the setback line, different facade treatments or larger openings in the facade.

Roofscape

Variety of roofscape will contribute to the visual quality of the streets and spaces. The Authority shall consider one set-back floor above the maximum storey height in the case of commercial development and up to two in the case of residential development, provided they contribute positively to the streetscape. Architectural features, not representing usable space, such as spires or glazed cupolas etc. will be open for consideration above maximum heights stated to a maximum of 30% of building height provided these features contribute to the architectural merit of the building, the quality of the urban design in context and do not inappropriately impact on the skyline.

Corner Elements

Corners are prominent elements which help to give a place an identity and positively contribute to the public realm. Corners should be addressed with special treatment such as creating a feature or raising their height. Corners shall be marked by an increase in building height of between two and four storeys at the intersection of North Wall Quay with the main streets leading to the river. Such an uplift should primarily be an architectural feature although the resulting floor space may be of useable extent.

Materials

An important factor in the creation of successful urban environments is the use of high quality materials. Combining high quality materials and natural old materials can add to visual diversity. Materials used should include stone, brick, render, steel and glass. Natural colours should be used. All materials should be durable to avoid long-term maintenance problems. Designers should specify sustainable materials insofar as possible by considering their environmental effects over their entire life cycle.

In order to promote a strong sense of visual quality it is recommended that each building differs slightly in colour or use of materials. Each building should have due regard to its neighbour in presenting solutions for façade treatment to ensure this principle is met.

Disabled Access

Designers should consciously design for disabled access to the amenity and public spaces, the streets and buildings.

Dealing with ground floor levels

In order to ensure privacy for residential units at ground floors on busy roads, it is recommended that the ground floor be raised above street level subject to meeting the requirements of the Building Regulations. In combination with a 1.5 metre zone from the back of pavement line, this allows for increased privacy within living rooms and studios, as well as allowing light and smoke panels to undercroft car parking.

In order to promote security at street level, it is recommended that the use of railings be introduced on busy streets where ground floors are raised. These should be in metalwork and could incorporate public art. In the case of quieter residential streets, this interface could be defined by the use of low walls, planting strips or changes in material.

In the case of 'live' retail frontages at street level on busy streets, the setback from the back of pavement line should be treated in the same materials as the public pavement. Its boundary should be defined by the use of stainless steel or bronze strips.

Making allowance for future flood levels

To accommodate future flood levels arising from the consequences of global warming it is recommended that ground floors be raised to a minimum level of 3.3 OD. This will require that all entrances to basement car parking will need to be raised in lower-lying areas.

3.9 Density and Mix of Development

The Dublin City Development Plan sets out indicative plot ratio figures of 2.0:1 for Zone 4 (the Point Village area) and 2.5 to 3.0:1 for the remainder of the Area. It also envisages the possibility of increasing these densities in areas adjoining major transportation nodes or in urban renewal areas. The Authority, however, considers it appropriate to increase the Zone 4 plot ratio and has decided to adopt a uniform range of 2.5 to 3.0:1 for the entire Area in order to:

- Give a degree of certainty to the property market.
- Ensure that good standards of daylight and sunlighting are maintained through the entire Area.
- Ensure an adequate provision of quality amenity open space in an area which acutely needs such space, in particular the Royal Canal linear park and the Campshires.
- Provide a coherent urban design framework for the Area.
- Ensure a proper setting for the protected structures in the Area.

The Authority considers that it is possible and desirable to achieve a plot ratio of 2.5 to 3.0:1 over the entire Area, even taking into account the areas required for the development of necessary roads infrastructure and the incorporation of the required public amenity areas. The latter includes the Campshires, the reinstatement of Spencer Dock, the creation of a linear park at Spencer Dock and the Royal Canal, the public park at the confluence of Spencer Dock and the River Liffey and the small urban spaces located throughout the Area. In achieving this overall density, the Authority recognises that the actual net plot ratio on built land in the vicinity of the public transport nodes at Station Square and the Point Square may achieve densities in excess of 3.0:1.0.

Architects/designers of buildings adjacent to protected structures and other buildings to be retained will be required to demonstrate that their designs are sufficiently respectful of such structures, for example by reducing their heights and/or increasing set-backs.

An overall land use mix of 40% commercial and 60% residential will be promoted throughout the Area. The residential category of land use is predominantly related to dwellings. However, community and youth facilities and local shopping will be encouraged and cultural and hotel uses will be open for consideration within the residential category.

The Master Plan requirement for 60:40 residential to commercial proportion of land allocation may not translate directly into a similar proportion in terms of built area because of the open space requirement for residential use. In many cases the proportion may invert so that the built area in terms of floor space of commercial development will exceed that of residential development.

In general, to ensure that adequate public and private open space can be provided, a net density of 247 dwellings per hectare should not be exceeded. A higher residential net density standard of up to 325 units per hectare may be permitted for development in proximity to the Point Village and Station Square where the Authority will seek to concentrate accommodation for single people. Designers will be expected to maximise the number of residential units having dual aspect.

The overall aim is to allow for a mixed-use area with a wide range of activities that can put in place the conditions necessary for a vibrant and active urban area. In order to achieve activity throughout an "eighteen hour day" a range of uses including office, residential/hotel and retail will be required to front onto public spaces. In general, an even mix of development will be required in the Area. However, it will be necessary to allow for the concentration of some uses in certain locations in order to develop synergies and create places with distinctive character (see Diagrams 13a and b, Appendix A)

3.9.1 Office and enterprise

Demand for office space of most types, ranging from corporate headquarters to small unit offices, remains strong in Dublin. The Docklands Area, and in particular the IFSC Area, has succeeded in attracting a large amount of "Type A" professional and business office space in high spec, high profile buildings. "Type B" office space, required for such activities as R&D and telemarketing, has also been developed, most notably at East Point in the North Docklands. Small unit offices and enterprise units are located throughout the Docklands. Offices will comprise an important element of the commercial component of the Area.

Smaller office and enterprise space should be located throughout the Area where it can be integrated into the grain of the developing Area and mixed with other uses such as residential and retail. The potential for office use above the shop should be considered.

Larger Type A offices will be encouraged to locate in proximity to the Docklands Station. All office development should be designed in a flexible manner allowing for future subdivisions to accommodate market changes. Such offices will be encouraged to include a meaningful degree of public accessibility. Developers will also be expected to provide ground floor accommodation for service traders, community service offices/uses and similar along secondary street frontages, in order to allow occupancy of the Area by micro-economic activities and to enhance local sustainability.

3.9.2 Residential

It is the policy of the Master Plan to achieve a mix and balance in the size, type and tenure of residential development, and in so doing increase the residential base throughout the Docklands Area. It is the Authority's objective to ensure that residential units will vary in both size and type to accommodate young single people, families with children, older people and those looking for retirement homes close to the city centre.

The demand for housing in the Docklands is extremely strong at the moment. The adjacent IFSC has attracted substantial apartment development. Given recent experience and demand, the Docklands North Lotts Area will be an attractive location for apartment development in the coming years.

There is a need to provide units that are suitable for owner occupation. Owner occupiers, relative to investors, are discerning in their choice and will be seeking, for example, large living spaces, separate kitchens and en-suites to the main bedrooms. The accommodation provided should therefore be large and attractive in design to attract owner occupiers.

The Authority will seek to concentrate accommodation for single people and couples in the areas of Station Square and the Point Square and concentrate accommodation suitable for families in the areas in between these two locations. The Authority will therefore permit a maximum density of 247 units net per hectare in the family area and 325 units per hectare in the areas of Station Square and the Point Square. In the case of the family areas the maximum proportion of single bedroom units is 25%. In the case of the other areas, it is 35%. The Authority will, in the assessment of Section 25 applications for larger scale residential development of 50 or more units, require the inclusion of a minimum of 25% of family-sized units i.e. a minimum of 80 square metres floor space. In smaller scale residential developments the Authority will apply a pro rata provision to ensure a sufficient number of family-sized units.

Family housing should be located surrounding new urban spaces where high quality townhouse, mews and duplex developments will be promoted. Private open space should be available to most townhouse and mews developments. The Authority will, in the assessment of Section 25 applications for larger scale residential development of 50 or more units, require the inclusion of a minimum of 25% of family-sized units i.e. a minimum of 80 square metres floor space. In smaller scale residential developments the Authority will require a pro rata provision to ensure a sufficient number of family-sized units.

The Authority will require a significant degree of residential or hotel use along North Wall Quay to ensure enlivenment of the riverfront.

Adequate sizes and dimensions for residential units, together with associated facilities and amenities such as private and public open space, are crucial in achieving quality residential development. In particular, at least 8sqm per bed space of private or semi-private open space shall be provided in residential developments. Such space can include balconies, roof gardens and courtyards. Detailed design standards for residential development should comply with the provisions of Residential Density: Guidelines for Planning Authorities (DoELG, 1999) and the Dublin City Development Plan, 1999.

All residential development must include 20% social/affordable housing. This housing should not be distinguishable in terms of design or materials from private housing. The Authority in carrying out its own development and in certifying development under Section 25 will have regard to the housing strategy of Dublin City Council in particular those provisions relating to Docklands housing needs.

3.9.3 Retail

Existing retail development in the Area is limited to dispersed, small shop units. Recent retail development has occurred west of the Area on Mayor Street Lower. Additional retail facilities will be required in the Area to serve new and existing communities. It will be important to provide for evening shopping in the Area.

Retail use should be developed at the following locations:

- At Station Square. Maximum single unit size should be 500sqm gross floor space. Smaller unit shopping should be located in the Station complex and fronting Station Square.
- At The Point Village. Retail use should be provided to complement the existing entertainment, events and tourism function in a "district centre". The maximum gross floor space of any single convenience retail development should not exceed 3,000sqm. The phasing of retail development, the number of units and the total amount of floor space, should respond to prevailing market conditions and will be conditional on adequate public transport access to The Point Village. A retail impact assessment may be required in respect of any Section 25 application for a large scale retail development at The Point.
- Along Mayor Street and North Wall Quay. Retail/leisure use may take the form of predominantly small unit shops which can fit the grain of the streets and integrate with other uses such as residential and office.
- On other main streets (Castleforbes Street, Sheriff Street and New Wapping Street) where small units can provide local retail services, fit the grain of the streets and integrate with other uses such as residential and office.
- Along the Linear Park. Restaurant/café use in particular will be encouraged fronting onto the park.

The Authority will have regard to the Retail Planning Guidelines for Planning Authorities in the assessment of Section 25 applications for retail development.

3.9.4 Entertainment, culture, events and tourism

The Area is well positioned to benefit from tourism and entertainment due to its proximity to the city centre, its anticipated connection with quality public transport and its major water body resource.

The Area already possesses a significant entertainment and events venue in the Point Depot. This function should be reinforced with the development of additional entertainment and events venues, improved leisure and associated facilities such as retail and hotel use.

The Authority will encourage the provision of cultural uses throughout the Area. A site is identified in the Master Plan for the development of a public park, possibly including a major public building, at Spencer Dock. The development of the National Conference Centre on this site will have a major impact not only on business tourism but on providing a high quality resource for exhibition and arts/cultural performances. The Royal Canal and the Liffey should provide a major focus for water based activities.

3.9.5 Community facilities

A range of community facilities will be required to support the future community of the Area as well as meeting any identified shortfalls for existing or neighbouring communities. The Authority would expect a number of such facilities to be provided by the private sector in response to economic demand and the public accessibility criteria of Section 4.2. However, the Authority will continue, through its Community Development Project Initiative, to help fund projects which meet its criteria for such projects. The zonings adopted will permit consideration of the location of any community uses within the entire area of the Scheme.

Schools

The Master Plan determined that there was an adequate schools capacity, both primary and secondary, within the Docklands area and its immediate environs to meet the likely demand from future population growth. However, the Master Plan also indicated that this would be kept under review: The Authority is therefore undertaking such a review to establish existing capacity, likely demand and any physical inadequacies in existing schools. This exercise is being carried out in consultation with the Department of Education and Science, school management, teachers, parents and community interests.

A shortfall in recreational facilities has already been identified and imaginative ways of maximising the proposed amenity spaces for shared school use will be explored by the Authority in conjunction with the schools.

The National College of Ireland is locating in IFSC II. This will provide for a range of third level courses and incorporate a number of aspects of the saol scoil concept from the Master Plan. The College represents an invaluable resource for the existing and future residential and business communities of the Area.

Health Facilities

The Health Authority has expressed a desire to locate a primary health care unit in the Area. The land use zoning will permit consideration of such a use and preference will be given for locating it on Point Square, Station Square or on Mayor Street where advantage can be taken of accessible public transportation.

Religious Centres

Again, the zoning permits the consideration of the location of churches, meeting halls etc. within the Area. The main circulation routes, particularly Mayor Street are considered the most appropriate locations for such uses in the Area.

3.9.6 Child care

Crèches/childcare centres and other outdoor quality space catering for children's needs should be provided at appropriate locations to cater for residents and workers. These facilities should be provided as appropriate as part of larger development proposals.

3.9.7 Public open space

Public open spaces will be provided to serve citywide and local needs at the Campshires, the proposed Royal Canal linear park, the major public park at the confluence of the Canal and the Liffey, the new urban squares and the other urban spaces. Public open space and quality public domain will be important in creating an attractive environment, particularly for owner-occupiers and families, and should be provided to allow a high level of accessibility to the existing and future community of the Area and surrounding areas. Play areas should be provided in the smaller urban squares and spaces. Developers will be required to design developments with frontage onto the proposed urban spaces in a manner which ensures the passive supervision of the spaces. The Authority will require that frontage development onto the proposed spaces is predominantly residential. Ground floor uses surrounding the spaces will not be permitted to 'overspill' in a manner that would impinge upon or inhibit the use of the spaces.

3.9.8 Water-based activities

The two water bodies have potential to provide for a range of water-based activities. Proposals relating to Spencer Dock are included in both the City Canals Plan, 1999 and the Royal Canal Corridor Study, 1995. Spencer Dock should be restored and made fully navigable. In this respect the Authority will seek agreement with Waterways Ireland to ensure the restoration of the Royal Canal at Spencer Dock. The Dock should be used principally for passive recreation purposes. The Campshires should be largely free of buildings with continuous public access to the water edge, maintaining clear views along the river edge. Small pavilion-type buildings will be considered along the Campshires, providing uses such as restaurants, cafes and on-shore facilities for water-based activities. The development and location of secure moorings and water-based activities such as water sports will be carried out in consultation with Dublin Port.

3.10 Physical Access and Traffic

Existing access to the Docklands North Lotts Area is outlined in Section 5.18. As noted in Section 2.7 the Area can only develop to its full potential on the implementation of significant public transport initiatives. Key proposals in this regard are:

- the provision of a heavy rail station at Spencer Dock on the Interconnector line;
- the extension of the LUAS to The Point;
- the introduction of QBC corridors and a radical increase in bus provision within the Area.

3.11 Landscaping and Amenities

In addition to the treatment of public open spaces and roads, attention will be given to private open spaces within the development and to semi-private open spaces. It is envisaged that the public open spaces, private courtyard areas and quayside areas will provide adequate recreational areas for the residential population and for the working population.

Landscaping and planting will also be designed to encourage the evolution of diverse habitats to support development of the ecological environment. Planting will also reduce odours and contribute to good air quality. The development of the Area will bring into greater use the Spencer Dock Area and Campshires for pavilion and water based activities (passive and active). There will be a significant improvement to the waterside quays with cafes and sporting facilities which will provide a more pleasant pedestrian environment.

Enhancement of amenities will include two new urban squares and a number of small urban spaces. A site at the south west corner of the Area has also been designated in the Master Plan for development of a public park, possibly including a major cultural building. Since the adoption of the Master Plan, permission has been granted for the development of a Conference Centre on the site, which the Planning Scheme supports. In the event that the Conference Centre does not proceed it is proposed that the site be developed in line with the Master Plan either:

- As a public park with a very high quality of design and finish providing a major new amenity and acting as a catalyst for development in the Area, and/or
- As a major Government building initiative/cultural building or a revised conference centre proposal. The building should be located at the north eastern corner of the site enclosing Mayor Street and Station Square. To ensure that a strong sense of continuity is achieved the height of the building should be such a scale to achieve the enclosure of Station Square. The building should have a presence on Mayor Street, Station Square and the Linear Park although its predominant entrance should be onto the public park to the south. The architectural design of the building should be of the highest quality. It should be designed to minimise non - active or service frontages. Its western building line should be set back from the eastern edge of the former dock basin by at least 15.5m and preferably by 20m or more. The major government building initiative / cultural building should be devoted primarily to public use with secondary community use permitted. It is also envisaged that the primary use may be supported by ancillary uses such as exhibition galleries, restaurants and theatrical performance spaces.

3.12 Visual Impact

The Planning Scheme covers a large and prominent location close to the heart of the city. The Authority is seeking development and design standards of the highest order which will be achieved through:

- Providing guidance on structuring principles, urban grain, urban scale and architectural treatment to ensure that the development is harmonious and consistent with the established scale of Dublin, in a manner that ensures the visual continuity of city skyline and the river corridor while providing for distinctive landmarks.
- Creating new sequences of views, direct view lines and visual stops which will provide a legible and attractive environment.
- Allowing for extensive views of the city from the Area.
- Continuing the provision of important amenity space along the Campshires.

3.13 Services and Utilities

The existing services infrastructure follows the street pattern as indicated in Diagrams 14a and b (Appendix A) and is considered inadequate to cater for the proposed development. A major upgrading of existing services is required including the following:

- (a) A new pumping station and rising main to Ringsend Treatment Works will be required to serve the sewerage needs of both the development anticipated in the Docklands North Lotts Area and the adjacent area.
- (b) Discharge of surface water into the existing combined sewer system is not acceptable to Dublin City Council. Surface water shall be discharged by pumping directly to the River Liffey. Discharge systems will be required to be designed to ensure that no contamination of the river occurs. Six hours storage must be provided based on a five year return period storm.
- (c) New watermains will be required to supply the anticipated water demand generated by the development of the Area. It will be necessary to ensure an adequate level of water supply within the Area in the interests of public health and fire safety. The internal watermain layout shall be designed and installed to Dublin City Council standards.
- (d) The electrical distribution network will require significant upgrading with the provision of at least one new 110KV substation.

Efforts should be made to incorporate utility facilities within developments in an imaginative way to avoid sterilising land or creating visual blight.

Developers will be required to contribute financially towards the provision of any public infrastructure and facilities, as defined in the Planning and Development Act, 2000, that benefit their development including the Linear Park, the Campshires, and the smaller public urban spaces, recreational and community facilities and amenities, landscaping works and, if the circumstances arise, the urban park on the National Conference Centre site.

3.14 Energy

Natural gas and electricity will be available in the Area for heating and cooking purposes. The use of high specification building materials which minimise the consumption of energy will be promoted in the Area. The Authority is mindful of the impact of air conditioning emissions on the atmosphere and in particular on the ozone layer. Although some of the commercial elements of the anticipated development are likely to feature forms of air conditioning, the Authority will seek to encourage the use of plant with low and less harmful emissions. In addition, it will seek to ensure that natural ventilation principles are used where office space has no specific environmental or functional requirement for full air-conditioning.

The basic electrical, gas and telecommunications infrastructure is in place. Significant upgrading however will be required for the electrical distribution network.

3.15 Water

Improvements to the existing water supply provision will be required in order to facilitate development in the Area.

3.16 Liquid and Solid Wastes

The existing network in this regard is not adequate. A new pumping station with a rising main to Ringsend Treatment Works will be required for foul sewerage. Surface water shall be discharged by pumping directly into the River Liffey with the provision of a minimum of six hours storage.

In terms of refuse and commercial waste, the services of Dublin City Council and the private sector will be required to remove domestic refuse arising from the development. The Authority will seek to ensure that the disposal systems and the detail design of pick-up points will facilitate the segregation and separate collection of recoverable wastes if required by the local authority.

3.17 Tides and Flooding

Due to its location, there are obvious concerns regarding the possibility of flooding in the Area. It is proposed that most new buildings should have a ground level of + 3.3 OD (Malin Head) in order to ensure that they are protected from the threat of flooding arising from global warming (See Section 5.7).

3.18 Community Structure

The development of the Area will ultimately result in a very significant enlargement of the residential community in the Area, with a good mix of private and social/affordable housing. It is estimated that the existing residential community comprises 100 persons and that the future resident population will be between approximately 7,100 and 9,500 persons. The Planning Scheme provides for the integration of the existing residential areas into the development of the Area. As outlined earlier, a range of housing types will be provided. Small non-family households are likely to occupy apartment developments. Family-type and owner-occupier households will be encouraged to locate in and around the new smaller urban spaces.

4.0 THE CONSTRUCTION PHASES

4.1 Timescale

A large proportion of the Area is in multiple private ownership. One large land area is in the ownership of the CIE. Development in the Area is likely to be carried out over an extended period of time. Substantial development is however likely to take place within the next 5 to 10 years.

4.2 Construction Methods

General methods of construction will include foundations which will be pile driven but may also involve deep pads and raft foundations, the use of load bearing concrete blocks and poured concrete flooring, in addition to frame structures and hybrids. A number of existing buildings will be demolished during the course of the redevelopment. With one exception, all protected structures in the Area will be retained and integrated into the proposed development in an appropriate manner. It is proposed to erect a full security screen around each single building phase.

4.3 Transportation of the Building Materials

An estimate of the amount and volume of building material that will be brought onto sites will only be possible when detailed proposals emerge. However, the level of traffic likely to be generated would not be inconsistent with that of a vibrant inner city area.

4.4 Energy and Water Demands

The level of energy likely to be used during the construction phase would be consistent with other similar developments in the city. It is anticipated that no excessive demands will be made in this regard.

4.5 Health and Safety

Developers and contractors carrying out any proposed development in the Area will be required to fully meet their obligations under the relevant acts and in particular comply with the Health, Safety and Welfare at Work (Construction) Regulations, 1995.

4.6 Buildings Materials

Materials used in development throughout the Area shall conform with the relevant health and safety specifications laid down by Forbairt (formerly Eolas) and relevant Codes of Practice. It is also noted that a large proportion of the building materials including sand, concrete and timber are readily available in the local and national economy.

4.7 Personnel Resources and Employment

The extent of the development likely to take place in the Area offers significant opportunities for local employment during the construction phase. Local employment opportunities can be greatly enhanced by a structured liaison between Authority, developers and the local communities (see Section 6.9). The Authority will itself use, and will seek to ensure that all developers use the Local Labour Initiative/Charter which has successfully operated in the IFSC.

4.8 Construction Traffic Noise

During the construction and site clearance phases, there will be additional noise due to increased numbers of heavy and light vehicles using the local road network. The Authority will ensure that the routing of traffic will be planned to minimise the noise impact on established commercial and residential elements.

5.0 THE RECEIVING ENVIRONMENT

5.1 Ground Conditions

The Docklands North Lotts Area was filled to reclaim land from the estuary. The geology underneath the layers of fill comprise alluvial deposits including interbedded silts, sands and gravels underlain with glacially deposited boulder clay with sands and gravels over a limestone bedrock. Information obtained from previous site investigations in the general area of the proposed development indicates the following typical geo-technical characteristics of the various layers.

<u>Layer Description</u>	<u>Layer Characteristics</u>	<u>Probable Depths of Layer</u>
Filled Ground	Gravelly clay fill with fragments of glass, clay, brick, plastics, metal, timber, ash and ceramics	From existing ground to 5 metres
Soft Black Silty Clay	Alluvial deposits ranging from 1 to 2 metres thick and generally soft flow shear strength	1 to 2 metres
Glacial Boulder Clay	Stiff to hard with occasional interbedded gravel layers	3 to 10 metres
Limestone	Varies from weak to moderately strong and strong to very strong	7 to 20 metres

Table 5.1 Layer Description

5.1.1 Hydrogeology

In order to:

- obtain essential baseline information on soil and groundwater conditions;
 - avoid pollution of groundwater;
 - ensure the proper treatment of groundwater; and
 - ensure that the development of the Area does not give rise to adverse effects outside the Area,
- the following prior to commencement of any development, may have to be carried out (where appropriate by an independent hydrogeologist):

(i) Boreholes and trial pits on a representative (e.g. 50 metre) grid for sampling waters and soils so that a detailed analysis may be made. Selected locations, design, sampling protocol and scope of analysis to be agreed in consultation with Dublin City Council.

(ii) In the vicinity of major excavations, boreholes constructed through the full thickness of the fill deposits for the carrying out of pump testing and for monitoring of groundwater levels in consultation with Dublin City Council.

(iii) Detailed Site Environmental Assessment Reports for each development phase.

5.1.2 Ground Contamination Issues

A desktop study of former land uses within the Docklands North Lotts Area suggests that some sites may be contaminated. The extent of the contamination will be confirmed from the analysis of the samples taken from the boreholes and test pits. Areas shown to be contaminated will require remediation and are likely, in a number of cases, to require a licence under the Waste Management Act, 1996. This shall be carried out to internationally accepted standards. The Authority has received licences from the EPA under the Waste Management Act for the removal and treatment of contaminated material elsewhere in the Docklands. This is being carried out to recognised international standards.

5.2 Air Quality

There are a number of sources of pollutants that have an adverse effect on air quality within the Docklands North Lotts Area and Dublin City as a whole. These are as follows:

Smoke

Tests undertaken for the Bord Gáis EIA, in relation to the former Dublin Gas production site, showed that in the South Docklands Area, the highest daily smoke level for the period 1989-1990 was 739 µg/m³ and, in total, 9 days exceeded the EC Air Quality guideline value of 150 µg/m³. High levels of smoke emissions (from open coal fires) occurred during calm weather conditions and resulted in smog conditions. However, the sale of bituminous coal in Dublin has been banned since October 1990 and this has resulted in a dramatic reduction in winter smoke levels, especially in high density housing areas in the city. Results available from the monitoring stations at Clontarf and Ringsend confirm that smoke (and, in addition, sulphur dioxide) concentrations are within the EU limit and guide values.

Nitrogen Oxide

Values of nitrogen oxide measured in the centre of Dublin (where the traffic volumes will be considerably greater than in the vicinity of the Docklands North Lotts Area) have not exceeded the EC limit value for nitrogen oxide sampling. A considerable dilution effect over the water area would significantly reduce ambient levels. In addition, micro-climatic conditions (notably wind direction) would significantly assist dissipation of any localised air borne pollutants.

Nitrogen Dioxide

Monitoring of nitrogen dioxide concentrations in Dublin are undertaken at College Street and Rathmines. The 1996 average annual nitrogen dioxide figure for the station at College Street was 83 µg/m³. Levels in this area often breach EU guide and limit values. At the Rathmines station results of the monitoring process show that there has been a downward trend in pollution levels with both the guide and limit values being met. There are no monitoring sites within the Docklands Area. However, emission data is available from ESB sites at Ringsend, Clontarf Road and Fairview. These sites show annual mean values in 1994/95 of 22µg/m³, 24µg/m³ and 41µg/m³ respectively, well within the EU guide and limit values.

Lead

Following the introduction of EU limits on lead content in petrol and the increased usage of lead-free petrol, concentrations of lead have decreased significantly. Within Dublin there are seven monitoring sites, all showing the city to have lead concentrations that are below the EU limit value (2 µg/m³).

Fine Particles - PM10

Monitoring of PM10 in Dublin is undertaken at five sites as follows; College Street, Merchants Quay, Phoenix Park, Rathmines and Cabra. The inner city sites have recorded levels of PM10 which exceed the recommended levels. The EPA and Dublin City Council have identified particulates as a pollutant that causes concern and it has been recommended that the reduction of the pollutant be addressed.

Traffic Impact on Air Quality

Emissions from particulates (as well as nitrogen oxides and hydrocarbons) can be significant along roads which are heavily congested, and therefore levels of traffic in the Area must be considered. Currently, the major traffic movements in the Docklands North Lotts Area are on the following streets:

- Upper and Lower Sheriff Street
- East Wall Road
- North Wall Quay
- Castleforbes Road
- Mayor Street Upper
- New Wapping Street
- Guild Street

5.3 Odours

There is evidence of seasonal odours in the Area, mainly hydrogen sulphide from the River Liffey and from Spencer Dock/Royal Canal.

5.4 Noise

The appointed consultants have made observations during the preparation of this document and information has been drawn from assessments made for previous studies. The sources of noise existing in the Area and its environs can be summarised as:

- road traffic noise associated with the roads surrounding the development and particularly on East Wall Road, North Wall Quay and Upper Sheriff Street;
- commercial aircraft;

- construction activity in the Area and
- trucks/HGV's associated with commercial activities in and adjacent to the Area.

5.5 Vibration

Observations indicate that there are no significant vibrations emanating from activity in the Docklands North Lotts Area or on adjacent sites.

5.6 Water Quality

The two existing water bodies within the Area are considered with regard to water quality, and are dealt with individually below:

5.6.1 River Liffey

Water quality in the river is that of a typical lowland, urban river. Previous studies have revealed that the river has moderate pollution levels with a Q value of 3. The quality of the water deteriorates as the river becomes tidal and receives surface water, poor quality water from tributaries and sewage from the Ringsend Sewage Treatment Plant. The part of the river near the Docklands North Lotts Area is affected by the tide and there is a discernible increase of salinity and pollutants such as suspended solids, ammonia and heavy metals at this location. This is due to the sediments being disturbed and the plug effects of the tide, which pushes materials from the sewage outfall back up the river.

5.6.2 Spencer Dock/Royal Canal

The long retention time and low throughput of water makes this water body somewhat similar to a small lake and hence it is susceptible to pollution through leaching or direct discharge of both solid and liquid material from the sites around it.

5.7 Tides and Flooding

The Table below gives the highest tides recorded on the Liffey and refers to Malin Head Datum 3.3 OD.

Date	Tide Level
27 December 1924	2.60 OD
13 December 1981	2.55 OD
17 December 1945	2.54 OD
12 January 1874	2.44 OD

Table 5.2 High Tides

The pavement level at Guild Street is 3.0 OD and along the North Wall Quay to East Wall Road it averages 3.5 OD. The highest tide recorded is 2.60, hence the walls of the Liffey would have to be breached to cause flooding. Notwithstanding this fact, a minimum ground floor threshold level of 3.3 OD will be encouraged for all development to satisfy insurance requirements and the potential for rising flood levels as a result of possible future changes in the global climate.

The following will be required:

- The collection of all surface water to a single discharge point.
- The provision of a pumping facility (probably at North Wall Quay) to ensure continued discharge during high tides.
- The provision of a minimum of six hours storage based on a storm of five-year return period.

5.8 Climate & Micro-Climate

Dublin's climate is classified as temperate with monthly temperatures ranging from 5-15°C. Rainfall within the city is 50mm per annum (with wetter weather between November-January). South-westerly winds predominate. The annual precipitation (30 year average) recorded in Merrion Square is 710 mm. Records show that there have been 21 periods of absolute drought (15 or more consecutive days with < 0.2 mm of precipitation) over a 25 year period (1960 - 1984).

The climate and micro-climate of the Area is characteristic of a site adjacent to a river. The effect of the coastal breeze (on shore during the day, off shore at night time) is particularly significant at the mouth of the River Liffey, resulting in a low level easterly wind during the day, especially during the summer months. In addition, light on-shore winds along the Liffey Valley may also develop during the daytime on relatively calm winter days. This can significantly effect the dispersion of low level air pollution emissions in Dublin and result in a more rapid break up of fog conditions than would occur further inland.

5.9 Historical Development of the Area

The reclamation and laying out of the Docklands North Lotts Area to create the North Lotts occurred between 1717 and 1729 with the eventual construction of the North Wall. By the 1750s, the Area was fully reclaimed and laid out in its distinctive grid street pattern but had not yet attracted significant development. The North Lotts were divided into 263 plots ranging in size from half an acre to three and a half acres. The plots fronting North Wall were laid out in small, regular and narrow plots. The rear plots between Mayor Street and Sheriff Street were larger but still regular. The development of the Area was slow until the commencement of the Royal Canal and Spencer Dock in 1789. Both were completed by 1806. By the mid 1800s, the Area included such uses as vinegar works, saw mills and timber yards. In 1867, the passenger and freight rail system reached North Wall Quay and resulted in the further development of the Area for warehousing and light industry and the construction of some buildings of historical significance. The arrival of the railway effectively resulted in the decline of the Canal. Shipping activity ceased on North Wall Quay in the early 1990's.

5.10 Archaeology, Industrial Archaeology, Architecture

The Area is made entirely on land reclaimed in the eighteenth century from the inter-tidal estuary of the River Liffey. Therefore, visible remains are limited to industrial archaeology. Previous research undertaken for an EIS for a comprehensive mixed use development, including the National Conference Centre, at Spencer Dock and adjoining lands (Frank L. Benson and Partners, 1999) determined that the archaeology on the site was likely to be related to activities in the estuary prior to reclamation. As with the Spencer Dock and adjoining lands site, any features likely to occur would relate to the earlier, pre-reclamation activities in the estuary and might include brush tracks, fish traps, and dug out canoes.

The Dublin City Development Plan, 1999 includes no zones or sites of archaeological interest in the Area. Custom House Quay/North Wall Quay is a registered archaeological site on the Sites and Monuments Register.

There are remnants of industrial archaeology throughout the Area. The Area has a significant industrial heritage, providing unique glimpses of the development of the city docks since the start of eighteenth century. There are a number of protected structures identified in the Dublin City Development Plan, 1999, and with one exception, all protected structures should be retained. The permission granted for the National Conference Centre included the demolition of 47 North Wall Quay (Campion's Public House), which is a protected structure. Having regard to the decision, the Authority does not propose to require the retention of the building. The Royal Canal/Spencer Dock and the Liffey Quays are designated as Conservation Areas in the Dublin City Development Plan, 1999.

Other remnant features that have defined the character of the railway such as rails, viaduct and footbridge, sett street surfaces and limestone walls are present throughout the Area. The Planning Scheme will, so far as is practicable, require that these features be retained or re-used.

Diagram 15, Appendix A shows the location of features of interest, Conservation Areas and protected structures. Protected structures under the Dublin City Development Plan, 1999, excluding 47 North Wall Quay are listed in Appendix B, Table 1(i) of this report. A list of buildings, structures and features of interest, identified in the Planning Scheme, are listed in Appendix B, Table 1(ii) of this report.

5.11 Landscape Character and Amenity Value

The character of this Area is defined in large part by its historical development. Although the docking function of the Area has ended, the associated warehousing, distribution and light industrial uses have remained. The Area is close to the thriving Port. The Docklands North Lotts Area at present offers little in streetscape or landscape terms. The very significant amenity and landscape potential that the Area possesses is outlined earlier in this report.

5.12 Flora and Fauna

The Area has been examined with reference to the Habitats Directive (Council Directive 932/43/EEC of 21st May 1992) and it is not considered that the development proposed will have any significant effect on a European site. The main aim of the Habitats Directive is to promote the maintenance of biodiversity, while taking into account economic, social, cultural and regional requirements. The Directive requires that land-use planning and development policies must have regard to the management of landscape features which are of major importance for wild fauna and flora. In addition there is no evidence of any presence within the Area of species listed for protection under the Wildlife Act, 1976, the Flora Protection Order, May 1999 or the annexes attached to the Habitats Directive.

The Wildlife (Amendment) Bill, 1999 provides for the establishment of a national network of protected areas, referred to as Natural Heritage Areas (NHA's). The designation is made by order by the Minister and can have the effect of

restricting the carrying out of certain works which are liable to destroy or to significantly alter, damage or interfere with landscape features. If works are carried out to any such feature the Minister may require the restoration of a feature to an agreed state. The Royal Canal is currently a pNHA (proposed Natural Heritage Area).

There are no parks in the Area and existing vegetation is largely confined to underused sites and the margins of yards or the Spencer Dock. The Flora Protection Order, 1987, identifies the Royal Canal (site coded as 2103) as having a variety of different habitats found within the canal boundaries such as hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland.

Flora within underused sites is dominated by species with the ability to tolerate the unfavourable conditions that are found on such urban sites. These include attributes such as:

- the ability to colonise the site by means of wind-borne seed;
- a life cycle that can contend with the stresses (particularly drought) associated with the shallow soils that have developed on concrete surfaces; and
- a life cycle and growth pattern that can tolerate varying levels of trampling and disturbance.

The redevelopment of the Area will involve additional landscaping and the development of amenity spaces and as such will provide a more diverse habitat which in turn will attract a wider range of flora and fauna.

The Planning Scheme Area includes both active industrial uses and underused sites. It is not anticipated that the land currently in use would provide significant potential for wildlife, but underused sites in cities sometimes act as important sanctuaries for a variety of wildlife not usually associated with built-up areas. Recent observations however show very little in the way of wildlife within the Area.

There are no reports of rare bird species in the Area. It is likely that pigeons and house sparrows are present. Apart from the presence of brown rats and feral cats, there are no reports of mammals. The low numbers of mammals in the Area is probably due to the nature of development in the Area and the lack of available food.

The Royal Canal at this location is industrialised and therefore does not act as a prominent wildlife channel. However, with the development of the linear park, it is anticipated that there will be a renewal of flora and fauna in the Area as part of an ecological corridor along the Royal Canal.

5.13 Existing Community

The North Wall Community in the Area is small (approximately 100 residents) and dispersed. The community is long established with close links to the development of the Docks. The community has always had strong links with surrounding communities. It is actively represented by community and resident associations.

Surrounding communities include:

- The IFSC. Residents are relatively recent arrivals in new apartment development, typically small, young households.
- Sheriff Street and Seville Place. This is a long-established community, with a mixed household composition and range of housing types.
- Abercorn Road/Church Street East/ Irvine Terrace. This is a well-established enclave, with a mix of household types in conventional housing.
- East Wall. This is the largest and most significant community in the North Docklands Area. The community is well established with a mix of household types generally in conventional housing.

The following socio-economic analysis covers the North Docklands Area (illustrated in Map 1, Appendix C) of which the Docklands North Lotts Area forms part.

The population of the North Docklands Area was 7,254 in 1996 showing a small increase (2.9%) in population over the 1991 figure. This followed a long period of decline. Table 5.3 below shows population change in the North Docklands Area in the 1991 to 1996 period. The population has shown a major expansion in 25-44 year cohort with a lower level of growth in the 15-24 year cohort and a decline in other age categories. The growth in the 25-44 year cohort is likely to have continued in the interim with apartment development in the IFSC. The 0-14 year cohort experienced the greatest fall, followed by the 45-64 year cohort. As illustrated below, the fall in the youngest age cohort is consistent with the experience of Dublin City and County. However, the fall among persons aged 45-64 and 65 or more is not in line with trends in the City and County.

	0-14	15-24	25-44	45-64	65+	Total
North Docklands Area						
1991	1751	1126	1947	1280	945	7049

1996	1620	1243	2263	1202	926	7254		
% change '96/'91			-7.5	10.4	16.2	-6.1	-2.0	2.9

Total Dublin Docklands Area

1991	3642	3155	4527	3106	2283	16713		
1996	3356	3354	5564	2936	2215	17425		
% change '96/'91			-7.9	6.3	22.9	-5.5	-3.0	4.3

Dublin City & County

1991	252 255	195 619	296 719	181 968	98 743	1 025 304		
1996	232 694	197 231	320 969	202 182	105 188	1 058 264		
% change '96/'91		-7.8	0.8	8.2	11.1	6.5	3.2	

Table 5.3: Population change, 1991 to 1996

Source: ESRI, The Employment and Socio-Demographic Profile of the Dublin Docklands Area, 2000

5.14 Housing

The housing stock in the Docklands North Lotts Area has always been limited. Historically, the Area was dominated by industry and warehousing with small pockets of housing dispersed throughout. The Area is surrounded by vibrant communities located in the North Docklands Area; East Wall, part of North Strand, Seville Place/ Sheriff Street and the Church Street East/ Irvine Terrace/ Abercorn Road community. In general terms the building condition of the housing stock is good in North Wall and surrounding areas. Table 5.4 below shows household composition in the North Docklands Area, the Dublin Docklands Area and Dublin City and County for the period 1991 - 1996.

	One person related	Other units	Couple with children Total	Couple, children& others	Single parent	2+ persons not related			
North Docklands Area									
1991	703	277	843	408	72	137	2440		
1996	852	346	726	423	135	248	2730		
%change'96/'91			21.2	24.9	-13.9	3.7	87.5	81.0	11.9

Total Dublin Docklands Area

1991	2035	606	1898	840	300	343	6022	
1996	2286	777	1654	855	545	598	6715	
%change'96/'91	12.3		28.2	-12.9	1.8	81.7	74.3	11.5

Dublin City & County

1991	65 884	37 453	144 782	35 893	15 535	11 462	311 009	
1996	78 913	47 927	139 968	35 545	18 667	22 185	343 205	
%change'96/'91	19.8		28.0	-3.3	-1.0	20.2	93.6	10.4

Table 5.4 : Private household composition, 1991 and 1996

Source: ESRI, The Employment and Socio-Demographic Profile of the Dublin Docklands Area, 2000.

In the period from 1991 to 1996, the number of private households in the Area increased by 11.9%, compared with an increase of 10.4 % in Dublin City and County. The category demonstrating the greatest rate of growth - the '2+ Persons, Not Related' grew by 87.5%, compared with a growth rate of 20.2% for Dublin as a whole. One person households accounted for c. 31% of all households in the North Docklands Area in 1996.

The demand for housing in the Docklands is extremely strong at the moment. The local communities have identified the provision of social and affordable housing in the Area as a key community issue. The Master Plan gives the commitment to providing for social, affordable and special needs housing and creating attractive conditions for families in the Area.

The adjacent IFSC area has attracted very substantial apartment development. Given recent experience and demand, the Area will be an attractive location for residential development in the coming years.

5.15 Education

The North Docklands Area exhibited poor levels of educational attainment in the 1996 Census of Population when compared with Dublin City and County. The ESRI has concluded that "the Docklands Area can be characterised as being educationally disadvantaged relative to the rest of Dublin City and County. Substantially higher percentages of persons in the Docklands Area have left school with lower levels of educational qualifications than for the Greater Dublin Area as a whole" (ESRI, 2000, p.69). In 1996 a total of 25.7% of residents of the North Docklands Area had

left school at primary level or less; a further 27.8% had left at the lower cycle of secondary level. The educational attainment of the Area has however shown marked improvement over the five year period from 1991 to 1996. A greater proportion of the community is remaining longer in education, particularly at the lower levels (primary, lower secondary, technical and vocation). A substantial fall has occurred in the percentage of persons aged 15 years and over who are classified as having left school at primary level or less. This has been matched with a fairly substantial increase in the percentage completing the educational system with a Leaving Certificate or higher qualification. Table 5.5 overleaf details educational attainment in the North Docklands Area in 1991 and 1996.

	Primary or less	Low. 2nd		Tech/Voc.	Leav. Cert	Sub Degree	Prim. Degree	Prof. Qual.			
Higher Levels	Not Stated	Total									
North Docklands Area											
1991	1130	711	230	429	78	42	28	45	159	2852	
1996	829	897	196	613	259	107	56	114	156	3227	
%change '96/'91			-26.6	26.2	-14.8	42.9	232.1	154.8	100.0	153.3	-1.9
Total Docklands Area											
1991	2427	1613	565	1088	266	216	102	228	429	6934	
1996	1898	1813	495	1542	721	466	189	544	372	8040	
%change '96/'91			-21.8	12.4	-12.4	41.7	171.0	115.7	85.3	138.6	-13.3
Dublin City & County											
1991	83 079	88 097	29 309	117 493		36 563	23 592	14 963	29 937	12 994	43 6027
1996	70 657	90 411	27 765	129 255		62 840	29 707	18 249	40 676	14 519	48 4079
%change '96/'91			-15.0	2.6	-5.3	10.0	71.9	25.9	22.0	35.9	11.7

Table 5.5 : Details on the Highest Level of Education Attained by Members of the Labour Force aged 15 years and over, 1991 and 1996.

Source: ESRI, The Employment and Socio-Demographic Profile of the Dublin Docklands Area, 2000.

5.16 Employment

Significant differences exist in economic status, employment by industry and social class between the North Docklands Area and Dublin City and County. The North Docklands Area has exhibited:

- A lower proportion of persons aged 15 years and over described as being 'at work' at 38.8% compared with a rate of 49.6% for Dublin City and County. The percentage of North Docklands residents who were 'at work' in 1996 was some 3.5 points higher than was the case in 1991.

- A correspondingly higher proportion of persons unemployed (1st job seeker or unemployed categories below) in the North Docklands Area compared with that for Dublin City and County. In 1996 18.4% of persons were unemployed in the North Docklands Area, similar to the percentage of 18.7% in 1991. The comparable percentages for Dublin City and County for 1991 and 1996 were 10.1% and 9.1%. The detailed breakdown for 1996 is shown in Table 5.6 below

Principal Economic Status 1996 (percentage)

	At work	1st job seeker	Unemployed	Student	Home duties	Retired	Unable to Work	Other
North Docklands Area	38.8	1.6	16.8	8.4	19.3	11.8	3.3	0.0
Total Docklands Area	42.2	1.1	13.8	11.1	16.6	11.4	3.6	0.0
Dublin City & County	49.6	1.0	8.1	12.3	17.2	9.2	2.5	0.2

Table 5.6 : Percentage of Persons Classified by Principal Economic Status 1996

Source: ESRI, The Employment and Socio-Demographic Profile of the Dublin Docklands Area, 2000.

- A lower proportion of persons employed in commerce, professional services and public administration in comparison with Dublin City and County and a higher proportion employed in manufacturing, building / construction

and transport. The most important sector to the structure of employment in the North Docklands Area is commerce. This accounted for the employment of 21.0% (460 persons) of North Docklands residents in 1996. Manufacturing represented the second most important category in 1996 at 18.3% representing a fall of 4.1% since 1991. Employment in professional services grew by a corresponding 3.7% to represent the employment category of 14.8 % of North Docklands residents in 1996 (ESRI, p.58).

- A lower proportion of residents classified as professional, managerial & technical and non-manual workers and a high proportion classified as skilled, semi-skilled and unskilled manual.

5.17 Land Uses and Community Facilities

The Area is dominated by distribution, storage and industrial uses. Other land uses are limited in nature. A mix of commercial uses is dispersed throughout the Area including an enterprise centre (Liffey Trust), the Point Depot, a service station on East Wall Road and mixed of office, retail, and public house use along North Wall Quay. Residential use is likewise dispersed through the Area. Little change has occurred in the land use profile of the Area since 1996 (DDDA, Land Use and Building Condition Survey, 1996).

5.17.1 Distribution, Storage and Industrial Use

All parts of the Area are dominated by distribution, storage and industrial use. Of the existing 36 major parcels of commercial land in the Area, 30 are devoted to such use. Most of the Area is used extensively, rather than intensively, with a high proportion of under utilised land.

5.17.2 Educational Facilities

There are no schools in the Area. However, there are a number of schools in the areas adjacent or in the vicinity of the Area, which cater for both primary and second level pupils. These are:

- St. Laurence O'Toole's Senior Girls School
- St. Laurence O'Toole's Infants Girls School
- St. Laurence O'Toole's Junior Boys School
- St. Laurence O'Toole's CBS
- St. Laurence O'Toole's 2 (Special Education School)
- Larkin Community College, Secondary School

Consultation meetings with principals at the above schools have indicated that:

- There is capacity in the existing schools to cater for a significant increase in pupils.
- In the majority of cases there is a need to improve existing buildings and facilities for pupils.

5.17.3 Health and Community Services

There are no health or community facilities located in the Area, however there are a number of such facilities in the surrounding areas. The nearest health centres are located on Church Road in East Wall Village and on North Strand. A range of local community services is available in and adjacent to the Area, mainly provided by voluntary groups. These groups provide community support services ranging from community development to counselling.

5.17.4 Recreation

There is a lack of recreation facilities in the North Docklands Area and the need for sports and recreational facilities is recognised. Nearby leisure and recreation facilities include:

Organisation/facility	Comment
St Mary's Youth Club/community centre	Youth services
Fairview Park/playing fields	Sports and recreation
East Wall Centre/community hall and fitness gym	Community support, sports and fitness
Stella Maris Rowing Club	Rowing
Westwood/Fitness Gyms, Swimming Pool	Sports and fitness
Sheriff United FC/clubroom	Football
Laurence O'Toole's Centre/ Sports Hall, Swimming Pool	Sports and fitness

Table 5.4: Community Organisations/Facilities in the Vicinity

5.18 Traffic and Transportation

5.18.1 Existing Road Network

The road network in the Area is primarily orientated east-west with Sheriff Street and North Wall Quay running parallel to the River Liffey linking the Port to the city centre. To the eastern edge of the Area, and bordering the Port, is East Wall Road which connects the East Link Bridge and extends to the north to link with North Strand Road. New Wapping Street/East Road provide a secondary, but important north-south link, while Mayor Street, which runs

parallel to the river between Sheriff Street and North Wall Quay, has been severed by the railway at Spencer Dock.

The existing distributor road network in the Area experiences significant levels of traffic, particularly during peak hours. The traffic is generated as a result of both commuter and Port activity, the latter generating substantial volumes of Heavy Goods Vehicles (HGVs) often at peak commuter hours. Traffic surveys conducted in 1998 showed that a number of junctions are operating at /or close to capacity in the peak periods, most notably:

- East Link Bridge Roundabout.
- New Wapping Street/North Wall Quay.
- Sheriff Street/East Wall Road.
- New Wapping Street/Sheriff Street/East Road.

The road system cannot sustain significant growth in strategic, local or Port traffic. Consequently, the future for Docklands (and the city) must be to effect a substantial change in modal split towards public transport, walking and cycling.

5.18.2 Public transport

The low residential and working population and the limited options for through routing have combined to create an environment in which there are few public transport services. Currently bus routes 53 and 53A penetrate the Area, but with comparatively low frequencies, while the principal bus corridors are some distance away on Amiens Street and on other city centre radial routes. Connolly Station and Tara Street Station are the principal access points to the DART and suburban rail network. They lie some 10 minutes walk from the western edge of the Area and closer to 20 minutes walk from the eastern extremities of the Area.

5.18.3 Current transportation proposals

The DTO's A Platform for Change: Strategy 2000 to 2016 outlines key public transport proposals for the Area (see Diagram 16, Appendix A). The Strategy includes the construction of a second rail corridor (Interconnector tunnel) through the centre of Dublin and through the Docklands by 2010. The most feasible alignment of the tunnel would be between Guild Street and New Wapping Street. A new station, Docklands Station, is proposed at this location. The extension of the LUAS to The Point is scheduled for completion in the period 2003 to 2006. The most feasible route for this line is Mayor Street. In the longer-term, a further LUAS alignment penetrating the Docklands, approaching from the south is proposed.

The Corporation proposes the construction of the Macken Street Bridge which would link Guild Street and Cardiff Lane. The bridge has the capacity to provide public transport links between the north and south Docklands. The bridge has the capacity to provide public transport links between north and south Docklands. The design and use of the bridge are matters being dealt with by a Road Order and the Authority represented its position to Dublin City Council and An Bord Pleanála in 2000 and early 2001.

The reconnection of Mayor Street between Guild Street and New Wapping Street is an objective of the Master Plan. This will be carried out as part of the development of this large site. When completed this will provide greater accessibility for all modes of transport in the Area and particularly for LUAS, buses and pedestrians.

Construction of the Dublin Port Tunnel has commenced and will provide a new strategic link to the Port from the north. It will consist of a dual carriageway linking the Port area to the Airport motorway at the Coolock Interchange. The Tunnel should appreciably reduce HGV movements in the Area, though a significant proportion will seek to continue to pass along the Quays through the city centre.

Dublin Bus is currently reviewing its routes and services. One service that is likely to be initiated shortly by Dublin Bus or private operators is a Heuston Station/Docklands link along the Liffey Quays. Private bus companies are currently providing the IFSC bus service and airport services. Other proposals for improved bus access to the North Docklands are most desirable and likely to be forthcoming. Further routes may open with deregulation.

The Corporation is in the process of reviewing cycle network provision across the city centre, and it is likely that new proposals will emerge for the cycle network within the Docklands. The Authority will encourage this.

6.0 IMPACTS, AMELIORATION AND MITIGATION MEASURES CONSTRUCTION PHASES

6.1 Site Development

The development of the Docklands North Lotts Area will in all probability take place over an extended period with substantial development expected over the next 5 to 10 years. This will serve to mitigate some of the effects of the overall construction of the development.

6.2 Health and Safety

It should be assumed that all relevant statutory provisions in respect of health and safety both to workers and the public would be observed during the construction phase. It will be a condition of contract to designers, developers and builders and their sub-contractors that operations be conducted in accordance with existing laws and regulations in respect of health and safety.

6.3 Construction Noise

Noise generation during the construction phase will be governed by all relevant legislation in respect of permissible limits. The phasing and incremental nature of the development will also tend to minimise levels of noise generated.

Where construction works occur over a long period of time, the Authority may restrict noisy operations to normal working hours.

Construction plant will be required to comply with SI No.320 of 1998 EC (Permissible Noise Levels) Regulations. Account shall also be taken of BS 5228:1994: Noise Control in Construction and Open Areas.

6.4 Air Emissions and Dust

Potential impacts on air quality will be from two sources during the construction phases:

- site development activities; and
- site vehicle emissions.

During the construction phases of the development it is inevitable that dust will be generated which could constitute a nuisance to the local community. Therefore management measures will need to be taken to ensure that dust levels are minimised. Dust repression techniques will be used if necessary. In particular, regular inspections of local roads in the vicinity will be necessary and contractors will be required to use water sprays to minimise the spread of dust.

6.5 Geo-Technical

As the Area has a history of industrial use, it is considered that some sites may be contaminated. Where land within the Area is contaminated, the Authority will require as a condition of a Section 25 Certificate for the redevelopment of any site that it be cleaned to internationally accepted standards.

An applicant for a Section 25 Certificate for such a site must deposit with the Authority a report from a qualified, expert consultant detailing the methodology employed to survey the site for contamination, the results of the survey, the conclusions drawn by the consultants from such results on the extent and types of contamination and a Methodology Statement for site remediation (the report must include as a minimum, details under the headings listed in Appendix F). Appendix F also provides information which may be of assistance to applicants for Section 25 certificates in the carrying out of a required report on site contamination. The applicant and the consultant must acknowledge and agree that the report, once deposited with the Authority, will be available for inspection by any party.

Any Section 25 Certificate issued by the Authority for the development of such a site will, in addition to the general condition as set out in sub-paragraph 1 above, require that a qualified, expert consultant deposits with the Authority a Certificate of completion and compliance in respect of the remediation works and methodology outlined in the report as required in sub paragraph 2 before any material construction work can commence on the development.

A copy of any site investigation data which becomes available in relation to individual sites in the Area should be submitted to the Geological Survey of Ireland.

6.6 Safety of Building Materials

Specified building materials will comply with Irish and British Standards and equivalent European counterparts now in force. Guidelines in respect of standards have been referred to in Section 4.

6.7 Energy and Water Demands

The energy and water requirements for the development both during the construction or completed development phase will not put excessive demands on such supplies. The necessary upgrading will have been carried out as part of the development of the Area. The Authority will encourage the adoption of best practice in conserving water in the

development of the Area.

6.8 Water Quality

(a) Adequate ground and surface water pollution control measures shall be taken during the site preparation period to ensure protection of the River Liffey, the Royal Canal / Spencer Dock and groundwater. Measures shall include leachate management from waste soil stockpiles, wheel washing facilities at all major entry/exit points and oil interceptors upstream of site surface water drain outfall points. Details of measures to be agreed with Dublin City Council.

(b) Saline groundwater requiring disposal during site preparation shall be treated to standards set by Dublin City Council and the requirements of the Local Government (Water Pollution) Act, 1977 and 1999 as appropriate.

6.9 Employment Generation

It is the duty of the Authority to secure the social and economic regeneration of the Area on a sustainable basis. As such a key socio-economic objective identified in the Master Plan is the development of a wide range of sustainable employment opportunities in the Area (Master Plan p.24). One element in the achievement of this objective is the Local Labour Charter / Initiative. The purpose of the Charter is to ensure that employment and training opportunities are available to local people and that local communities share in the benefits that accrue from the development of the Area. The Charter has been successfully employed by the Authority the IFSC, particularly in the construction sector. It is anticipated that employment opportunities will arise over an extended period matching the phasing of development in the Area.

6.10 Construction Impact on Local Residences

For ease of understanding this section brings together those effects identified in other sections of the EIS that would have a bearing on local residents. This section concerns potential impacts on local residents during the construction phase. The effects on local residents of the completed scheme are discussed in Section 6.29.

The housing stock in the Docklands North Lotts Area has always been limited. Historically, the Area was dominated by industry and warehousing with small pockets of housing dispersed throughout. The existing community in the Area is small (approximately 100 residents) located in housing fronting New Wapping Street, housing fronting Mayor Street west and east of the junction with New Wapping Street; Sheriff Street and housing on Castleforbes Road.

The development of the Docklands North Lotts Area is anticipated to take place over an extended period with substantial development expected over 5 to 10 years. The phasing and incremental nature of the development will serve to mitigate some of the effects of the overall construction of the development. (6.1)

6.10.1 Visual Amenity

Inevitably on a temporary basis, construction sites tend to be untidy, unsightly areas characterised by sheeting and hoardings although they would be subject to a code of site management. The presence of cranes will be prominent on the skyline, although it is not considered that they would impede any views or vistas.

6.10.1 Air Quality

Dust
During the construction phases of the development it is inevitable that dust will be generated which could constitute a nuisance to the local community. Therefore management measures will need to be taken to ensure that dust levels are minimised. Dust repression techniques should be used if necessary. In particular, regular inspections of local roads in the vicinity will be necessary and contractors will be required to use water sprays to minimise the spread of dust. Wheel washing facilities should be installed at all major entry/exit points.

Odours

No severe occurrences of odours are anticipated in respect of odours during the construction period. Any works would comply with EPA requirements in respect of odours. If any problems occur additional remedial measures can be taken.

6.10.3 Noise

Air Bourne - Construction Traffic Noise

There is likely to be additional noise due to increased numbers of construction vehicles in the Area. The Authority will ensure that the routing of traffic will be planned to minimise the noise impact on established commercial and residential elements. (4.8)

An estimate of the amount and volume of building material that will be brought onto sites will only be possible when

detailed proposals and construction programmes emerge. (4.3)

Structure Bourne

Foundations would will be pile driven. In addition, a number of existing buildings will be demolished during the course of the redevelopment (4.2). Piling occurs at the early stages of construction and will not be a persistent part of the construction process.

Noise generation during the construction phase will be governed by all relevant legislation in respect of permissible limits (6.3). Construction plant will be required to comply with SI No.320 of 1998 EC (Permissible Noise Levels) Regulations. Account shall also be taken of BS 5228:1994: Noise Control in Construction and Open Areas. Where construction works occur over a long period of time, the following guidance may be applied in order to minimise noise generation to neighbouring communities and enterprises:

- working hours will be 07:00 to 19:00 hours Monday to Friday and 09.00 to 13.00 on Saturdays except where emergency works need to be carried out;
- work will not normally be permitted on Sundays or Bank Holidays; and
- where, and if, sheet piling will occur for a period exceeding one month, consideration will be given wherever possible to the use of 'hush' piling rig or contiguous bored piles if applicable.

The pattern of construction would be likely to change over the course of construction, so that there is not likely to be a persistent pattern of construction noise.

6.10.4 Employment Opportunities

There are likely to be significant opportunities for local employment during the construction phase. (see Section 6.9). The Authority will itself use, and will seek to ensure that all developers use the Local Labour Initiative/Charter which has successfully operated in the IFSC. (4.7)

6.10.5 Water Supply

By their nature construction periods tend to involve some inevitable disruption and there may be a risk of intermittent disruption to water supplies. Water supply in the Area will be upgraded in accordance with the Corporation's Strategic Water Supply Programme.

COMPLETED DEVELOPMENT PHASE

6.11 Urban Planning

The Planning Scheme proposes the comprehensive development of the Area over an extended time scale. A mix of uses is proposed, based on an overall land use mix of 60% residential to 40% residential. The Scheme aims to provide a variety of housing types in the Area which will allow for the development of a well-balanced community. The increased density in the Area will mean an increase in economic activity that will both assist existing businesses and encourage new businesses into the Area. The provision of new public open spaces and amenities will also add to the vitality of the Area.

The Planning Scheme is designed to fulfil the vision and strategy of the Master Plan for the lasting social, economic and physical rejuvenation of the Docklands Area. It is consistent with the economic and social, transportation, infrastructure and civic design frameworks of the Master Plan and the policies of the Sectoral Framework Plan for the Sheriff Street/North Wall Quay Area. The latter seek to:

1. Expand and consolidate the IFSC and the financial sector of the economy further east along North Wall Quay to Spencer Dock and beyond;
2. Realise the amenity and leisure potential of the water bodies;
3. Support community involvement in the re-opening and restoration of the waterways to propagate a community-wide sense of ownership and pride;
4. Promote bus/light rail systems and transportation nodes to provide a major infrastructural impetus to the development of the Area, and in particular to the development of major cultural/tourism destinations;
5. Promote the development of a district retail centre, "The Point Village", in the North Quays area adjacent to The Point;

6. Seek the establishment of a new urban park at the confluence of the Royal Canal and the Liffey at Spencer Dock. (Master Plan, p.130)

The Planning Scheme will fulfil the Area zoning objectives set out in the Dublin City Development Plan, 1999 which are:

- Zoning Objective 14- "to seek the social, economic and physical rejuvenation of an area by the means of planning schemes with mixed use of which residential and Z6 would be predominant uses",
- Zoning Objective Z4 "to provide for and improve mixed-services facilities", and,
- Zoning Objective Z9 "to preserve, provide and improve recreational amenity and open space".

The development proposed in the Planning Scheme is also consistent with the broad planning policies contained in the Strategic Planning Guidelines for the Greater Dublin Area and takes full account of the strategy and objectives of the Dublin Transportation Office as outlined in A Platform Change: Strategy 2000 - 2016.

6.12 Energy Consumption and Water Demand

The energy consumption and water demand within the Docklands North Lotts Area will increase as a result of the development proposed in the Planning Scheme. Future demand should be well within the capacity of the planned upgrading of the ESB's network for the development of the Area. The planned upgrading of the city's water supply by Dublin City Council will cater for the anticipated increase in demand in this regard. The Authority will encourage the adoption of best practice in conserving water in the development of the Area. As a matter of course developers will be required to minimise energy consumption in buildings and to consider the use of sustainable materials.

6.13 Odours

The development proposed in the Planning Scheme will not contribute to unpleasant odours. The water quality within the Docklands North Lotts Area will be managed in order to ensure that it is not a source of odour.

6.14 Water Quality

It is important that there is no direct discharge of waste water into surface waters, in particular Spencer Dock. With the intensification of use of the water for recreation purposes there will be a requirement to sustain and improve water quality in the Dock and the River Liffey.

6.15 Flooding

Due to the location of the Area and possible future changes in the global climate, appropriate measures will need to be taken to minimise the threat of flooding. It is considered that development in the Area should have a minimum ground floor level of 3.3 OD. This will require that basement car parking entrances be raised in lower lying locations.

6.16 Waste Generation and Disposal

The development of the Area will lead to increased waste generation and the requirement for disposal of this waste.

In terms of refuse and commercial waste, the services of Dublin City Council and the private sector will be required to remove domestic refuse arising from the development. The Authority will seek to ensure that the disposal systems and the detail design of pick-up points will facilitate the segregation and separate collection of recoverable wastes if required by the local authority.

The Authority in carrying out its own development and in certifying development under Section 25 to be consistent with the Planning Scheme will have regard to the Regional Waste Management Plan.

6.17 Noise

No significant effect on noise levels is likely as a result of the proposed development itself. The increase in traffic generated could result in an increase in noise levels in the Docklands North Lotts Area and surrounding areas. This will be ameliorated to a degree by the decrease in Port traffic on the opening of the Port tunnel. The noise levels likely to be generated will not be inconsistent with the location of the Area directly adjacent to Dublin city centre, and will be ameliorated by traffic calming measures where appropriate.

6.18 Air Emissions

The air quality within the Area may be affected by the new development as follows:

- Atmospheric emissions from buildings.
- Emissions from generated traffic.

Emissions from the built environment will be related to the type of uses and occupancy within the development. The proposed development is not expected to generate atmospheric emissions that will require either an air pollution

licence or an integrated pollution control licence. The residential uses will use low polluting means of central heating. However boiler units within the development will generate some atmospheric discharges. Furthermore, air conditioning will be required for some non-residential uses and as such there will be a need to ensure that emissions are minimal by employing high specification and filtration procedures. Developers will be encouraged to maximise usage of natural ventilation and passive solar principles.

Potential pollution from traffic generated by the development will require to be monitored in the same manner as for the rest of the city.

6.19 Land Uses Involving Dangerous Substances

'SEVESO II' Council Directive 96/82/EC on the control of major accidents involving dangerous substances.

The Directive aims to prevent major accidents involving dangerous substances and to limit the consequences of such accidents for human beings and the environment. Member States are obliged to ensure that the Directive is taken into account in land use policies. The Authority's objectives for land use are incompatible with the location of establishments where dangerous substances are present. The Authority will therefore not issue any Section 25 Certificates for the location or development of such establishments in the Area.

For the purposes of clarification, utility service units such as electrical substations or gas installations are not deemed to be included in this category.

6.20 Climate

The nature of the proposed development would result in no significant climatic change to the Area. However there will be a shadow effect in the Area as a result of the development and this is covered in the following section.

6.21 Overshadowing

Only localised overshadowing occurs in the Area at present arising from the typically low-profile buildings and dispersed pattern of development. Existing residential development in the Area is largely free of anything other than limited levels of overshadowing. The proposed development would result in significant new development and higher profile buildings.

Additional overshadowing is likely to occur in the established residential pockets within the Area. These include:

- housing fronting New Wapping Street;
- housing fronting Mayor Street, west of New Wapping Street; and
- housing fronting Sheriff Street and housing on Castleforbes Road.

This overshadowing is not considered to be significant. Adequate levels of daylight and sunlight would be retained. The Planning Scheme makes provision in the development of the Area for the incorporation of these residential pockets and allows for the appropriate layout and scaling of buildings and spaces abutting and adjacent to them. Adequate distances between existing and new buildings would be maintained. The proposed higher buildings in the Area would not impact adversely on existing residential development. Appropriately scaled buildings on the periphery of the development blocks are proposed adjacent to existing and future housing.

The impact of overshadowing on future development within the Area was also considered. Maintaining adequate sunlight and daylight levels to residential development and public open spaces was a key design parameter in the Planning Scheme. As such, the general impact of overshadowing within the development will not be significant.

The development of the block north of Station Square comprising up to four landmark tower corner features and an overall height up to 44 metres, will result in significant overshadowing of main streets and development immediately to the north, east and west. The impact of the overshadowing is not likely to be significant to the north of this block as the designated use is likely to be largely commercial. The impact to the east and west may be significant in that residential uses may be located here. This impact may be ameliorated by appropriate unit location, for example above ground floor level or by allowing for double aspect units with one aspect away from the block containing higher buildings.

Overshadowing from the proposed tower (aggregated and disaggregated forms with minimum height at 60 metres and maximum height at 100 metres) at The Point will be significant. The impact is considered to be negative. However, the overshadowing will occur largely over development which is not sensitive to overshadowing (ie. commercial uses such as hotel, office and entertainment uses in the Area and distribution uses north of the Sheriff Street).

The nature and extent of overshadowing is illustrated in the shadow images (Figures 1a- 1y) included in Appendix D of this report.

6.22 Visual Impact

The development of the Area in accordance with the Planning Scheme will significantly alter the visual appearance of the Area. The development will have significant impacts on the cityscape, city skyline and important strategic and local views. This impact will, on balance, be positive in nature (see 3D Images, Appendix D).

Impact on skyline

The impact on the skyline will be significant. The broken urban form of the Area will be replaced by a full silhouette with a relatively consistent base of buildings and higher buildings at The Point and at Station Square, in addition to the National Conference Centre. The general scale of buildings will be in keeping with the scale of development already completed in the IFSC, the proposed scale of development in the Grand Canal Docks Area and the general scale of development in the city. The skyline impact of the higher buildings at Station Square is likely to be significant as they are likely to appear as a bulky visual element sitting above the surrounding buildings when viewed from key locations.

The bulk of this development will be ameliorated by disaggregating the building form with feature towers. Development north of the Station Square will sit below the view cone from the Fitzwilliam Street Vista, which extends in a northerly direction from Fitzwilliam Street. The relevant building heights determined by the cone of vision are circa 42 metres at North Wall Quay and circa 44 metres along the centre line of Mayor Street (figure taken from associated studies for development in the Area).

The Authority proposes a tall building located at The Point with a minimum height of 60 metres and a maximum height of 100 metres. The landmark building will protrude above the proposed rooflines of the main body of the development of the Area. The largest tower option is a disaggregated tower, 100 metres in height with a 2:1 slenderness ratio. This tower will have profound and significant visual impacts on the skyline from key local and city views. The lower tower option will reduce the visual impact on the skyline and fulfil adequately the height and location requirements for a landmark building in this location.

Impact on views

Important views of the Area could be categorised as strategic, local and long. They principally occur from:

- The north side of the city;
- The south side of the city;
- Dublin Bay; and
- Along the Liffey corridor.

A number of representative views were selected to assess the likely visual impact of the development. The views are shown in Appendix E, along with a short commentary on the existing view and the nature of the change in the view. Elevation 1 shows the relationship between Millennium Tower at Charlotte Quay, the proposed 60 m high landmark building at Sir John Rogerson's Quay and the 100 m high proposed landmark building at Point Square (2:1 slenderness ratio, disaggregated).The visual impact of the development is summarised in general terms below:

The impact of the main body of the development of the Area (excluding the tower) on views from the north side of the city will be moderate. Skyline silhouettes are not likely to be affected on strategic views. The development will sit within the established and emerging form of the city and the Area. The development of the Area is not likely to cause any obstruction of, or protrusion into, any key view. Local views to the south city may be affected. The main views through the site will be retained along the existing street network and the new network of north/south streets and spaces. The overall impact will be positive and no ameliorative measures are proposed. The impact of the development on the north side of Station Square is likely to be significant. The impact of the tower at 100 metres will be significant/profound. The skyline silhouette is likely to be significantly altered.

The impact of the main body of the development of the Area (excluding the tower) on views from the south side of the city will be moderate. Skyline silhouettes are not likely to be affected on strategic views. The development will sit within the established and emerging form of the city and the immediate area. Again, the main views through the site will be retained along the existing street network and the new network of north/south streets and spaces. The overall impact will be positive and no ameliorative measures are proposed. The impact of the development on the north side of Station Square is likely to be significant. The impact of the tower at 100 metres will be significant/profound. The skyline silhouette is likely to be significantly altered.

The impact of the main body of the development of the Area (excluding the tower) on views from the Bay would be slight. The Area sits between the Port and the city centre. Large-scale structures in the Area will be present in the

foreground and the city will sit in the background. The development of the Area will present a more coherent urban form on the approach to the city. The overall impact will be positive and no ameliorative measures are proposed. The impact of the tower at 100 metres will be significant. The skyline silhouette is likely to be significantly altered.

Views from the Liffey corridor to the Area will be significantly altered. Some existing views to landmark buildings, such as St. Laurence O'Tooles and St. Joseph's Churches, will be affected and available in glimpses. It is important to note that existing views to these features are presently limited from the corridor due to foreground buildings.

The appearance of the corridor will be improved greatly by:

- The removal of Campshire buildings to provide for improved views to the existing landmark buildings along the frontage, such as The Point Depot and the former Railway Hotel.
- The development will allow for an improved, continuous frontage of buildings, radically improving the edge of the corridor, which currently presents a poor frontage.
- The provision of new civic and landmark buildings.
- The landscaping of spaces, the Campshires and new major public spaces.

The relationship between the protected structures on North Wall Quay and the proposed new development is likely to be poor. This will result from a profound change in scale from the modest scale of the protected structures to the significantly larger scale of the proposed new buildings. The presence of the higher buildings at Station Square behind the protected structures may also be notable at locations on the corridor. Transitions in building scale and design may be required to ameliorate the profound change in scale from the protected structures to the proposed new buildings.

In the larger sense, the visual impact of the development on the Liffey Corridor will be positive. The impact of the tower at 100 metres will be significant/profound. The skyline silhouette is likely to be significantly altered.

6.23 Amenity Value

The proposed development will provide a range of new and improved amenities for the Area. These will include the development of the Linear Park, improvement of the Campshires and the use of both water bodies for active and passive recreation. The development of the Area will provide for a range of new public squares and other urban spaces. No mitigation measures are therefore required since the overall effect on amenity will be positive.

6.24 Built Heritage

If alterations to existing buildings, which would normally require planning permission in accordance with the Planning Code, and which are identified for retention in the Planning Scheme are proposed, then an assessment of both the interior and exterior of the buildings should be made in order to identify any features of archaeological/industrial archaeological merit. In addition, the context of existing buildings in relation to the overall Docklands townscape should be considered.

There are a number of protected structures identified in the Dublin City Development Plan 1999 and which are detailed in Table 1(i), Appendix B excluding No. 47 North Wall Quay. The permission granted for the National Conference Centre included the demolition of No. 47 North Wall Quay (Campion's Public House), which is a protected structure. Having regard to this decision, the Authority does not intend the retention of this building.

The possible development over the former North Wall Quay Railway Station on North Wall Quay, a protected structure, is included in the Planning Scheme. Development over this building is likely to have a profound impact on the integrity and character of this building. Ameliorative measures may include articulation of the form and design of new development.

The Planning Scheme makes provision for the active use of protected structures within the overall scheme and their incorporation into the future urban form of the Area. Uses that include public access to protected structures will be promoted. In respect of other protected structures, the proposed development is likely to improve their setting, in terms of scale and design.

North Wall Quay is a registered archaeological site under the National Sites and Monuments Record and all works carried out to the Campshires will be carried out in consultation with Duchas, the State Heritage Service. The development of the Campshires will create a city wide public amenity on North Wall Quay.

The Royal Canal/Spencer Dock and North Wall Quay are designated Conservation Areas in the Dublin City

Development Plan, 1999. The Planning Scheme makes provision for the appropriate development of the Conservation Areas to include the restoration of Spencer Dock and the sensitive development of its edge. In general terms the development of the Campshires, the preservation of protected structures and the development of a new building edge will preserve and improve the character of the Liffey Quays.

Preliminary earthmoving may require monitoring in case any archaeological features are found. Developers may be required to employ a licensed archaeologist to make site investigations and recordings.

Other remnant features that have defined the character of the railway such as rails, viaduct and footbridge, sett street surfaces and limestone walls are present throughout the Area. The Planning Scheme will, so far as is practicable, require that these features be retained or re-used. A list of buildings, structures and features of interest, identified in the Planning Scheme, are listed in Appendix B, Table 1(ii) of this report.

6.25 Flora and Fauna

Due to the scarcity of flora and fauna on the site the focus of the Planning Scheme is on the creation of a new landscape. The Scheme provides opportunities for the creation of new habitats in the following locations:

- the water bodies and their perimeters;
- street landscapes and public open spaces;
- semi-private courtyards; and
- private gardens and balconies.

A principle focus of the Planning Scheme is to provide a more enriched landscape for the Spencer Dock and adjacent linear park. It is proposed that the Dock be restored and made fully navigable. It is envisaged that landscaping within the new development Area will be planned in such a way as to attract appropriate species of both flora and fauna. It is proposed that the linear park be designed to link up with the Royal Canal waterway thus providing an ecological corridor and improved habitat for both plant-life and wildlife.

6.26 Socio-Economic Impacts

6.26.1 Employment

The development proposed in the Planning Scheme will result in a range of new employment opportunities in the Area during and post-construction. The nature of the development anticipated will result in the majority of employment occurring in the non-manual, technical and professional areas. Support employment is likely to occur in local services, hotel and retail sectors. Further employment in the retail / leisure sectors is anticipated at the Point Village.

It is important to ensure that the employment generated in the Area will be available to local communities. It may be difficult for local communities to benefit from the full range of employment opportunities available without further education and training. In order to ensure that there are positive spin-offs from the development of the Area for the local residents a Programme of Activity has been initiated by the Authority which includes the following elements:

- appointment of a Local Liaison Officer;
- establishment of a database of school-goers/leavers in the Area;
- establishment of a Schools Principals Forum;
- development of appropriate educational programmes for interested locals in consultation with school principals, teachers and relevant bodies in the Area;
- liaise and develop identified Training and Development Programmes with FAS, CERT and other relevant agencies;
- under the Local Labour Charter 20% of new jobs created in the Docklands will be on offer to residents of the Docklands in the first instance and thereafter of its hinterland. The Authority accepts that this policy is dependent on the availability of appropriate skills in the Area. However, it will work to provide the necessary training and education to rectify identified skills shortages; and
- the setting up a sub-committee including representatives of the local communities and business communities to monitor and ensure the implementation of this strategy.

Existing distribution and warehousing uses are likely to be displaced as a result of rising land values and redevelopment for more intensive, higher value development. The overall quantum of employment is expected to rise significantly. However the impact on existing employment is likely to be gradual due to the release of land parcels for development over an extended period. This will mitigate any negative impacts resulting from the loss of established employment in the Area.

The overall impact will be positive for the existing communities living in and adjacent to the Area. It is therefore not

anticipated that mitigation measures will be required in relation to the socio-economic impacts of the development.

6.26.2 Housing

As noted in Section 5 of this document there is a need for housing in the Area. Residential development also has the potential to contribute significantly to the enlivenment of the Area. The Planning Scheme provides for a mix of housing types throughout the Area. Housing accommodating single persons and couples will be concentrated in the vicinity of Station Square and the Point Village. Family housing is proposed elsewhere in the Area. In particular, family housing will be encouraged around the proposed new urban spaces where high quality townhouse, mews and duplex developments will be promoted.

The local community have concerns that the enhanced development of the Area will increase property values in the Area. The proposed development throughout the Area will consist of the use of 60% of net developable land for residential and related uses. Of this, 20% of residential units will be allocated to social and/or affordable housing. The development of the Area will thus provide an opportunity for the local community to address an important community issue.

6.26.3 Community Facilities

A range of community facilities will be required to support the existing and future community of the Area. It is envisaged that such facilities will be provided both by the public and private sectors. The zonings adopted for the Area will permit consideration of any community uses within the entire area of the Scheme Planning Scheme provision for community facilities is detailed in Section 3.9.5 of this document.

Crèches/childcare centres will be provided at appropriate locations in the Area to cater for residents and workers. These facilities will be provided as appropriate as part of larger development proposals. Public open space will be developed to allow a high level of accessibility to the existing and future community of the Area and surrounding areas. Play areas will be provided in the other urban squares and spaces. The development of water-based activities will enhance the recreation and leisure base of the North Docklands Area.

Within the development there will be a range of new retail and leisure facilities including hotels, pubs and restaurants. These new facilities will all contribute to the enlivenment of Area and will serve the needs of local residents as well as the new community (both residential and business) and visitors.

6.27 Traffic and Transportation

6.27.1 Impacts

In reviewing the likely transportation implications of the proposals for the Area, it was considered that, whilst traffic issues will remain important throughout the notional 15 year development period, forecasting the local implications of a series of significant infrastructure projects and the wider impacts of policies initiatives designed to effect a modal shift to public transport would be subject to substantial margins of error. Furthermore, given the timescales involved, individual development proposals will be subject to separate traffic impact assessment and guided by the prevailing parking standards and public transport provision.

Consequently, it was decided to concentrate upon the capability of the public transport system to sustain the proposed travel demands within realistic but tighter parking controls (which are assumed to be progressively tightened through the period). This capacity assessment of the public transport system demonstrated that the proposed quantum of development can be accommodated within sustainable modal splits subject to the delivery of the planned public transport improvements. The Planning Scheme therefore articulates a broad transport strategy which is considered achievable. However, implementation of the Planning Scheme will require continuous monitoring and fine-tuning to respond to changing circumstances and policies, and one of the key controlling parameters will be traffic capacity in the area.

6.27.2 Traffic and Transportation Strategy

The underlying movement strategy aims to maximise public transport accessibility, quality and capacity, create a high quality pedestrian and cycling environment and minimise car traffic and its impact on the Area. The development of the Area will be predicated on the realisation of significant proposals for public transport in the Area (see Diagram 17, Appendix A). The DTO have a target of 90% modal split in favour of public transport, which the Authority supports.

6.27.3 Pedestrian and Cycle Movement

The current environment within and bordering the Docklands North Lotts Area is affected by the presence of major river, canal and rail infrastructure which has tended to create barriers to local movement and a comparatively illegible network of routes. However, the vision of sustainable and attractive development requires the definition of a network

of local routes which integrate the individual blocks with each other and link the Area to wider external networks. Furthermore, as virtually all journeys involve some element of pedestrian movement, be it a walk to a station, bus stop or car park, the development of the pedestrian domain can be seen as the primary channel which will govern the success of the Area.

The proposals for pedestrian and cycle movement aim to:

- Make the development blocks permeable to local movements;
- Integrate the Area with the wider networks bordering the Docklands;
- Provide strategic linkages to key origins/destinations, such as stations;
- Take advantage of the strengths of the Area, including the river frontage and the canal system; and
- Create a safe and secure environment to encourage a high level of use.

The proposals already advanced by the Master Plan will significantly improve conditions for pedestrians and cyclists. However, the Area will be further enhanced by:

- Providing for public transport, cycle lanes and controlled pedestrian crossings in those locations where important pedestrian axes meet major access routes.
- Providing a pedestrian bridge between North Wall Quay and Forbes Street/Sir John Rogerson's Quay.
- Continuing the development of the Campshires.
- Providing new links to existing and proposed stations.
- Improving the overall public domain of the Area by the provision of footpaths and pedestrian crossings.
- Developing new internal streets and public rights of way through major development blocks.

6.27.4 Public Transport

The full realisation of the development potential within the Area will require that a substantial improvement in public transport provision occurs and that the Area is fully integrated with the existing and developing public transport systems serving the city. There are already a number of proposals for significant public transport schemes across Dublin, recognising the need for a "step change" in provision if the city is to successfully develop and grow further. Some of these schemes have a direct bearing on the development capacity of the Docklands as a whole and their implementation as soon as possible will dictate the pace and quantum of sustainable development in the Docklands.

6.27.5 Bus Network

Recent years have seen the development of an extensive network of Quality Bus Corridors (QBC) radiating out from the city centre. The corridors include significant bus priority measures to ensure that the services using the corridors can benefit from improved journey times and reliability. As part of the developing public transport system for the city, it is intended that further QBC's will be introduced, filling in gaps in the network and adding orbital corridors. This broadening of provision is to be accompanied by a significant expansion of the fleet, allowing new routes to be created and service frequencies to be increased.

The Area is currently comparatively poorly served by buses, in part reflecting the difficult operating environment and the low demand. However, it is vital that the potential of the local bus network is fully harnessed if the scale of development proposed is to be achieved. Consequently, a comprehensive bus strategy is proposed by the DTO/ Dublin Bus incorporating:

- The creation of a QBC from the north side of the city serving the North Docklands Area
- Further QBC improvements from the south side of the city once the Macken Street Bridge is constructed.
- The creation of a central transport spine along Mayor Street including provision for bus movement, particularly in the short term pending the introduction of LUAS.
- The extension of key services on most of the current, radial QBCs terminating in Eden Quay, Aston Quay etc. to terminate in the Docklands North Lotts Area. This will ensure a diversity of routes covering most of the city with direct links to the Docklands.
- Strong bus linkages to the key rail interchanges at Connolly and Heuston Stations.

6.27.6 LUAS

The initial development of the LUAS light rail system is progressing at present. Extensions to the base system are already being considered and the extension of the system to Connolly Station is confirmed. The further extension of the line into the North Docklands is a priority. The likely and favoured alignment is along a restored Mayor Street with an important stop at The Point. Pending the introduction of LUAS, the required reservation may be used as a bus lane. In certifying development under Section 25 to be consistent with the Planning Scheme, the authority will require wayleaves allowing for the fixing of overhead cables on the Mayor Street building frontage, in order to cater for

LUAS. The Planning Scheme includes this alignment and establishes stop locations at Station Square (integrated with the bus network and the proposed Docklands Station) and The Point.

The longer-term planning strategies of the DTO in A Platform for Change: Strategy 2000 to 2016, include a further LUAS alignment penetrating the Docklands, approaching from the south across the Macken Street Bridge and combining with Line C at Guild Street to form a Dublin inner orbital route. This would reinforce the public transport interchange at Docklands Station. The alignment of this line at the Mayor Street/ Guild Street intersection may encroach on the western margin of the canal linear park area in order to make a 90 degree turn. The alignment will be protected to allow its longer term development. In addition, sufficient capacity will be required to allow LUAS to swing in either an easterly or westerly direction at this intersection.

6.27.7 Heavy Rail Services

The Area is well connected to the rail network although the lines are currently only used for freight purposes. Options for the use of the rail lines for passenger operations have been previously considered in terms of a terminating station within the Area which could handle overflow services from Connolly Station, most probably from the Mullingar line.

With the publication of A Platform for Change: Strategy 2000 to 2016 by the DTO and its formal endorsement by Government, the proposal to create a second rail corridor serving the centre of Dublin through the Area is now seen as a priority. Indeed, the planning and design of the project is programmed to be completed by the end of 2003.

The scheme, entitled the 'Interconnector', would have a range of strategic benefits for the city including increased rail capacity, improved rail penetration to parts of the city and radically improved access to the Docklands. The Interconnector will provide DART services connecting the Kildare and Maynooth lines. It is evident that the full potential of the Area and the wider Docklands area can only be realised with such significant public transport infrastructure.

The proposed alignment through the Docklands as illustrated in the Planning Scheme would start just north of Connolly Station and pass under North Wall Quay (between Spencer Dock and New Wapping Street) and the Liffey before sweeping westwards under Pearse Station. No final alignment has been decided. The indicative alignment was chosen following consultation with Iarnród Éireann, with a view to maximising accessibility through the Area. Given the depth of the line at Docklands Station, it may be possible to "double-end" the platforms with two separate entrances some 300-400 metres apart. It may even be possible to create a southern entrance within the Grand Canal Docks Area which would extend the station's catchment and improve public transport accessibility to areas south of the Area.

It is anticipated that the Docklands Station will need to be up to 20m beneath grade with all the attendant infrastructure implications.

An indicative alignment for both the Interconnector and the location of the station is shown in this report. The station is located below the former Passenger Rail Station (North Wall Station) with entrances located in the first instance at Station Square on Mayor Street and North Wall Quay. The Station will require detailed future design.

Formalising the selected tunnel alignment by the transport authorities is a critical issue to facilitate the early phases of development in the vicinity of the Interconnector.

Any buildings overhead of or adjacent to the Interconnector and the foundations to such buildings shall be designed and constructed in a manner which facilitates and does not inhibit the provision of the Interconnector.

Any application for certification of a proposal to construct the rail tunnel will be required to include a detailed Environmental Impact Statement.

6.27.8 Road Hierarchy

The existing road access to the Area is constrained by the limited capacity of the key bridging points, the junction arrangements at the Custom House and the volume of traffic generated by the Port. It is not sustainable to accommodate major development within the Area unless it is based on a significant share of access requirements being met by public transport modes. The strategy articulated earlier demonstrates the scale of infrastructure necessary if this vision is to be realised.

Access from the south is currently poor due to a lack of a direct crossing of the Liffey. The Dublin City Development Plan, 1999 and A Platform for Change: Strategy 2000 to 2016 make provision for the Macken Street Bridge. This will facilitate access between the two sides of the river. Dublin City Council has developed a local traffic management plan which restricts certain turning movements at key junctions. The outcome of these measures, however, is to limit local road access and discussions are on-going between the Authority and the Corporation to ensure that the balance between strategic and local traffic concerns is maintained.

The reconnection of Mayor Street will improve the permeability of the Area. The street will be reserved principally for public transport with private vehicular access limited to essential access, loading and emergency access.

Private vehicular access will not be permitted on the proposed new Mayor Street Bridge across the canal.

6.28 Parking Standards

The overall level of parking provision is progressively being tightened across the city to encourage greater use of public transport, while at the same time making adequate allowance for essential users. With the development of public transport in the Docklands North Lotts Area, car parking standards will be tightened. Although the majority of parking will be provided off-street, on-street parking will be permitted at appropriate locations.

Current analysis suggests that the parking standards permissible under the Dublin City Development Plan, 1999, are excessive relative to the nature and quantum of development envisaged and the capacity of the local and strategic highway network to absorb the resultant traffic flow. It is also understood that Dublin City Council is in the process of reviewing its standards and it is likely that they will be significantly reduced.

Modal split and junction capacities will dictate car parking capacity in the Area. Influencing modal split will require the implementation of high quality public transport - bus, rail and LUAS, and the improvement of the cycling and pedestrian environment. Significant public transport proposals exist and will be implemented on a phased basis over the coming years. In particular, it is assumed that improved high quality bus services will be implemented to meet development in the Area, that LUAS will be extended to The Point by 2005 and that the Interconnector will be constructed by 2010.

A car parking capacity for the Area of approximately 3,000 spaces was established in a recent report (Ove Arups, 1998) based on existing junction capacities. Ove Arups confirm that this car parking capacity figure is still valid for the Area. The figure is based on static traffic volumes and does not consider potential capacity improvements to junctions.

A threshold approach is proposed to ensure an orderly regime of development in the Area in tandem with public transportation infrastructural provision. This would allow for tightened car parking standards for commercial floorspace and residential units as floorspace/unit thresholds of development in these categories are exceeded. All licensed development or development for which planning permission has been granted shall be considered for the purposes calculating the totals. The likely anticipated period over which the floorspace/unit threshold will be reached is outlined below.

Threshold	1	2		3 (to completion)	
		Likely time period		Likely time period	
		2000 - 2005	2005 - 2010	2010 - 2015	
		Low	High		
Development					
Residential - units*	1500	2,750	3,550	3,800	
Commercial - sqm.	80,000	160,000	355,000	380,000	
Parking Standard					
Residential - per unit	0.75*	*0.5	0.375	0.375	
Commercial gross sqm.	1/300	1/600	1/1000	1/1000	
Total parking stock	1,392	2,150	2,645	2,764	

Table 7.1 Car parking thresholds and standards

* Residential units are assumed to average 100 sq. m. over the entire development.

** This is likely to equate to one parking space maximum per residential unit of two or more bedrooms and one parking space maximum per two residential units of one bedroom.

The threshold standards apply to residential and commercial office type development only as the majority of development in the Area will be in these categories. The Authority will review its parking standards for the Area in consultation with Dublin City Council within 2 years of the adoption of a Planning Scheme. In the interim the following parking standards for Docklands North Lotts Area will apply:

Residential

One parking space maximum per residential unit of two or more bedrooms.

One parking space maximum per two residential units of one bedroom.

Commercial office development

One parking space maximum per 300 sq m of gross floor area. These standards are conditional on viable mobility management plans for all commercial developments on sites of 10,000 sq m floor area and over and may be required, at the discretion of the Authority, for smaller commercial developments in the Area.

National Conference Centre

The Authority will permit a maximum of 240 car parking spaces to serve the proposed National Conference /Exhibition Centre.

Other uses

The Authority shall be guided by the standards set out for other land uses as specified in the Planning Scheme. This will be subject to an assessment of the overall figure for parking for the Area and the impacts on the objective to achieve a shift in the modal split in favour of public transport in the Area.

On-street parking

Properly designed and controlled on-street parking can help to support street activity, evening activity and residential development. Although most parking will be provided off-street, on-street parking will be permitted on selected main streets in the Area subject to further detailed traffic assessment. All main streets in the Area will be considered with the exception of Mayor Street, Station Square, Point Square, the Campshires and the street network bounding the Spencer Dock fringes.

Public Car Park

It is an objective of the Master Plan that a multi-storey car park should be developed at The Point to cater for the anticipated loss of surface car parking. It is envisaged that this car park would not exceed 700 spaces including any operational parking required for the Point Depot. The car park will cater for short-term parking and occasional events.

Bicycle parking

Bicycle parking shall be provided at major public transport nodes, at shopping areas and at important public facilities and amenities. Parking for bicycles shall meet those standards set out in the Planning Scheme.

6.29 Traffic management

As the Area develops traffic management will be required in response to support sustainable traffic patterns. The Authority will monitor traffic patterns in the Area and will co-operate with Dublin City Council in the implementation of an Environmental Traffic Cell, which it is considered should be extended to the Area. Traffic calming measures by Dublin City Council will be necessary in the residential area north of the Area. In particular, no through traffic should be permitted between the restored Wapping Street and Abercorn Road. Any traffic management proposals should be consistent with the Regional Management strategy proposed by the DTO.

6.30 Servicing of Development

Properly designed and controlled servicing arrangements and areas will be required throughout the Area in order to ensure that development functions in an efficient and orderly manner. In assessing applications for Section 25 certification, the Authority will require adequate arrangements in this regard.

6.31 Impact on Existing Local Residences

6.31.1 Introduction

For ease of understanding this section brings together those effects identified in other sections of the EIS that would have a bearing on local residents. This section concerns potential impacts on local residents of the completed

scheme. The effects on local residents during the construction phase are discussed in Section 6.10.

The housing stock in the Docklands North Lotts Area has always been limited. Historically, the Area was dominated by industry and warehousing with small pockets of housing dispersed throughout. The existing community in the Area is small (approximately 100 residents) located in housing fronting New Wapping Street, housing fronting Mayor Street west and east of the junction with New Wapping Street; Sheriff Street and housing on Castleforbes Road. The Area is also surrounded by vibrant communities located in the North Docklands Area; East Wall, part of North Strand, Seville Place/ Sheriff Street / Guild Street and the Church Street East/ Irvine Terrace/ Abercorn Road community and recent apartment development at the IFSC. The impact on these areas is considered in other sections in terms of the larger development context.

It is estimated that the existing residential community comprises 100 persons and that the future resident population is likely to be between approximately 7,000 and 9,375 persons (assuming final dwelling numbers of between 3,500 and 3,750 units and occupancy of 2.0 and 2.5 persons per dwelling). This will lead to a significant increase in the resident population with an associated need for the improvement and provision of community facilities and open space areas. The Planning Scheme provides for the integration of existing residential areas into the development of the Area. The main impacts of the Planning Scheme on existing residences are predicted to be, traffic and visual impact.

It is essential to ensure that the impact of the development is favourable with regard to the existing communities in the Area. The need for social/affordable housing, employment and additional public amenities is recognised and should be addressed accordingly in the delivery of the Planning Scheme.

6.31.2 Existing Residential Areas

Reconnection with Rest of City

Historically, the nature of rail infrastructure, topography and major land uses in the vicinity established a relative sense of isolation within the Area. The Planning Scheme would help to achieve the reconnection of the Area with the rest of the city and greater integration with adjoining residential communities by the creation of new routes through the Area. (2.6)

6.31.3 Visual Amenity and Overshadowing

Visual Amenity

Due to the phased nature of the Planning Scheme, changes in the visual environment are likely to evolve over a 10 - 15 year period, rather than representing a sudden change in character.

- i) The scale and massing of the proposed urban form would have a significant visual impact on the Area, particularly on residences along New Wapping Street, south of Sheriff Street Upper, Castleforbes Road, and residences north of Sheriff Street Upper.
- ii) Because the Area has been under utilised over a long time period, and due to its previous industrial character, redevelopment with a variety of activities in new development would represent an improvement over the existing situation.

The proportions of the Planning Scheme have been carefully considered and are considered to be of an appropriate scale and not to be overbearing. The scheme would be comparable in terms of bulk, massing and scale to the Grand Canal Docks scheme to the south of the river, as well as the IFSC along North Wall Quay. The regeneration of the Area is seen as part of the natural development of the City.

The Planning Scheme would introduce a significant change in scale in the Area to a city scale of development and would be visible on the skyline. This is not unusual in a fast evolving urban city environment and there are other examples in Dublin of areas of contrasting scale. The existing scale of development would be significantly altered. The development arising from the Planning Scheme would be readily visible and would constitute a new continuous, medium height development, which would be visible on the skyline.

Diagram 10 illustrates the proposed building heights. The main body of development would range between 3-7 storeys above pavement level with 1 or 2 possible set back storeys, depending on whether they are commercial or residential. This variation in height would provide variety and interest. The block north of Station Square would comprise four, ten storey landmark towers. There is also special provision for landmark buildings. (3.8.3)

The visual impact of the main body of the development (excluding the tower) on views from the north side of the city would be moderate. The development of the Area is not likely to cause any obstruction of, or protrusion into, any key

view. The impact of the development on the northside of Station Square is likely to be significant as they are likely to appear as a bulky visual element sitting above the surrounding buildings. Local views to the south city may be affected. The main views through and from within the site will be retained along the existing street network and would not be affected (6.22). The Planning Scheme would also involve the creation of new vistas. The visual impact analysis of the proposed development (Appendix E) includes four views considered to be representative of the effect of the scheme on the visual amenity of local residences (views 9-12).

View 9 Seville Place

The impact of the development from this view will be significant. Buildings of up to nine storeys along the visible frontage of the development from this view point may be permitted.

View 10 Russell Avenue East

The impact from this view is likely to be moderate with building only partly visible from this viewpoint over existing buildings fronting the playground.

View 11 East Road

The impact of the main body of development would be profound. The existing scale of development would be significantly altered and existing distant views would be obscured.

View 12 East Wall Road

The impact of the development on this area would be profound. The tower would dominate the view in general and the skyline in particular. Residents not affected. None of the existing residents properties front onto East Wall Road.

Overlooking

The development of streets and blocks has taken the impact of overlooking into account. The proposed relationship between buildings reflects a city scale and configuration, which is not uncommon in Dublin. It is appropriate where problems arise to resolve these through detailed design solutions at the detailed proposal stage.

- Housing fronting New Wapping Street and housing on Castleforbes Road; (Section 11e, shows that in the case of typical north-south streets, 5 to 6 storey buildings with one or two possible setback storeys, would be 15m away from existing buildings)
- Housing fronting Mayor Street, west of New Wapping Street; (Section 11a, illustrates that 5 storey buildings with one possible set back storey, would be 24m away from existing facing buildings)
- Housing fronting Sheriff Street.

Overbearing

In general terms scale is modest to medium, consistent with nearby and general city scales. The greatest contrast in scale is likely to occur between new development and existing housing on Mayor and New Wapping Streets, where either five plus two or six plus one, and up to 10 storey development would be adjacent or nearby existing two storey properties. The impact is likely to be significant effect.

Overshadowing

Comprehensive shadow studies have been carried out (Appendix D). The existing situation is not generally representative of a typical mixed use, medium to high density urban situation. Although there is an existing level of overshadowing to properties on Sheriff Street due to the proximity of industrial premises to residential properties.

The Planning Scheme would result in new and high profile buildings. Additional overshadowing is likely to occur north of Sheriff Street Upper and to established residential pockets within the Area. (6.21). The block to the north of Station Square, comprising landmark corner tower features would result in significant overshadowing to residential properties to the east and west. Overall, the overshadowing to the existing community is considered to be significant but not adverse. Adequate levels of daylight and sunlight would be retained. The Planning Scheme makes provision for the incorporation of the residential pockets and allows for the appropriate layout and scaling of buildings and spaces abutting and adjacent to them space to ensure adequate distance between existing and new buildings. Maintaining adequate sun and daylight levels to residential development and public open spaces was a key design parameter of the Planning Scheme. It is intended that at least one aspect of a double aspect unit, preferably the backs of houses would meet appropriate day and sunlighting standards. The proposed higher buildings in the Area would not impact adversely on existing residential development. Appropriately scaled buildings on the periphery of the development blocks are proposed adjacent to existing and future housing

6.31.4 Parking and Access

Loss of On-Street Parking

The overall level of parking provision is progressively being tightened across the city to encourage greater use of public transport, while at the same time making adequate allowance for essential users. With the development of public transport in the Docklands North Lotts Area, car parking standards will be tightened (6.28). Within this there

is likely to be a bias toward the provision of resident as opposed to commuter parking. The possibility of making alternative arrangements for the provision of off-street parking for existing residents in new parking facilities will be explored, although this may in some cases be a management issue. Off-street car parking standards will be reviewed after two years in conjunction with Dublin City Council and the DTO.

Restricted Access

Dublin City Council has developed a local traffic management plan which restricts certain turning movements at key junctions, although this principally relates to the introduction of the proposed Macken Street Bridge rather than to the Planning Scheme itself. The outcome of these measures, however, would be to limit local road access and discussions are on-going between the Authority and the Corporation to ensure that the balance between strategic and local traffic concerns is maintained. (6.27.4)

Public Transport

There are currently few public transport services in the Area and the proposals in the Planning Scheme would constitute a significant improvement for local residents providing for LUAS, Quality bus service and heavy rail (5.20.2). Improvements for cyclists and pedestrians would also occur.

6.31.5 Air Quality, Odours and Noise

Air Quality

The air quality within the Area may be affected by the new development as follows:

- Emissions from traffic.
- Atmospheric emissions from buildings and activities.

Traffic Impact on Air Quality

Emissions from particulates (as well as nitrogen oxides and hydrocarbons) can be significant along roads which are heavily congested, and therefore levels of traffic in the Area must be considered. The Quays currently experiences in the region of 4,000 port related HGV movements per day. The Planning Scheme makes provision for approximately 3,000 parking spaces which gives an indication of the likely number of vehicle movements generated by the scheme. The completion of the Port Tunnel would also be likely to bring about a change in the type of traffic from a significant proportion of HGVs to a greater proportion of lighter traffic, and this is likely to bring about an improvement in the level of emissions.

Emissions from Buildings

Emissions from the buildings will be related to type of uses and occupancy. The proposed development is not expected to generate atmospheric emissions that will require either an air pollution licence or an integrated pollution control licence. The residential uses will use low polluting means of central heating, however boiler units will generate some atmospheric discharges. Furthermore, air conditioning will be required for some non-residential uses and as such there will be a need to ensure that emissions are minimised by employing high specification and filtration procedures. Developers will be encouraged to maximise usage of natural ventilation and passive solar principles.

Micro Climate

No adverse affects to the micro-climate in the vicinity of existing residents are anticipated due to the urban scale of development. The effect of the Planning Scheme on micro climate is not anticipated to be different to that of a normal city medium scale situation. The fairly consistent heights proposed in the Planning Scheme are not expected to give rise to significantly adverse conditions.

Noise

Air Bourne

No significant effect on noise levels is likely as a result of the proposed development itself. The proposed land uses would not be of an industrial nature or of a nature associated with high levels of noise generation. The increase in traffic generated could result in an increase in noise levels in the Docklands North Lotts Area and surrounding areas. This will be ameliorated to a degree by the decrease in Port traffic on the opening of the Port tunnel. The noise levels likely to be generated will not be inconsistent with the location of the Area directly adjacent to Dublin city centre, and will be ameliorated by traffic calming measures where appropriate. (6.17)

Odours

The development proposed in the Planning Scheme will not contribute to unpleasant odours. There is evidence of seasonal odours in the Area, mainly hydrogen sulphide from the River Liffey and from Spencer Dock/Royal Canal. (5.3) The water quality within the Docklands North Lotts Area will be managed in order to ensure that it is not a source of odour. (6.13)

Traffic

The likely transportation implications in the Area and surroundings are subject to a margin of error in the context of several wider policies initiatives, designated to shift the whole city toward public transport. Furthermore, the predicted timescale of the whole development is extensive, therefore individual development proposals will be subject to separate traffic impact assessment.

The City Quays currently experiences in the region of 4,000 port related traffic movements per day which is predicted to decrease following the completion of the Port Tunnel. The Planning Scheme makes provision for approximately 3,000 parking spaces, which gives an indication of the likely number of traffic movements. The nature of the type of traffic is likely to shift from a significant proportion of HGVs to a greater proportion of lighter traffic with consequent improvements in noise.

The construction of the Dublin Port Tunnel should radically reduce HGV movements in the Area, though a significant proportion will continue to pass along the Quays through the city centre (5.20.3). Existing main routes through the Area (North Wall Quay, Sheriff Street, New Wapping Street and East Wall are likely to remain busy.

Traffic calming and management will be an important part of the Planning Scheme and is likely to represent a significant improvement in road safety over the existing situation, where little or no such calming or management exists.

Further traffic and transportation impact assessment can be found in Section 6.26.

6.31.6 Affordable Housing

The local communities have identified the provision of social and affordable housing in the Area as a key community issue. There are concerns that the development of the Area will increase property values in the Area. The Master Plan gives a commitment to providing for social, affordable and special needs housing and creating attractive conditions for families in the Area. 60% of net developable land will be used for residential and related uses. Of this, 20% of residential units will be allocated to social and/or affordable housing. (6.26.2) Existing home owners are likely to benefit from significant increases in local property values.

6.31.7 Employment

The development proposed in the Planning Scheme will result in a range of new employment opportunities in the Area. It is estimated that between approximately 16,300 and 17,400 (figures based on gross floor space for commercial development and rounded) people may ultimately be employed in commercial development in the Area.

Employment Mismatch

The nature of the development anticipated will result in the majority of employment occurring in the non-manual, technical and professional areas. Support employment is likely to occur in local services, hotel and retail sectors. Further employment in the retail / leisure sectors is anticipated at the Point Village. (6.26.1) It may be difficult for local communities to benefit from the full range of employment opportunities available without further education and training. In order to ensure that local communities share in the benefits that accrue from the development of the Area, a Programme of Activity has been initiated by the Authority. One element in the achievement of this objective is the Local Labour Charter/Initiative. The purpose of the Charter is to ensure that employment and training opportunities are available to local people. (6.9)

Displacement of Existing Employers

Existing distribution and warehousing uses which may be employers of local residents are likely to be displaced as a result of rising land values. The phased incremental nature of development will mean that any relocation of local employers is likely to be gradual. This would take place due to market processes of development, as opposed to compulsory purchase.

6.31.8 Local Amenities/Facilities

Facilities/Amenities

With a significant increase in the residential population there will be an associated need for the improvement and provision of community facilities and open space areas. Existing retail development in the Area is limited to dispersed, small shop units. Additional retail facilities will be required in the Area to serve new and existing communities (3.9.3). At present there are no existing health or community facilities located in the Area. (5.19.3)

Educational Facilities

There is adequate capacity in existing primary and secondary schools in the areas adjacent or in the vicinity of the Area to cater for a significant increase in pupils it is unlikely that the resident population will require additional

educational facilities, although in the majority of cases there is a need to improve existing buildings and facilities for pupils (5.19.2). Recreation facilities may require upgrading and ways in which amenity space can be imaginatively used by schools will be explored by the Authority in conjunction with the schools. (3.9.5) Provision for crèches has also been made in the development, and the National College of Ireland is locating in the IFSC, which will provide a range of third level education in the local area.

Public Open Space and Public Amenities

There is an existing lack of recreation facilities in the North Docklands Area (5.19.4). Public open spaces to serve both citywide and local needs are proposed at the Campshires, a proposed Royal Canal linear park, a major public park at the confluence of the Canal and the Liffey, and a hierarchy of new urban squares and the other urban spaces (3.9.7). They will be developed to allow a high level of accessibility to the existing and future community of the Area and surrounding areas. Community involvement in the opening and the restoration of the water bodies will be supported to propagate a community wide sense of ownership (2.1.2).

Community Integration

A key aim of the Planning Scheme has been to achieve community integration. In the past some developments alienated local residents by taking the form of internalised 'gated' developments. The Planning Scheme deliberately sets out to create public streets with active ground floor uses to promote social interaction, as opposed to privatised spaces.

The comparative increase in activity and greater numbers of people living and working in the Area, over and above the existing situation is likely to be noticeable to existing residents, who to a degree may feel used to having the area to themselves. The increase in the number of people on the street and greater mix of uses would be likely to improve safety and security through the increased natural surveillance of streets their presence would bring.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

This EIS accompanies the Planning Scheme for the Docklands North Lotts Area and both should be considered together. The scope of the EIS is constrained by the fact that it based on a framework plan that does not refer to specific development or site preparation proposals. Nevertheless, this EIS represents a robust statement of the following:

- the proposed Planning Scheme;
- the receiving environment of the Docklands North Lotts Area; and
- the likely environmental impacts of the development proposed in the Planning Scheme and the appropriate mitigation measures to be taken.

The Planning Scheme is designed to secure the social, economic and physical rejuvenation of the Area on a sustainable basis. The development proposed will assist in the regeneration of the Area, much of which is underused and presents a poor quality environment. The proposed mixed use development has the potential to provide new homes, new businesses, new public amenities and leisure opportunities within an integrated movement system.

The key issues that are raised in this EIS with regard to the impacts of the development on the existing environment are as follows:

- It is essential to ensure that the impact is favourable with regard to the existing communities in the Area. The need for social/affordable housing, employment and additional public amenities is recognised and should be addressed accordingly in the delivery of the Planning Scheme;
- The issue of public infrastructure transportation is critical to the success of the development. Extensive measures to improve public transport are proposed and are detailed in both in this EIS and the Planning Scheme. In the absence of any of these improvements, it is considered that development in the Area will be curtailed. In effect, development in the Area can only take place on a phased basis in tandem with public transport improvements;
- Off-street car parking standards will be reviewed after two years in consultation with Dublin City Council, DTO and other relevant bodies.
- Decontamination of some sites to internationally standards may be required in the course of the development:

- Protected Structures (with the exception of No 47 North Wall Quay) will be preserved and other buildings/features of architectural/ historic merit will be retained as part of the overall development of the Area;
- The use of Spencer Dock and the Campshires for leisure use will be promoted. Increased use of Spencer Dock for recreational uses will require appropriate measures to be taken to improve and maintain the water quality within the basin; and,
- Given anticipated rises in sea levels and climate change associated with global warming, the Authority will encourage the construction of buildings which have a minimum ground floor level of 3.3 OD (Malin Head) as recommended by Dublin City Council

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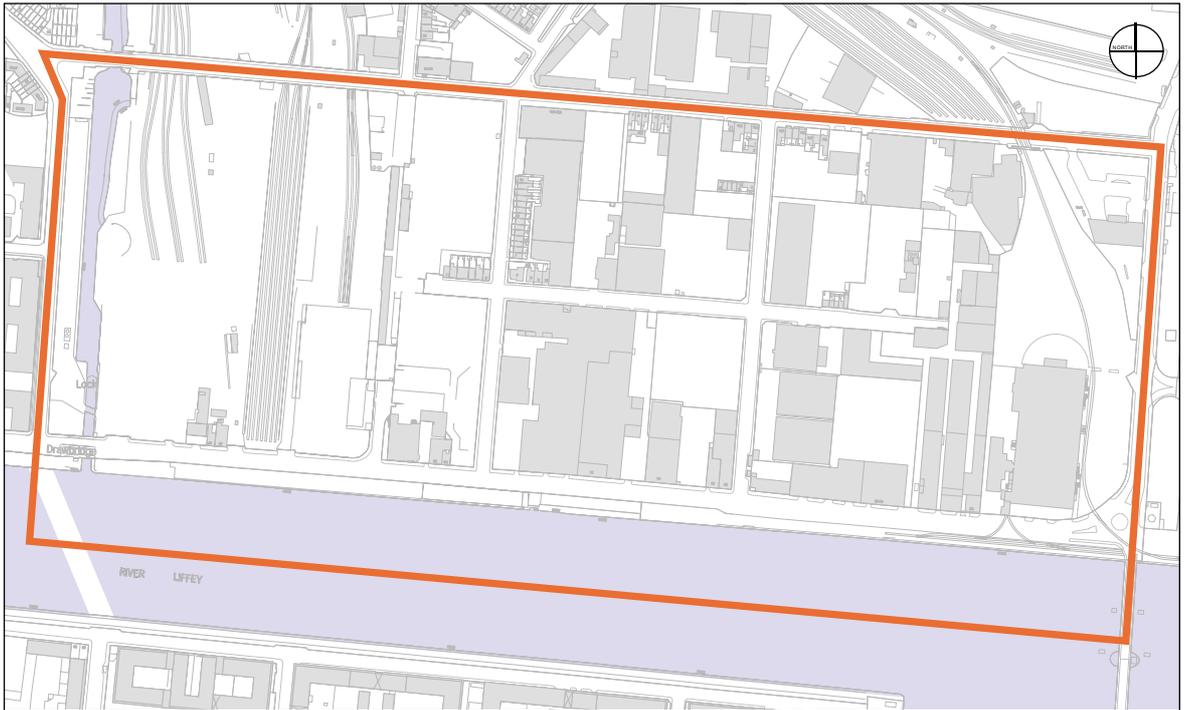


Diagram 1
The Docklands North Lotts Planning Scheme Area

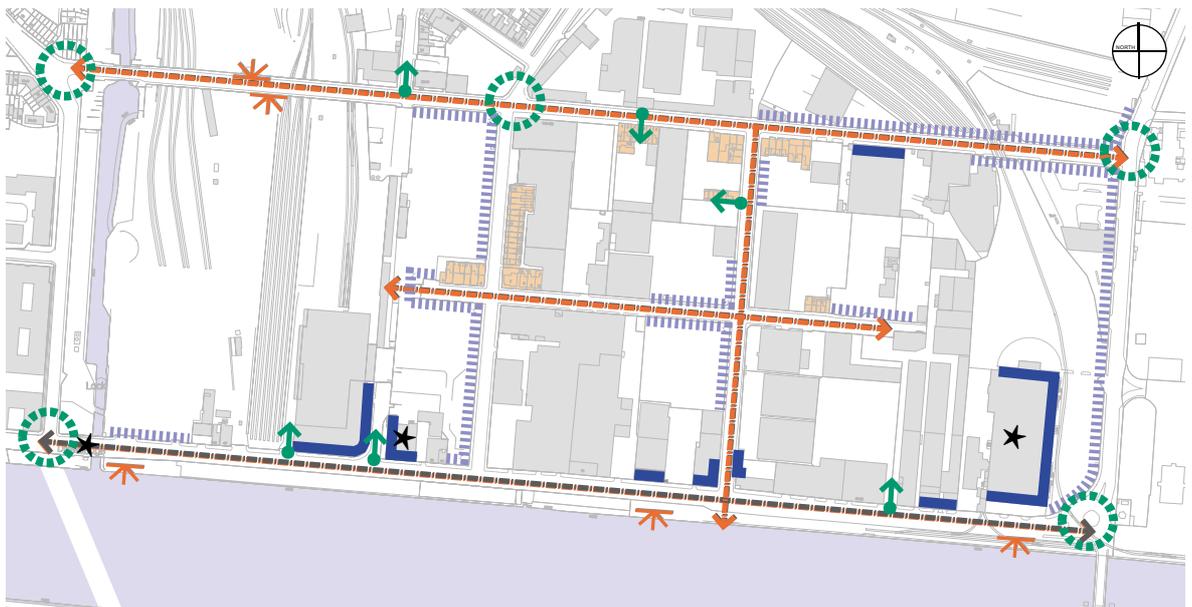


Diagram 2
Urban Analysis

- Key Views
- Extensive Wide View
- Existing Landmark
- Weak Frontages
- Attractive Frontages
- Residential Enclaves
- Glimpse
- Gateways



Diagram 3

Indicative proposals for a new urban form

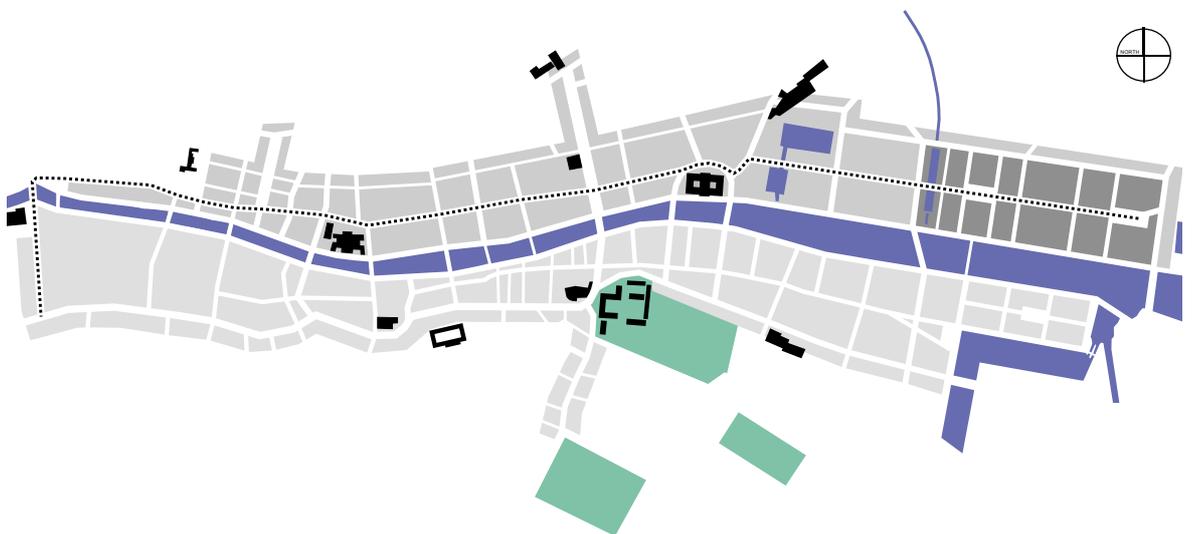


Diagram 4

The 'linear city' concept, showing the Docklands North Lotts Area in its strategic context.

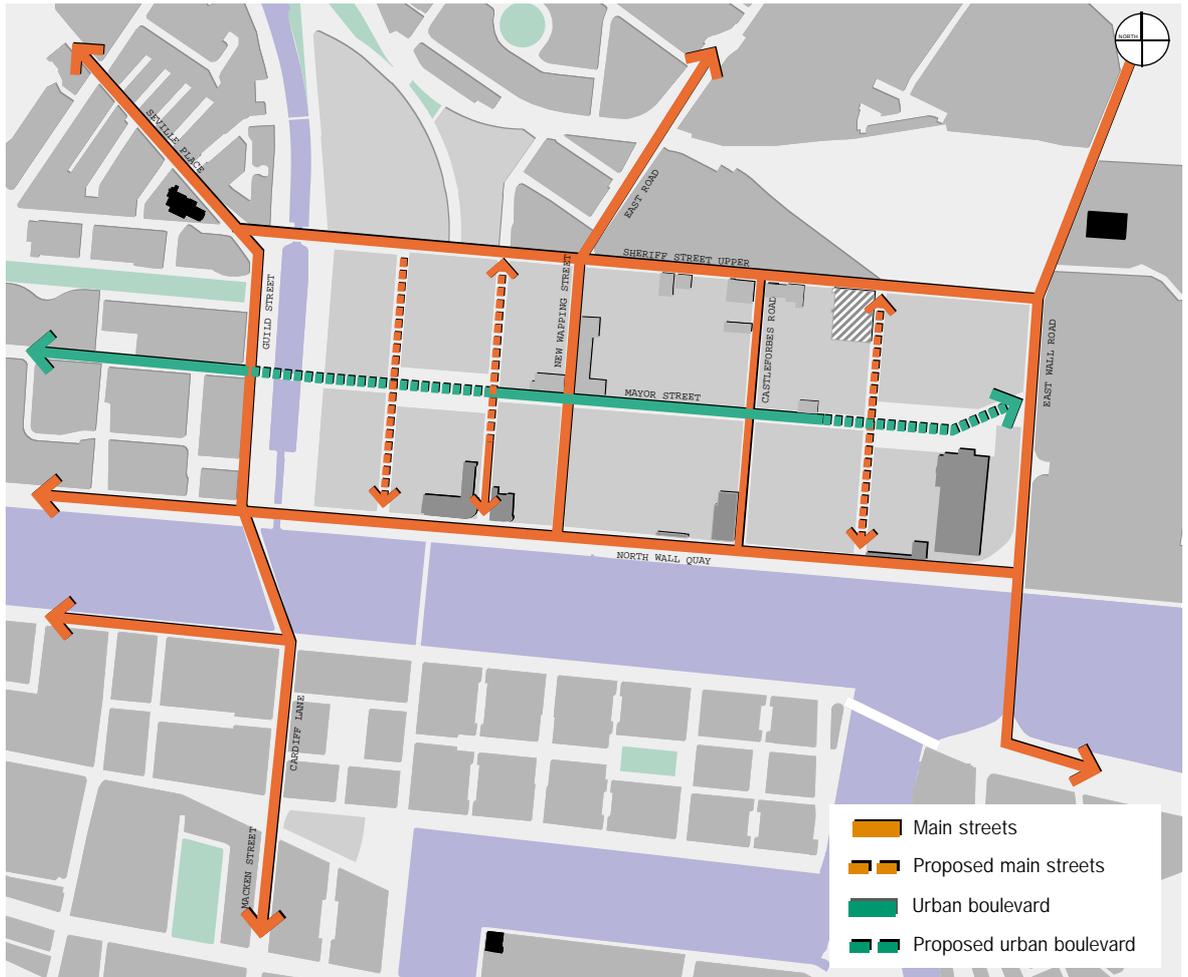


Diagram 5

Building on the orthogonal block structure by introducing a new order of primary routes including a new urban boulevard along Mayor Street

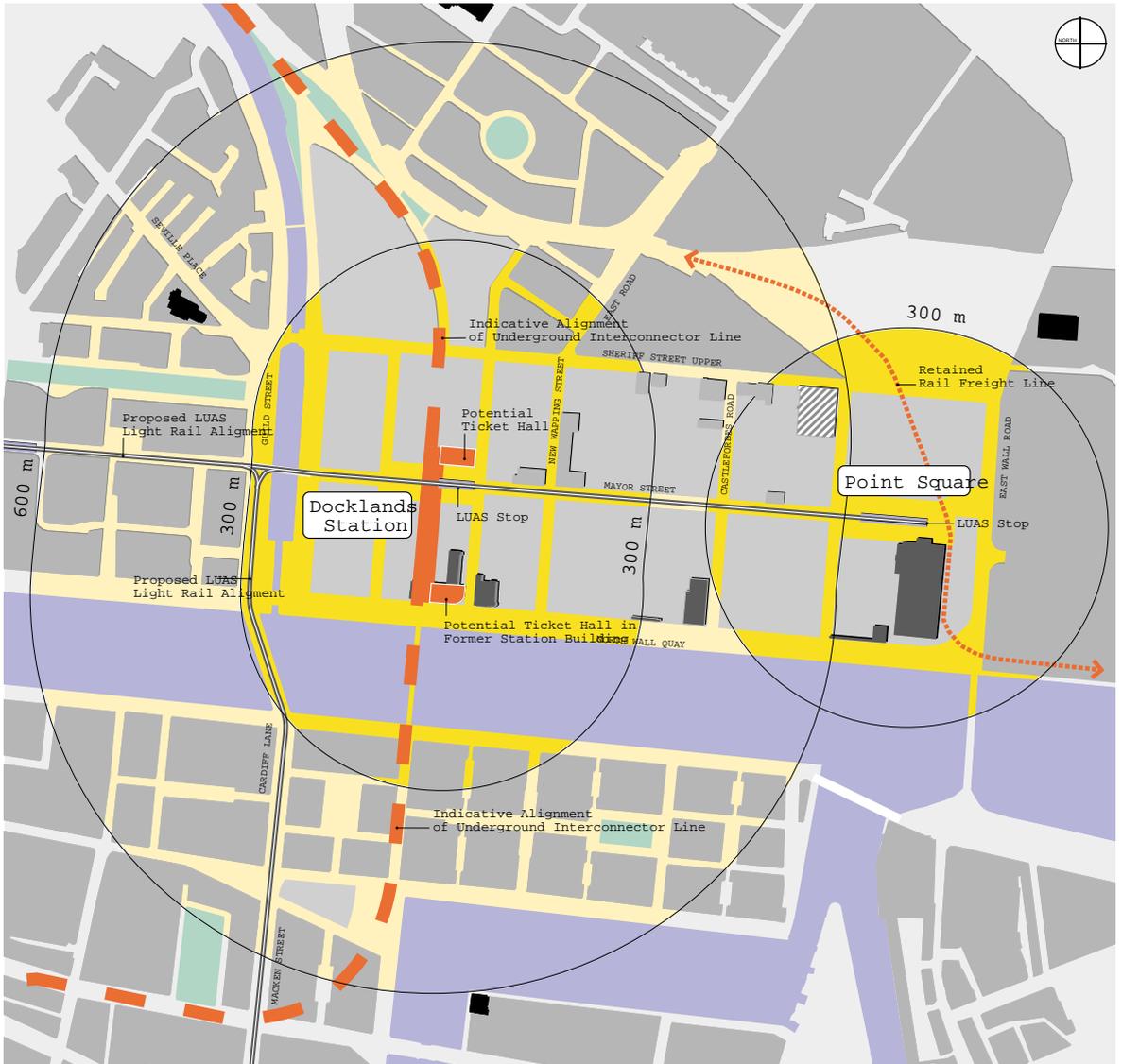


Diagram 6

Rail infrastructure showing proposed light rail system, Interconnector Line, new station and existing rail line at The Point



Diagram 7

Main urban structure showing the central spine, Liffey frontage development and north-south pedestrian spine on the line of the new pedestrian bridge to Grand Canal Dock.

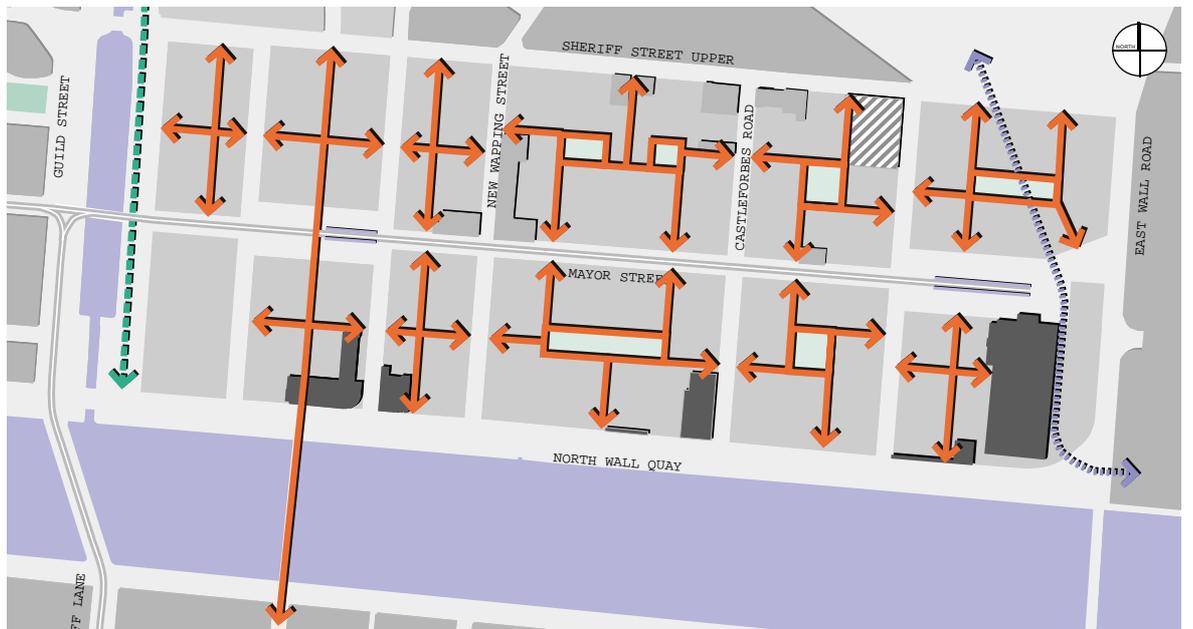


Diagram 8

The network of smaller streets and spaces

-  New Internal Routes
-  Green Routes
-  Retained Rail Line



Diagram 9
Working with existing land ownerships

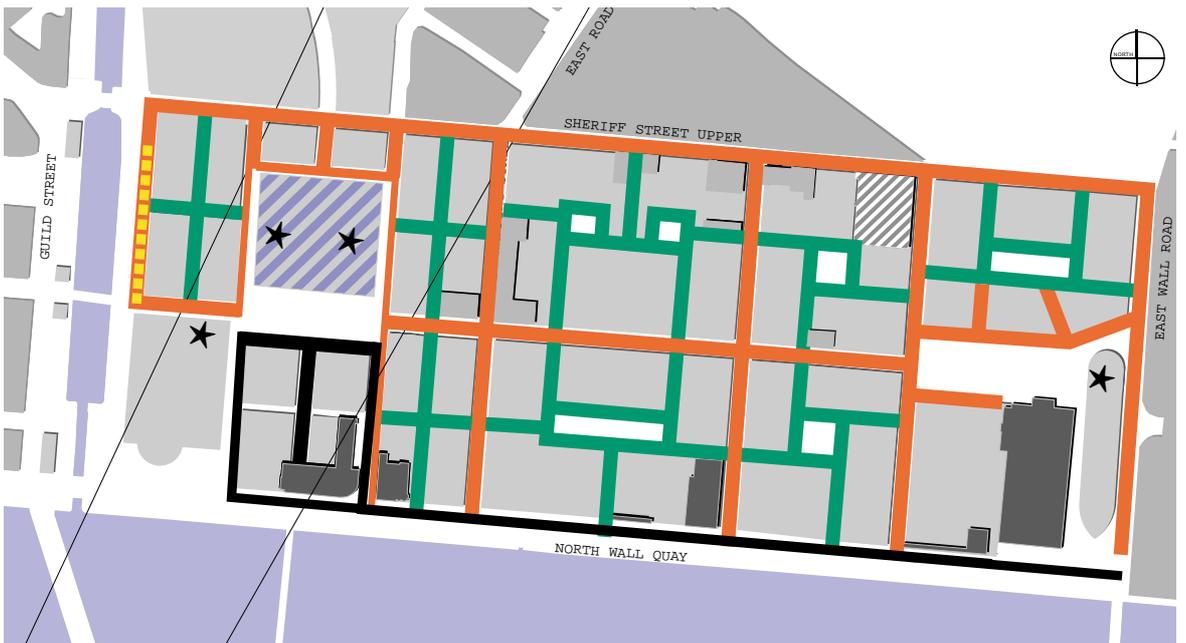


Diagram 10
Building Heights

Maximum Building Heights

- 6 storeys commercial or 7 storeys residential (all plus 1 possible set-back storey)
- 5 storeys commercial (plus 1 possible set-back storey) or 6 storeys residential (plus 2 possible set-back storeys)
- possible alternative of a series of towers at 9 storeys (plus 1 possible feature storey)

Building Heights on Indicative Internal Routes

- 4 storeys (plus 1 possible set-back storey)
- Protected Structures (qualified in Section 6.9)
- ▨** Structures/Features to be Retained
- Existing Residential Buildings
- Fitzwilliam Street View Corridor
- ★** Landmark buildings/features
- ★** Station Square Landmark

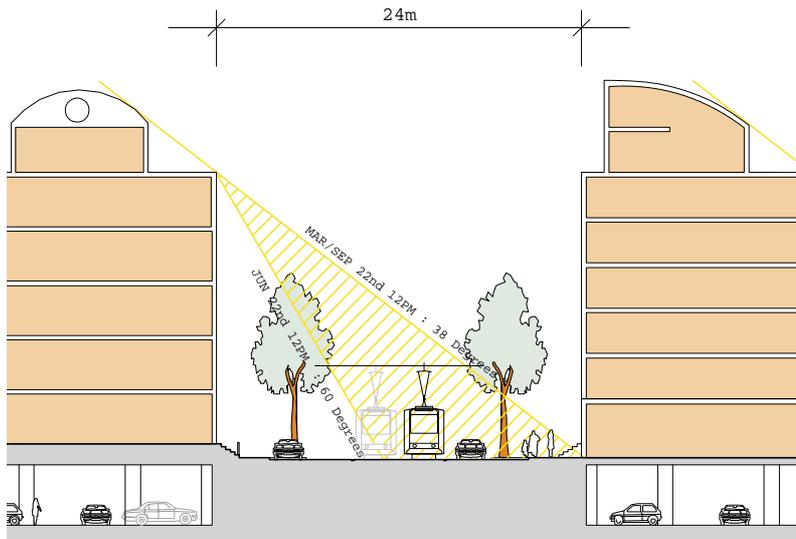


Diagram 11a

Section through Central Spine (Mayor Street) showing sun angles and building height conditions

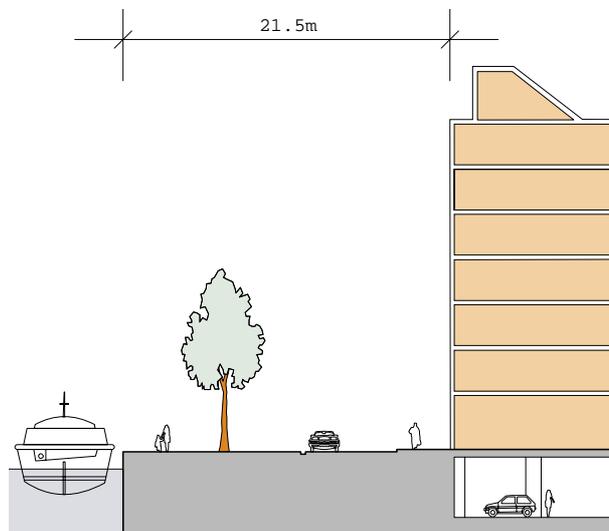
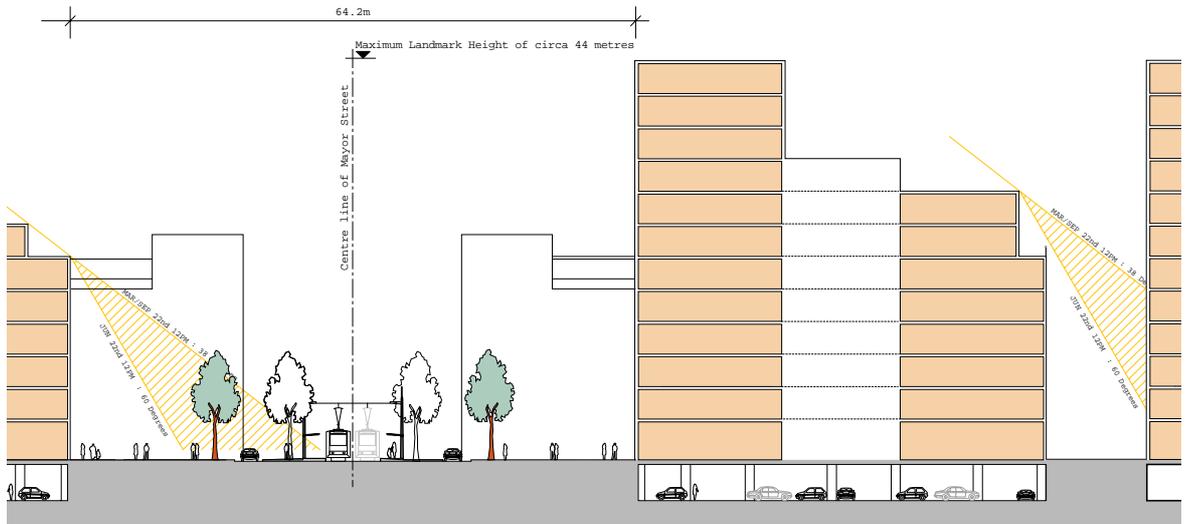


Diagram 11b

Section through North Wall Quay

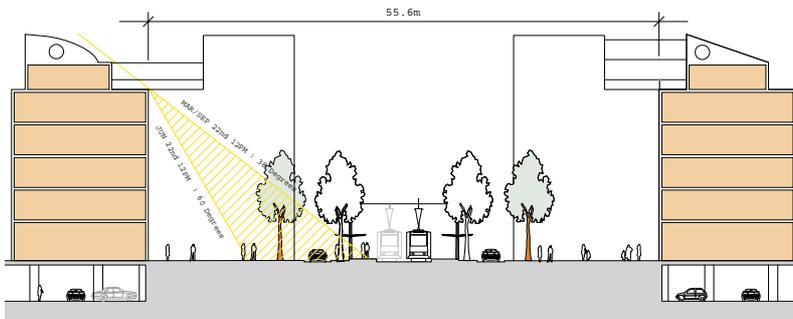


5 storeys plus 1 possible set back storey for commercial development

5 storeys plus 1 possible set back storey for commercial development and a possible landmark of maximum height of 44 metres along centre line of Mayor Street

Diagram 11c

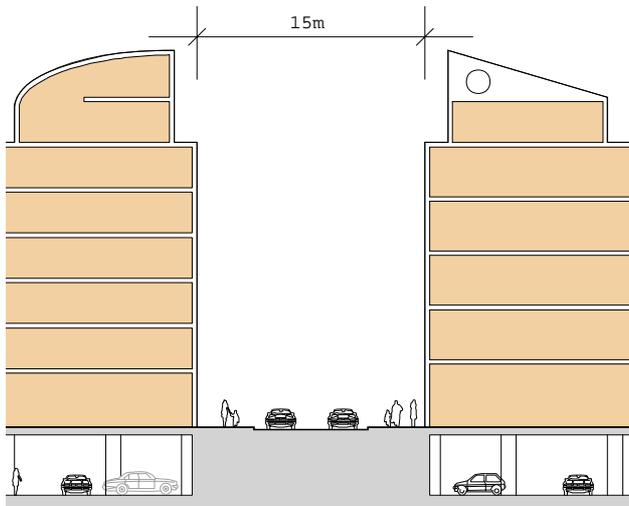
Section through Station Square



5 storeys plus 1 possible set back storey for commercial development
6 storeys plus 2 possible set back storeys for residential development

Diagram 11d

Section through Point Square

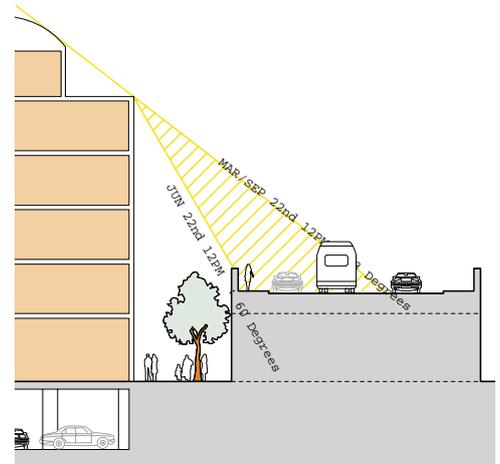


6 storeys plus 2 possible set back storeys for residential development

5 storeys plus 1 possible set back storey for commercial development

Diagram 11e

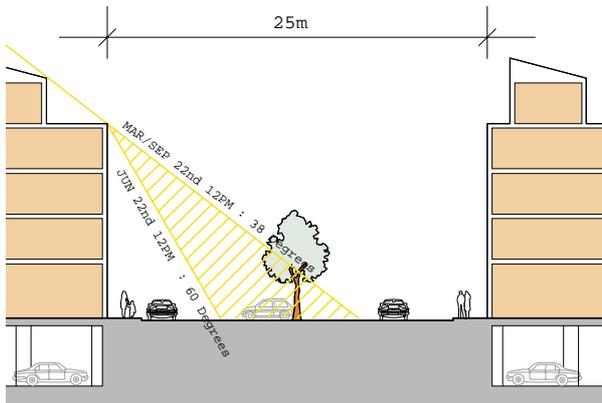
Section through north-south streets



5 storeys plus 1 possible set back storey for commercial development
6 storeys plus 2 possible set back storeys for residential development

Diagram 11f

Section through Sheriff Street

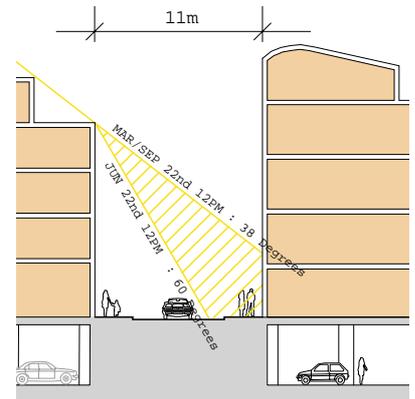


4 storeys plus 1 possible set back storey

4 storeys plus 1 possible set back storey

Diagram 11g

Section through internal courtyards



4 storeys plus 1 possible set back storey

Diagram 11h

Section through internal streets



Diagram 12a
Proposed landmark buildings

- Landmark buildings
- 1. Station Square buildings
- 2. Point Square building
- 3. Major cultural building
- Fitzwilliam Street View Corridor

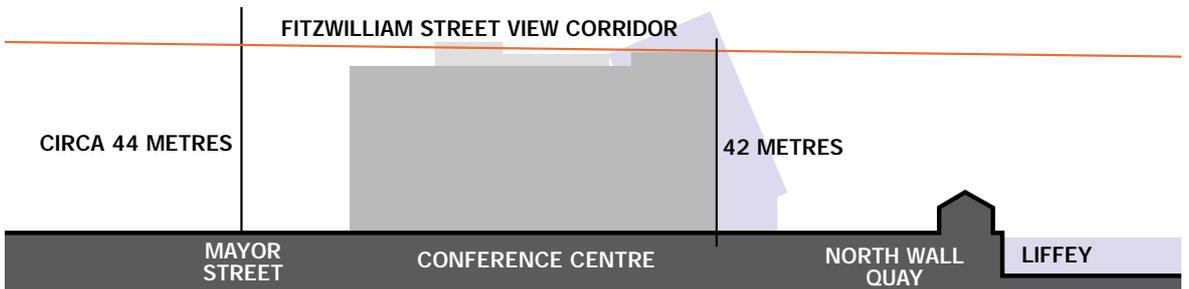


Diagram 12b
Fitzwilliam Street View Corridor

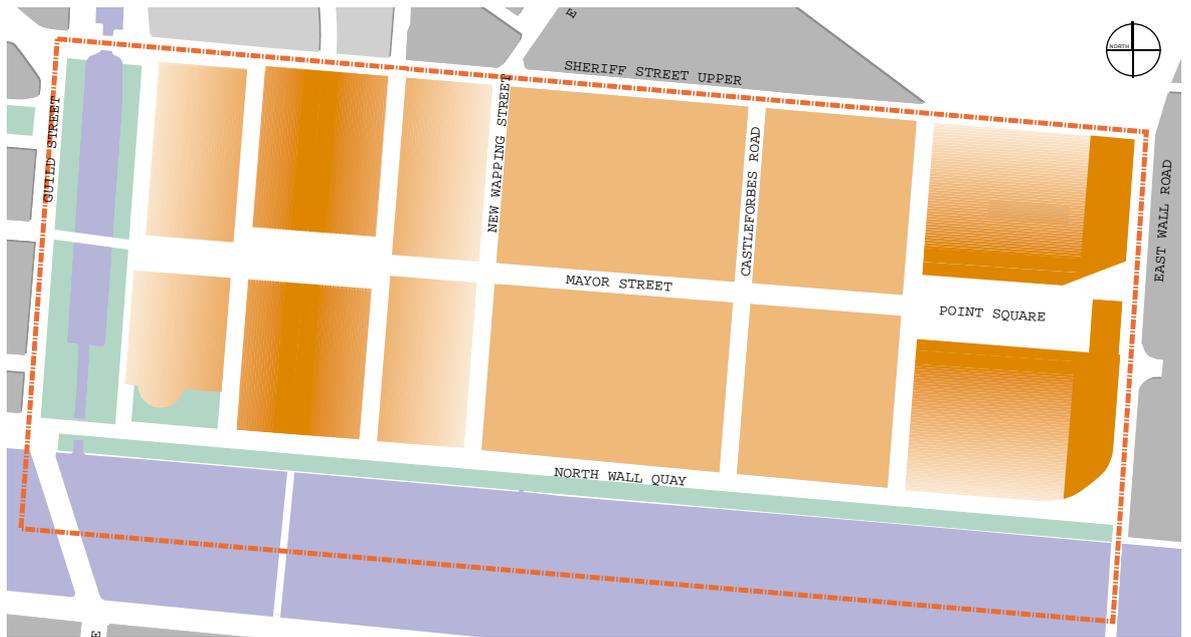


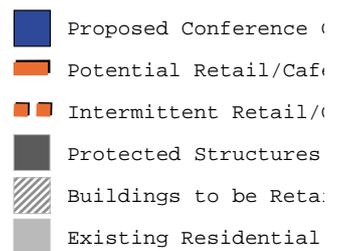
Diagram 13a

Land Use



Diagram 13b

Other Uses



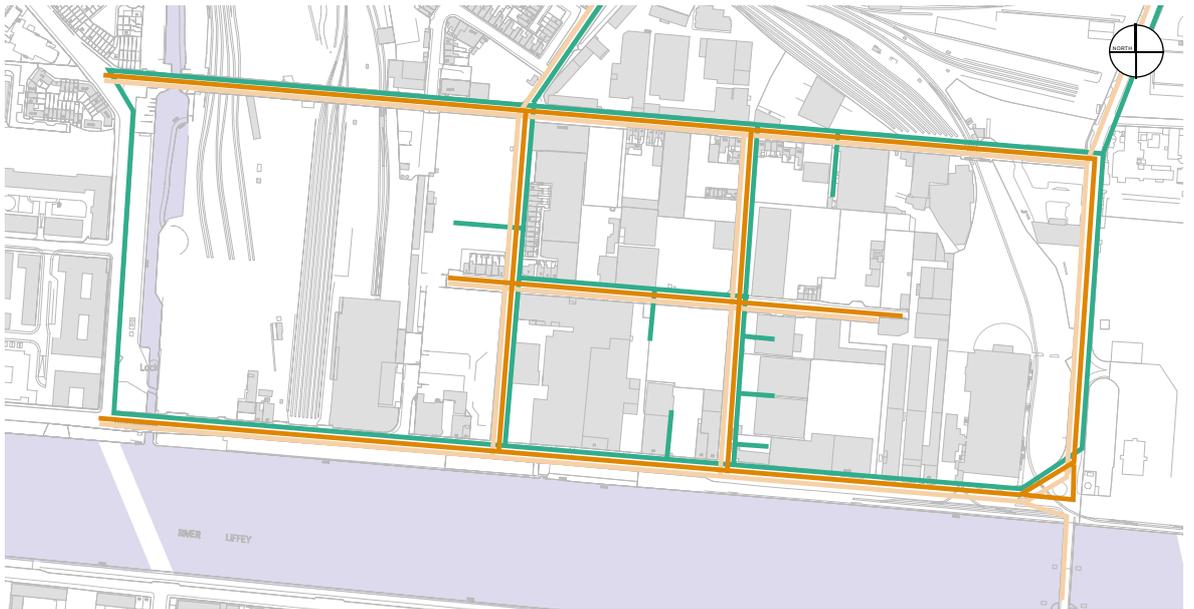


Diagram 14a
Services and Infrastructure

- Gas Lines
- Electricity
- Telephone Trunk Lines



Diagram 14b
Services and Infrastructure

- Water Distribution
- - - Main Sewers

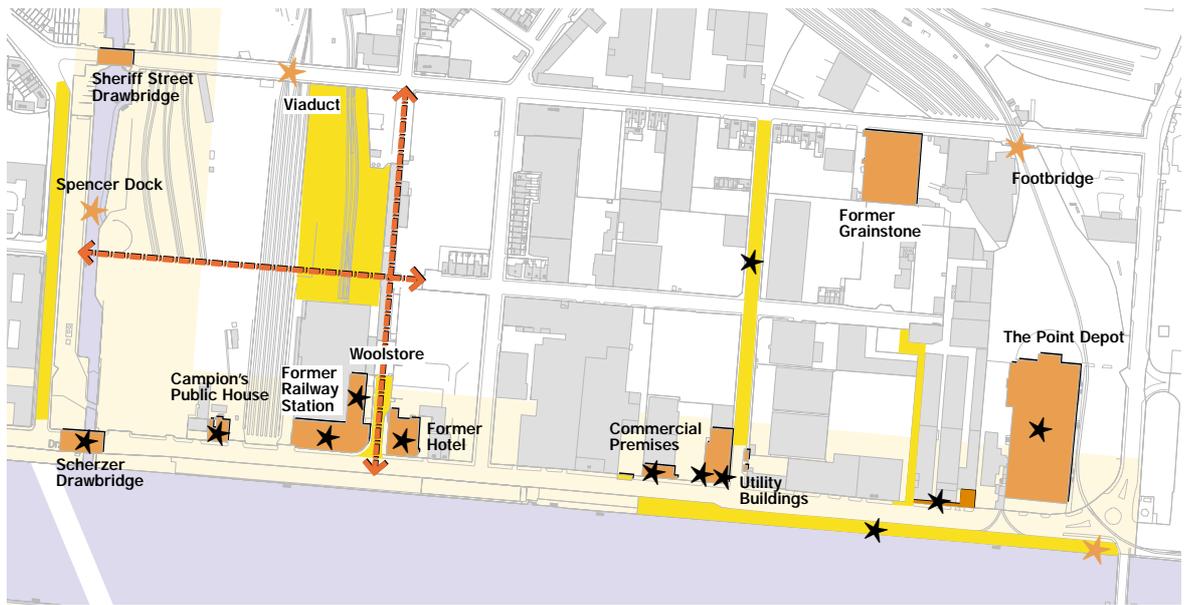


Diagram 15
Conservation

- ★ Protected Structures/Features
- ★ Structures/Features of Interest
- Conservation Area
- Surface to Retain/Reuse
- Historic Street Pattern



Diagram 16
Current transport proposals

- Quality Bus Service (Proposed)
- LUAS (Proposed)
- Indicative alignment of Underground Rail Interconnector (Proposed)
- Rail (Existing)
- Freight Line (Existing)
- Rail Station

Appendix B

Table 1(i) Protected Structures Dublin City Development Plan, 1999 (excluding 47 North Wall Quay)

Table 1(ii) Buildings, structures and features of interest (identified in the Planning Scheme)

Table 1(i)

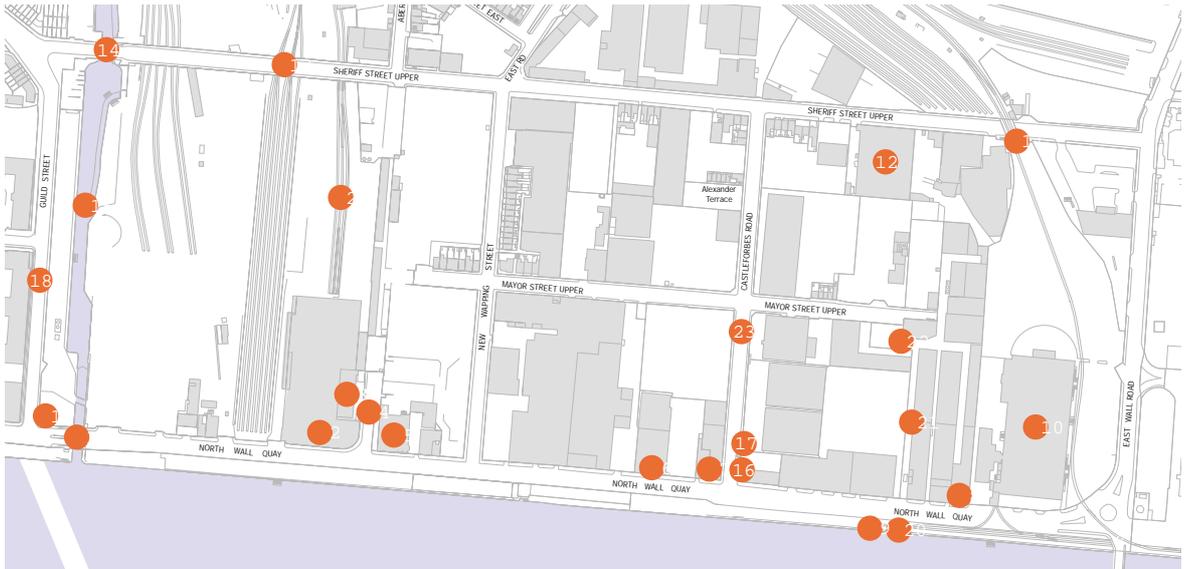
Protected Structures Dublin City Development Plan, 1999 (excluding 47 North Wall Quay)

1. Two swing bridges, North Wall Quay
2. CIE goods depot
3. Woolstore
4. Granite walls at former British Rail Hotel, railings, gates and adjoining stone setts in cul-de-sac
5. Former British Rail Hotel
6. Retained façade, No. 73 North Wall Quay
7. Business premises, Nos. 81,82 North Wall Quay
8. Dublin General Warehousing Ltd: entrance gates, railings and ironwork, Nos. 91-94 North Wall Quay
9. Granite ashlar quay walls, stone setts, mooring rings, steps, bollards, lamp standards and machinery, North Wall Quay.
10. Former goods depot (The Point)

Table 1(ii)

Buildings, structures and features of interest (identified in the Planning Scheme)

11. Metal footbridge, Sheriff Street Upper
12. Grain store, Sheriff Street Upper
13. Railway bridge, Sheriff Street Upper, west end
14. Canal bridge, Sheriff Street Upper, west end
15. Canal dock, Spencer Dock
16. Pumping station, Castleforbes Road
17. ESB substation, Castleforbes Road
18. Stone setts on Guild Street
19. Bollard, winch mechanism, Spencer Dock
20. Iron ladders and rails at North Wall Quay, eastern section
21. Stone setts in lane off North Wall Quay, linked to yard off Mayor Street Upper, east end
22. Stone setts on Mayor Street Upper, east end
23. Stone setts on Castleforbes Road
24. Stone setts in former railway yard adjoining Spencer Dock.



Plan indicating:

Table 1(i)

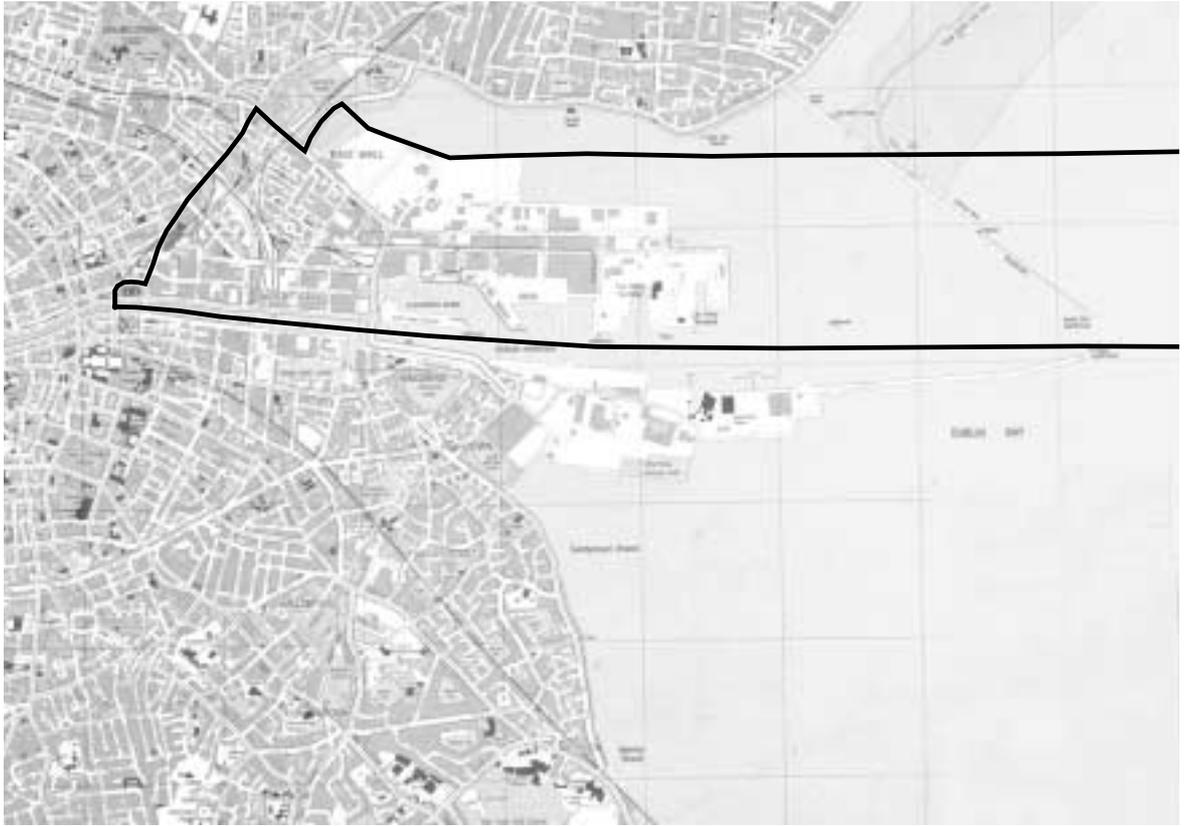
Protected Buildings/Structures excluding 47 North Wall Quay (Dublin City Development Plan, 1999)

Table 1(ii)

List of buildings, structures and features of interest

Appendix C

Map 1- North Docklands Area



Map 1
North Docklands Area

Appendix D

Overshadowing Images Figures 1a-1y

Indicative 3-D Images Figures 2a-2f



Figure 1a 10.00am 21st March
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1b 1.00pm 21st March
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1c 4.00pm 21st March
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1d 10.00am 24th June
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1e 1.00pm 24th June
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1f 4.00pm 24th June
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio

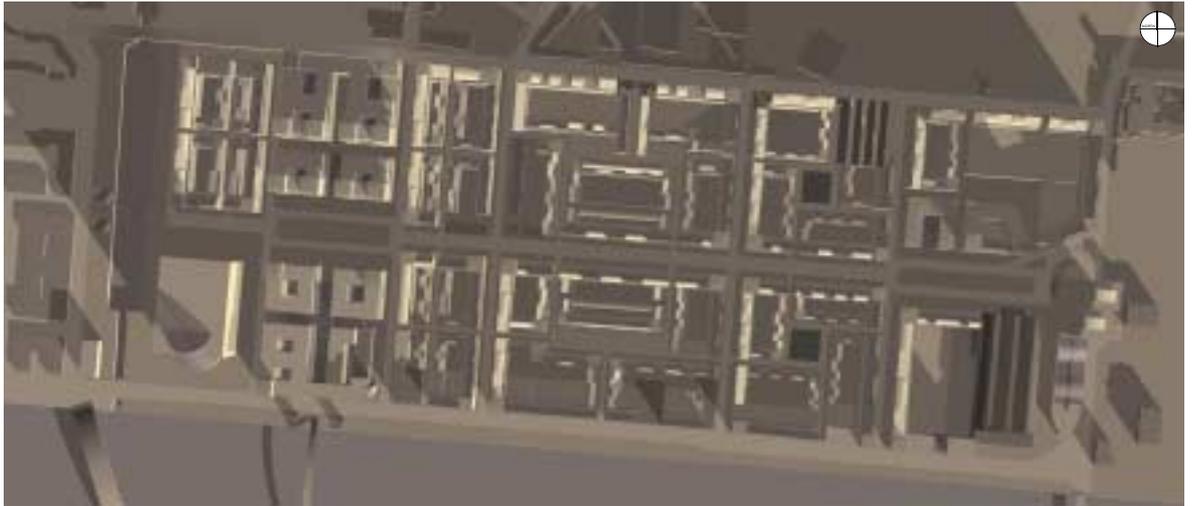


Figure 1h 10.00am 22nd December
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio



Figure 1i 1.00pm 22nd December
Option A - 100 metre potential landmark building at Point Square at 2:1 Slenderness ratio

4.00pm 22nd December - The sun will have set



Figure 1j 10.00am 21st March
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1k 1.00pm 21st March
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1l 4.00pm 21st March
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1m 10.00am 24th June
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1n 1.00pm 24th June
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1o 4.00pm 24th June
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio

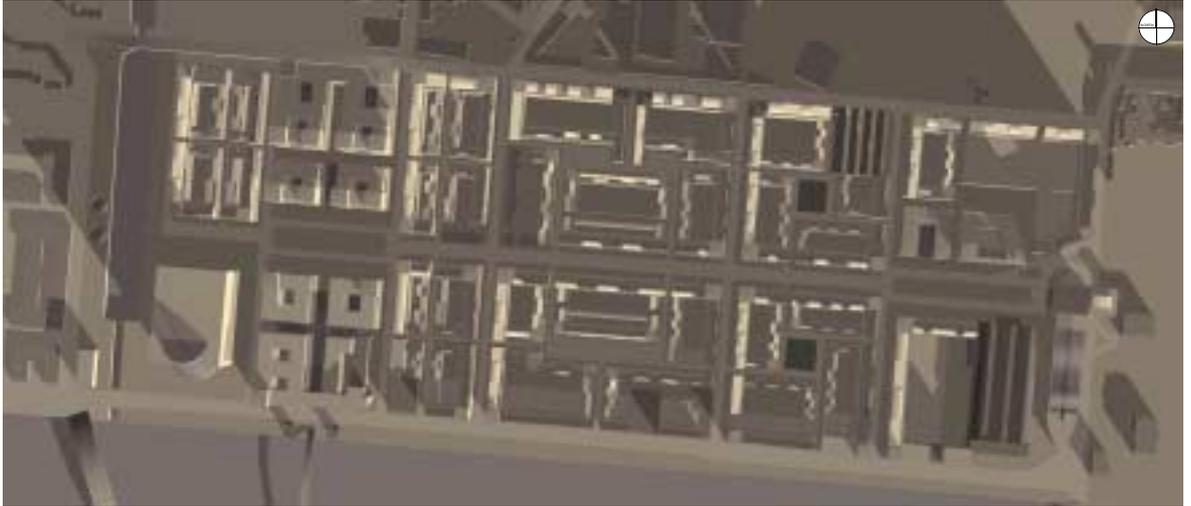


Figure 1p 10.00am 22nd December
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1q 1.00pm 22nd December
Option A - 100 metre potential landmark building at Point Square at 4:1 Slenderness ratio

4.00pm 22nd December - The sun will have set



Figure 1r 10.00am 21st March
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1s 1.00pm 21st March
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1t 4.00pm 21st March
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1u 10.00am 24th June
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1v 1.00pm 24th June
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1w 4.00pm 24th June
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio

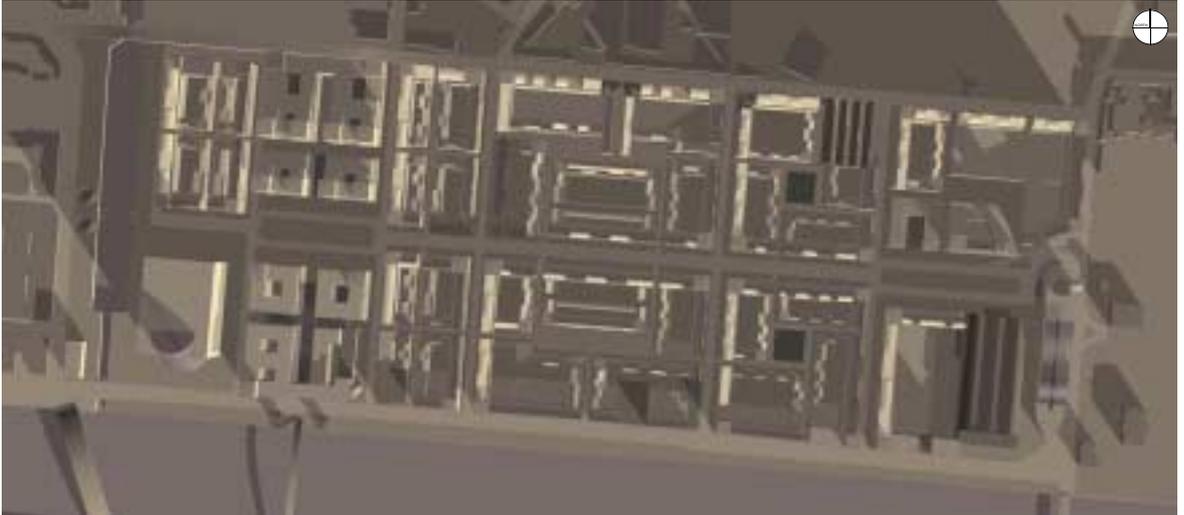


Figure 1x 10.00am 22nd December
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio



Figure 1y 1.00pm 22nd December
Option B - 60 metre potential landmark building at Point Square at 4:1 Slenderness ratio

4.00pm 22nd December - The sun will have set



Figure 2a
Indicative aerial view from the south west illustrating Conference Centre



Figure 2b
Indicative aerial view from the south west illustrating Park Option



Figure 2c

Indicative aerial view from the south east illustrating Conference Centre



Figure 2d

Indicative aerial view from the south east illustrating Park Option



Figure 2e
Indicative aerial view from the north-west illustrating Conference Centre



Figure 2f
Indicative aerial view from the north-west illustrating Park Option

Appendix E

Visual Analysis Views 1-15

Elevation 1

General

An assessment of the likely visual impact of the development of the Area was carried out. The process involved modelling the basic three-dimensional form likely to result from the development of the Area and superimposing it on number of key local, long and strategic views. The following points should be noted:

- The range of images were chosen to reflect a range of different types of views from different locations.
- The views taken should be considered as glimpses. Small changes in the alignment of the view could produce significantly different results.
- The images are representations - minor inaccuracies can occur in photography and development.
- Colours, shading and contrast have been chosen to provide a clear image in so far as this is achievable at this time and can not absolutely represent the likely final development result.

The 15 views are listed in order from View 1 to 15. For each view the existing view is presented and two options considered:

Option A - The main body of the development with a 100 metre tower at Point Square with a slenderness ratio of 2:1 with a disaggregated form and a slenderness ratio of 4:1 with an aggregated form .

Option B - The main body of the development with a 60 metre tower at Point Square.

In addition Elevation 1 illustrates the relationship between Millennium Tower at Charlotte Quay, the proposed 60 m high landmark building at Sir John Rogerson's Quay and the 100 m high proposed landmark building at Point Square (2:1 slenderness ratio, disaggregated).

The list of views follows:

View No.	Direction	Location
1	N NW	Beach Road, Sandymount
2	N NW	Dodder Bridge/Ringsend Road
3	N NE	Percy Place/Grand Canal
4	N NE	Fitzwilliam Street
5	N NE	Sir John Rogerson's Quay
6	E	Grattan Bridge (Capel Street)
7	E	O'Connell Bridge
8	E	Talbot Memorial Bridge
9	S SE	Seville Place
10	S	Russell Avenue East (Playground)
11	S SW	East Road
12	S SW	East Wall Road
13	S SW	Clontarf Road
14	W NW	East Link
15	W	South Wall



Location of Views 1-15



View 1
Beach Road, Sandymount
Option A - 100m tower at 2:1
slenderness ratio



View 1
Beach Road, Sandymount
Option A - 100m tower at 4:1
slenderness ratio



View 1
Beach Road, Sandymount
Option B - 60m tower at 4:1
slenderness ratio



View 2
Dodder Bridge/Ringsend Road
Option A - 100m tower at 2:1
slenderness ratio



View 2
Dodder Bridge/Ringsend Road
Option A - 100m tower at 4:1
slenderness ratio



View 2
Dodder Bridge/Ringsend Road
Option B - 60m tower at 4:1
slenderness ratio



View 3
Percy Place/Grand Canal
Option A - 100m tower at 2:1
slenderness ratio



View 3
Percy Place/Grand Canal
Option A - 100m tower at 4:1
slenderness ratio



View 3
Percy Place/Grand Canal
Option B - 60m tower at 4:1
slenderness ratio



View 4
Fitzwilliam Street
Option A - 100m tower at 2:1
slenderness ratio



View 4
Fitzwilliam Street
Option A - 100m tower at 4:1
slenderness ratio



View 4
Fitzwilliam Street
Option B - 60m tower at 4:1
slenderness ratio



View 5
Sir John Rogerson's Quay
Option A - 100m tower at 2:1
slenderness ratio



View 5
Sir John Rogerson's Quay
Option A - 100m tower at 4:1
slenderness ratio



View 5
Sir John Rogerson's Quay
Option B - 60m tower at 4:1
slenderness ratio



View 6
Grattan Bridge (Capel Street)
Option A - 100m tower at 2:1
slenderness ratio



View 6
Grattan Bridge (Capel Street)
Option A - 100m tower at 4:1
slenderness ratio



View 6
Grattan Bridge (Capel Street)
Option B - 60m tower at 4:1
slenderness ratio



View 7
O'Connell Bridge
Option A - 100m tower at 2:1
slenderness ratio



View 7
O'Connell Bridge
Option A - 100m tower at 4:1
slenderness ratio



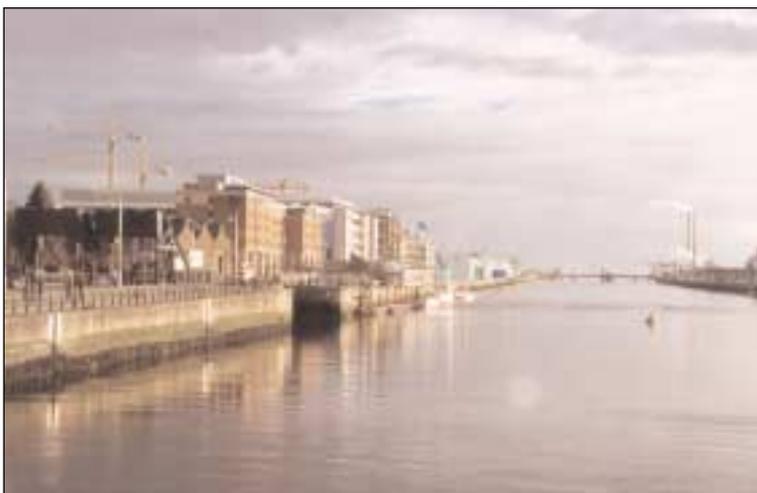
View 7
O'Connell Bridge
Option B - 60m tower at 4:1
slenderness ratio



View 8
Talbot Memorial Bridge
Option A - 100m tower at 2:1
slenderness ratio



View 8
Talbot Memorial Bridge
Option A - 100m tower at 4:1
slenderness ratio



View 8
Talbot Memorial Bridge
Option B - 60m tower at 4:1
slenderness ratio



View 9
Seville Place
Option A - 100m tower at 2:1
slenderness ratio



View 9
Seville Place
Option A - 100m tower at 4:1
slenderness ratio



View 9
Seville Place
Option B - 60m tower at 4:1
slenderness ratio



View 10
Russell Avenue East (Playground)
Option A - 100m tower at 2:1
slenderness ratio



View 10
Russell Avenue East (Playground)
Option A - 100m tower at 4:1
slenderness ratio



View 10
Russell Avenue East (Playground)
Option B - 60m tower at 4:1
slenderness ratio



View 11
East Road
Option A - 100m tower at 2:1
slenderness ratio



View 11
East Road
Option A - 100m tower at 4:1
slenderness ratio



View 11
East Road
Option B - 60m tower at 4:1
slenderness ratio



View 12
East Wall Road
Option A - 100m tower at 2:1
slenderness ratio



View 12
East Wall Road
Option A - 100m tower at 4:1
slenderness ratio



View 12
East Wall Road
Option B - 60m tower at 4:1
slenderness ratio



View 13
Clontarf Road
Option A - 100m tower at 2:1
slenderness ratio



View 13
Clontarf Road
Option A - 100m tower at 4:1
slenderness ratio



View 13
Clontarf Road
Option B - 60m tower at 4:1
slenderness ratio



View 14
East Link
Option A - 100m tower at 2:1
slenderness ratio



View 14
East Link
Option A - 100m tower at 4:1
slenderness ratio



View 14
East Link
Option B - 60m tower at 4:1
slenderness ratio



View 15
South Wall
Option A - 100m tower at 2:1
slenderness ratio



View 15
South Wall
Option A - 100m tower at 4:1
slenderness ratio



View 15
South Wall
Option B - 60m tower at 4:1
slenderness ratio

1 Beach Road, Sandymount

This is a strategic view from the south/south east to the Docklands and the Port. It is located approximately 1,650 metres from the nearest part of the Area. The route is a heavily trafficked city radial. At present the view presents domestic scale buildings sited in the foreground and middleground and taller dispersed port structures punctuating the background. The skyline silhouette is defined by a combination of these elements.

Impact

Option A

The impact of the development on this view will be moderate. The bulk of the development will not appear on the skyline above the middleground buildings. The tower of the development will protrude above the middleground buildings, and will be prominent on the skyline silhouette.

Option B

The main body of the development and the tower will not appear above the middleground buildings.

2 Dodder Bridge/Ringsend Road

This is an elevated view from the south to the Area. It is approximately 600 metres from the proposed development shown fronting North Wall Quay. Pearse Street/Ringsend Road/Bridge Street is a busy pedestrian and traffic route connecting the city centre, Ringsend and the south city suburbs. An important view corridor to the North Docklands is presented. Foreground and middleground buildings are low to medium in profile. The skyline silhouette is undistinguished.

Impact

Option A

The impact of the development of the Area on this view will be significant. The development will be readily visible providing a continuous and medium height frontage and view stop to the corridor. The skyline silhouette will be defined mainly by the proposed new development fronting North Wall Quay. The tower of the development will protrude above the middleground buildings, and will be prominent on the skyline silhouette.

Option B

The visual impact of the main body of the development is described in Option A above. The tower will protrude slightly above the existing middleground buildings, and will be visible on the skyline silhouette. The impact is considered to be significant.

3 Percy Place/Grand Canal

This is a long view from the south/south west to the Docklands. The view to North Wall Quay measures approximately 1,500 metres in length. The Grand Canal corridor is a Designated Conservation Area (Dublin City Development Plan, 1999). It provides an attractive and enclosed view corridor focussed on the Canal and lined with numerous protected structures and attractive building groups. Buildings on the corridor are medium height in profile. A significant office development closes the view to the north.

Impact

Option A

The development will not be visible from this view point.

Option B

The development will not be visible from this view point.

4 Fitzwilliam Street

This is the longest and arguably the most significant street vista in the Georgian City. It is aligned on

the south/south west - north/north axis and defines a view cone over the western part of the Area (Spencer Dock and adjoining lands). The view to North Wall Quay at the chosen point, measures approximately 1,550 metres in length. The view is located in an area in which the majority of buildings are protected structures (Dublin City Development Plan, 1999). The view is stopped by Holles Street Hospital at its northern end.

It should be noted that previous studies have shown that any building over 42 metres above existing ground level at North Wall Quay and above 44 metres along the centre line of Mayor Street (proposed connection) would protrude above the hospital roofline when viewed from the southern end of the vista.

Impact

Option A and B

The development will not be visible from this view point. The development will sit below the silhouette of Holles Street Hospital and the enclosing buildings.

5 Sir John Rogerson's Quay

This is a local view from the south/south west to the Area. The view point is approximately 250 metres from the nearest point of the proposed new development shown fronting North Wall Quay. The view is located on the opposite Quay and provides good views of the Area. The existing building frontage is low profile and non-descript. Notable landmark buildings, such as the former North Wall Quay Railway Station and Midlands Hotel are screened by low buildings on the Campshires. The skyline silhouette is undistinguished.

Impact

Option A

The impact of the development of the Area on this view will be significant/profound. The development will change the appearance of the Quays creating a new, continuous and medium height building edge to the corridor. The proposed National Conference Centre will be very prominent. The skyline silhouette will be defined by the proposed new development fronting North Wall Quay. The tower of the development will protrude above the frontage buildings and will be prominent on the skyline silhouette.

Option B

The visual impact of the main body of the development is described above and will, on balance, also be significant/profound. The tower will protrude above the frontage buildings, and will be readily visible on the skyline silhouette.

6 Grattan Bridge (Capel Street)

This viewpoint is approximately 1,800 metres west of the nearest point of the proposed new development. The view is an important one located on a busy, river crossing on the meandering Liffey view corridor. The building frontage along the Quays is generally medium in profile with a number of prominent, modern office buildings occupying the middleground.

Impact

Option A and B

Elements to the north of Station Square would be visible between O'Connell House and Bachelors Walk forming a new silhouette on the skyline.

7 O'Connell Bridge

This viewpoint is approximately 1,200 metres west of the nearest point of the proposed new development. The view is an important one located on the busiest river crossing on the Liffey view corridor. The building frontage along the Quays is generally medium height in profile. The main elements of the view are the water body, the quay walls, the building frontage to the Quays, the Loopline Bridge (which

restricts most views east to the Area) and the Custom House. The IFSC provides the building silhouette for much of the view.

Impact

Option A and B

The impact of the development of the Area on this view will be moderate. Much of the development will not be visible due to screening from the middleground buildings and the Loopline Bridge. The 100m tower would have a significant to profound effect. Although distant it would be prominent, sitting above foreground buildings.

8 Talbot Memorial Bridge

This viewpoint is approximately 700 metres west of the nearest point of the proposed new development. The view is an important one located on a busy, river crossing on the Liffey view corridor. The corridor opens out to the Bay at this point allowing long views to both sides of the river frontage. Building frontage along the Quays is generally low to medium profile on both sides of the river. The Quay frontage of later phases of the IFSC are prominent. The Port is readily visible in the background.

Impact

Option A

The impact of the development of the Area on this view will be significant. The entire development frontage will be visible with the removal of Campshire buildings. The main body of the development is likely to read as an extension of the IFSC. The National Conference Centre presents a prominent building partially obscuring the tower behind it. If the National Conference Centre is not constructed the tower be more prominent on the skyline.

Option B

The impact of the main body of the development will be as above. The tower will be obscured by the National Conference Centre.

9 Seville Place

This is a local view from the northwest to the Area. The viewpoint is approximately 200 metres from the proposed new development shown fronting Spencer Dock. The view is located in the adjoining residential area. There is no existing building frontage on this view. The skyline silhouette is undistinguished with industrial structures showing over the boundary wall of the CIE lands at Spencer Dock.

Impact

Option A and B

The impact of the development of the Area on this view will be significant. The development will be readily visible providing a new, continuous and medium height building edge to Spencer Dock and Guild Street. The new development will provide a visual stop for the vista on Seville Place. The skyline silhouette will be defined by the proposed new development fronting North Wall Quay. The tower of the development will not be visible from this point.

Option outlined in paragraph 5.3.2 of the Planning Scheme

This option would provide for a series of aligned, free-standing, residential buildings of up to nine storeys along the visible frontage of the development from this viewpoint. The building edge will be discontinuous and the overall height of the towers will be slightly greater than the above options. The impact of this option is considered to be significant.

10 Russell Avenue East (Playground)

This viewpoint is approximately 300 metres north of the proposed new development fronting Sheriff

Street Lower. The viewpoint is located adjacent to a playground in a residential area of East Wall Village and was chosen to provide some indication of the visual impact on East Wall residents. The playground is enclosed by two storey, suburban type housing.

Impact

Option A and B

The development of the Area will be partially visible from this viewpoint over the buildings fronting the space. The tower is not within the view cone of this viewpoint. The impact on this view is likely to be moderate.

11 East Road

This view point is approximately 200 metres north of the proposed new development shown fronting Sheriff Street Lower/New Wapping Street. The view is elevated on a busy traffic route and viaduct over the freight rail line. The view includes residential, industrial and distribution uses in the foreground and middleground, the South Docklands, IFSC and the South City in the background with the Dublin Mountains providing the skyline silhouette.

Impact

Option A and B

The tower is not within the view cone of this viewpoint. The impact of the main body of the development will be profound. The development will be readily visible providing new, continuous and medium height development to Sheriff Street. The existing scale of development will be significantly altered. The existing distant views will be substantially obscured by the new development and the skyline silhouette will be defined by the proposed new development.

12 East Wall Road

This viewpoint is approximately 200 metres north east of the proposed new development shown fronting Sheriff Street Upper/East Wall Road. This route is a busy access route for the Port and traffic by-passing the city centre via the East Link. There is no existing building frontage on this view. The skyline silhouette is undistinguished.

Impact

Option A

The impact of the development of the Area on this view will be profound. The development will be readily visible providing a new, continuous and medium height building edge to Spencer Dock and Guild Street. The tower will dominate the view generally, and the skyline in particular.

Option B

The reduced tower height will reduce the overall impact on the view generally, and the skyline in particular. The impact is likely to be significant/profound.

13 Clontarf Road

This is a strategic view from the north/north east to the Port/Docklands. It is located approximately 2,250 metres from the nearest part of the Area. The route is an important city radial and public promenade. A wide view to the south east, south and south west is presented. The water dominates the foreground and middleground. In the middleground/background is the Port with a base of low profile buildings and a group of higher industrial buildings to the west of the Area. The skyline silhouette is defined largely by the Port and Docklands buildings. Liberty Hall is visible in the distance above surrounding buildings.

Impact

Option A

The impact of the development on this view will be significant. The main body of the development will appear above the existing skyline. The development will be noticeable but not prominent. The tower will appear as a very prominent feature on the skyline. It will be significantly taller than surrounding buildings and will contrast with surrounding building forms. The impact of the tower will be somewhat ameliorated by the presence of higher industrial buildings on the skyline.

Option B

The impact of the main body of the development will be as described above. The lower tower will remain a prominent feature on the skyline being noticeably taller than surrounding buildings. The impact of the tower will be somewhat ameliorated by the presence of higher industrial buildings on the skyline.

14 East Link

This viewpoint is approximately 350 metres south, south east of the nearest point of the proposed new development. The view is an important one, located on a busy, river crossing on the Liffey view corridor. Oblique views of the Area are available from this point. Much of the Quays frontage is obscured by low Campshires buildings. Water occupies the foreground. The middleground/background is occupied by Port and Docklands structures and buildings. The dominant building in the view is the Point Depot.

Impact

Option A

The impact of the development of the Area on this view will be significant/profound. The entire development frontage will be visible and prominent from this point. The main body of the development will be seen as a consistent frontage along the river corridor. The tower will be very prominent and will read as significantly higher than the surrounding buildings.

Option B

The impact of the main body of the development will be as above. The tower will remain prominent as it will be more than twice the height of surrounding buildings. The impact will be significant.

15 South Wall

This is a strategic view at the gateway to the Port and the City. It is located approximately 3,300 metres from the nearest part of the Area. South Wall is a popular walking route. A wide view to the west is presented. The water dominates the foreground and middleground. In the background is the Port with a range of industrial buildings of different scales. The skyline silhouette is defined largely by the Port and Docklands buildings. Liberty Hall is visible in the distance.

Impact

Option A

The impact of the development on this view will be significant. The main body of the development will appear in the distance presenting new frontage to the Quays and a presence on the skyline. The tower will be a significant feature on the skyline appearing above port structure/buildings and berthed vessels. The impact of the tower will be ameliorated by the presence of higher industrial buildings and structures closer to the viewpoint.

Option B

The impact of the main body of the development will be as described above. The tower is likely to be

noticeable but not prominent. The tower will be ameliorated by the presence of higher industrial buildings and structures closer to the viewpoint.

Appendix F

Minimum Requirements for Reports on Site Contamination

REPORT ON SITE CONTAMINATION: MINIMUM HEADINGS

1 Desk Study:

This part of the report should include;

- Contents
- Summary
- Introduction
- Objectives
- Details of research (including the sources of information consulted, which may be listed in an appendix for convenience)
- Details of past site investigations
- Information obtained on geology and hydrogeology
- Discussion on all relevant aspects of the site arising from the above
- Conclusions
- Recommendations
- Appendices

2 Site Investigation Report:

The format of this part of the report should follow the same layout whether it be a basic or a detailed investigation. It may be decided to produce separate factual and interpretative reports.

The factual report should include at least the following:

- Contents
- Summary
- Introduction
- Objectives
- Methodology
- On-site Investigation
- On-site Observations
- Samples and Analysis
- Analytical results
- Appendices

An interpretative report should follow the broad principles of the factual report, but should include an updated Risk Assessment, Risk Management Strategy and detailed remediation proposals for contamination and underground structures, etc.

3 Overall Conclusions arising from 1 and 2 above

4 Methodology Statement for Site Remediation

The following information (including the attached procedural flowchart) may be of assistance in preparing a report on site contamination.

Desk Study Requirements

A desk study is the collection and examination of existing information obtained from a wide variety of sources. It should indicate any potential hazards at an early stage and should provide the basis for any subsequent site investigation. A desk study is an essential element of any investigation, and no intrusive work should be carried out without one.

The desk study should collate and review the following information:

SITE RECONNAISSANCE A direct 'walkover' or inspection of the site which should consider the following:- Location and condition of remaining buildings, hardstanding and other surface and below ground structures· Topography· Soils and Rocks· Surface and groundwater, including drainage systems· Ecology· Indicators of contamination (staining, colouration, absence of vegetation etc)· Constraints to subsequent Investigations (Access/height limitations, services, safety issues etc)· Confirmation of surrounding land uses, both as potential sources and receptors· Indications of physical instability· A photographic record of the site can help in the reporting of a walkover survey

GEOLOGY, HYDROLOGY, HYDROGEOLOGY, ARCHAEOLOGICAL AND ECOLOGICAL SETTING An investigation of the soils, geology, surface water and groundwater, historical and ecological sensitivity at the site and of the surrounding area, including consideration of the regional setting.

CURRENT AND HISTORICAL USE OF THE SITE AND SURROUNDING AREA Research of the present use of the site and the use of the site over time and the surrounding area, particularly the nature and location of any industrial processes or other activities that may have caused contamination. For example:- Industrial, commercial, storage use· Landfilling/tipping

POTENTIAL PATHWAYS FOR EXPOSURE/IDENTIFICATION OF POTENTIAL RECEPTORS TO PRODUCE A 'CONCEPTUAL MODEL' FOR THE SITE Pathways may include:- Permeable fill material/natural deposits· Direct Contact· Windblown dust· Examples of receptors:- Current and intended users· Trespassers· Surface Water Bodies· Groundwater Abstraction· Ecology

SOURCES OF INFORMATION Refer to key sources of information, for example:- Dublin Corporation · Environmental Protection Agency· DDDA· The National Library of Ireland· Geological Survey of Ireland· Mining/Quarry authorities· The Map Library, Trinity College, Dublin· Eircom Ireland· All available information from the vendor/owner/tenant of the site such as ongoing monitoring, previous in-house information, previous Site Investigation Information· ESB· Bord Gais Eireann· The above list is not exhaustive and local knowledge and anecdotal information may be relevant

Site Investigation Requirements

Where the results of the desk study indicate that hazards are not suspected on the site, this should be confirmed by carrying out a 'basic' site investigation.

This approach is to provide assurance for all sites, regardless of how free of hazards/risks they may appear.

Site investigations can be used to provide additional data that can be used to further refine or clarify the conceptual model.

The spacing between sampling locations should be determined according to the conceptual model and the stage of the investigation. A basic investigation would normally require a lower density of sampling spacing than a detailed investigation. In both types of investigation the actual density should depend upon the confidence and robustness required of decisions that will be based on the information obtained. Typical densities of sampling grids can vary from 50m to 100m centres for the basic investigation and 20m to 25m for a detailed investigation.

Care should be taken to ensure that the investigation work does not of itself introduce pathways from

source to receptor e.g. the EPA shall be consulted where boreholes are sunk through potentially contaminated land into a major aquifer.

Basic Investigation:

A basic investigation should be carried out to establish the geotechnical conditions and if any contamination is present on the site. This should include:

- Probes or Trial pits and boreholes where necessary for deeper investigation
- A minimum set of contamination tests
- Sulphate and pH testing

If a basic investigation reveals the presence of geotechnical and/or contamination hazards, further assessment may be required and a further detailed investigation should be carried out.

Detailed Investigation:

A detailed investigation should be carried out where:

- Hazards/risks are suspected following the initial assessment of the site.
- Hazards/risks are identified by the basic investigation.

The methods of field investigation and the health and safety precautions needed during the implementation of a detailed investigation should take account of actual or potential hazards identified.

In addition to the basic investigation, the detailed investigation should:

- Provide information based on a structured and staged approach
- Consider the areas adjacent to the site
- Consider the possibility of future development in the vicinity of the site
- Consider the nature/type of any proposed development
- Consider the complexity of the ground conditions
- Consider in more detail:
 - The surface water and groundwater conditions
 - The soils and geology
 - The previous site history
 - Potential contamination sources
 - Potential migration routes
- Include exploratory hole locations targeting suspected hazards/pathways and where applicable for the identification and delineation of contamination
- Consider contamination testing for significant contaminants identified in the preliminary appraisal, including asbestos.
- Determine the contaminating potential of materials through leachability testing.
- Consider non-intrusive investigation methods, e.g. geophysical investigation.

The detailed investigation should aim to provide a clear understanding of the problems, and an understanding of the liabilities, which have to be managed/controlled in order to develop the site.

Controlling Hazards/Risks:

Any hazardous ground conditions need to be satisfactorily controlled/managed considering the following during design;

- a) Design precautions

Solutions for dealing with geotechnical hazards including the following;

- Foundation considerations:

- Piling and ground beams
- Rafts

Ground improvement techniques such as:

- Vibro
- Dynamic compaction
- Surcharging

b) Remediation techniques:

Solutions for dealing with contamination hazards may include the following:

Risk avoidance- treatment to reduce the risk to the target by changing pathway or isolating the target by:

- Changing layout
- Building protective measures into construction

Engineering based- treatment to remove or isolate the contaminants or modify the pathway by:

- Excavation
- Providing ground barriers
- Covering and capping

Process based- treatment to remove, modify, stabilise or destroy the contaminants by for example:

- Physical means
- Biological means
- Chemical means
- Solidification
- Thermal means

c) The identification of any constraints associated with the site and surrounding area which could restrict design precautions or remediation methods should be identified and specified.

For all design solutions for geotechnical and remediation issues, method statements would be required that should consider the following:

- Risk assessments
- Working methods
- Proposed supervision/monitoring

And where applicable;

- Remediation Objectives
- Waste classification and methods for controlling and disposing of waste
- Validation sampling and testing and reporting

References

1. BS 10175, 2001, British Standards Institution, Investigation of Potentially Contaminated Sites- Code of Practice
2. UK, NHBC Standards, Chapter 4.1 Land Quality- managing ground conditions 1998