

**AMENDED GRAND CANAL DOCK
PLANNING SCHEME**

**ENVIRONMENTAL IMPACT
STATEMENT
ADDENDUM**

**PREPARED FOR
DUBLIN DOCKLANDS
DEVELOPMENT AUTHORITY**

FEBRUARY 2006

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PREAMBLE

The Draft Amending Planning Scheme, January 2006 has been published. Some minor text amendments are included in this document following the consultation process.

The purpose of this addendum document is to assess the impact of these amendments and to determine whether they have any impact on the environment.

The amendments can be summarised as follows:

The Planning Scheme Amendments now states that plot ratio should fall within the indicative range as outlined in the Dublin City Development Plan, 2005. As a result of this amendment, the quantum of commercial development that can be accommodated within the scheme area has increased. Three different options are assessed in this addendum to the EIS:

Option 1

60:40 Residential: Commercial

370 residential units
51,700 sq. metres of commercial development

Option 2

70:30 Residential: Commercial

432 residential units
46,100 sq. metres of commercial development

Option 3

40:60 Residential: Commercial

247 residential units
62,770 sq. metres of commercial development

Effectively the amendment has resulted in an additional 10,000 sq. metres of commercial space in each option from that previously considered in the September 2005 EIS.

Although the quantum of floorspace that can be achieved has increased, it is not envisaged that this would result in any increase to the heights of buildings permitted within the scheme area.

The main section affected by this change is the Traffic Impact Assessment. It has also resulted in minor text changes to the following chapters:

- Description of Proposed Development.
- Planning and Development Context.
- Human Beings.
- Soil and Water.
- Non Technical Summary.

The second amendment relates to a text change in paragraph 3.2.3 of the Draft Amending Planning Scheme (Jan 2006). This states

“The authority will consider acceptable the closure of one or more of the blocks fronting onto Sir John Rogerson’s Quay.”

Consideration of this text amendment and its implications is given in Chapter 9 of the EIS – Landscape and Visual Impact. It is considered to have no material impact.

The final change relates to Section 8 Architectural Heritage. There has been a minor text change to Para 8.5.2 of the EIS in relation to the Hailing Station.

Overall, it has been concluded that the amendments will have no significant environmental impact.

1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 GENERAL

1.1.1 The Grand Canal Dock Planning Scheme, 2000 was made by the Dublin Docklands Development Authority on the 25th of July 2000 and approved by the Minister for the Environment and Local Government on the 21st of December 2000. The purpose of the planning scheme is to provide robust and detailed direction for the planning and development of the Grand Canal Docks area.

1.1.2 It is now proposed to amend the planning scheme in relation to one site within the scheme area. This site is identified on map 1.1. The subject area of this amendment includes Area 4, as described in the Grand Canal Dock Planning Scheme, 2000, and a large part of the water body surrounding it to the north and east (the confluence of the Liffey, the Dodder and the Grand Canal). The subject area is bounded by Sir John Rogerson's Quay, Britain Quay, Green Street East and Benson Street. It is proposed that this area will be developed for mixed use residential and commercial use.

1.1.3 It is noted that Area 4 includes the area of the proposed bridge that will link Britain Quay with South Bank Quay. A detailed Environmental Impact Statement was prepared in respect of the bridge by Reid Associates, December 2003. The environmental impacts of the proposed bridge are also considered in this EIS.

1.1.4 The specific purpose of the planning scheme amendment is to:

- Recognise the existing and changed development context in the area.
- To acknowledge the significant potential of this strategic and prominent site and
- To provide more detailed guidance for its planning and development.

1.1.5 The purpose of this report is to provide an Environmental Impact Appraisal of the amended planning scheme.

1.2 AIM OF THIS EIS

1.2.1 Environmental Impact Assessment (EIA) may be defined as a systematic, integrated evaluation of both the positive and negative impacts of a project on the natural, physical, social and cultural environment.

- 1.2.2 The aim of this EIS is to identify and predict likely environmental impacts; to describe the means and extent by which they can be reduced or ameliorated; to interpret and communicate information about the impacts; and to provide an input into the decision making and planning process.
- 1.2.3 The report will identify any potential impacts that proposals will have on the area, and explore mitigating circumstances, so as to protect and enhance the environment.
- 1.2.4 It should be noted that EIS documents are normally prepared in support of specific development proposals for a site. They are therefore prepared in specific detail with respect to specific architectural proposals and definitive quantum of development. As specific proposals for the subject site have not yet been developed, this report provides a more strategic assessment of the various development options that could be progressed at this location. It is submitted that it represents as robust a document as is feasible, consistent with the generic and strategic nature of the amended planning scheme.

1.3 LEGISLATIVE CONTEXT

- 1.3.1 This EIS is prepared pursuant to Section 26 of the Dublin Docklands Development Authority Act, 1997.
- 1.3.2 The EIS should be read in conjunction with the Grand Canal Dock Planning Scheme (Amending Planning Scheme No.1) 2005 prepared by the Dublin Docklands Development Authority. The Planning Scheme sets out the Authority's strategic aspirations for the long term development of the lands within the area. It is intended to ensure that future development conforms to relevant development guidelines including the location of building heights, conservation and plot ratios/site coverage.

1.4 FORMAT & STRUCTURE

- 1.4.1 EIS's require the assimilation, co-ordination and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development.
- 1.4.2 To allow for ease of presentation, and consistency when considering the various elements of the proposed development, a systematic structure is proposed for the main body of the statement. This EIS follows a Grouped Format Structure.

- 1.4.3 Using this structure the EIS is prepared in a format, which examines each environmental topic (as prescribed by the EIS Regulations) as a separate section.
- 1.4.4 **Chapter One** sets out the purpose and scope of the document.
- 1.4.5 **Chapter Two** describes the site and the surrounding area and the nature and extent of the proposed development.
- 1.4.6 **Chapter Three** describes the planning and development context.
- 1.4.7 **Chapters Four to Fourteen** consider the potential impacts of the proposed development and measures to alleviate these impacts. The following subject areas are assessed:
- Chapter 4 – Socio Economic Impact;
 - Chapter 5 –Traffic & Transportation;
 - Chapter 6 – Flora and Fauna;
 - Chapter 7 – Cultural Heritage – Archaeology;
 - Chapter 8 – Cultural Heritage – Conservation;
 - Chapter 9 – Landscape and Visual Impact;
 - Chapter 10 – Air Quality;
 - Chapter 11– Noise;
 - Chapter 12 – Soil and Water;
 - Chapter 13 – Sunlight and Daylight;
 - Chapter 14 – Wind;
 - Chapter 15 – Material Assets;
 - Chapter 16 – Interactions.

1.5 SCOPING & CONSULTATION

- 1.5.1 The scope of this EIA includes the following:
- The requirements of the EU Directive, the European Communities (Environmental Impact Assessment)

Regulations, 1989, and the Local Government 2001 (Statutory Instruments S.I No. 600 of 2001);

- Guidelines on the recommended information to be contained in Environmental Impact Statements, published by the Environmental Protection Agency;
- The requirements of the statutory planning policy documents, in particular, the Grand Canal Docks Planning Scheme;
- The likely concerns of local traders, residents and other third parties;
- The nature and location of the site;
- The existing environment;
- The likely and significant impacts on the environment; and,
- Available methods of reducing or eliminating undesirable impacts.

1.6 EIS TEAM

1.6.1 Project Co-ordinators and Steering:

John Spain Associates, Chartered Town Planners.

Urban Design Concept:

Loci

In addition the relevant consultants for each section of the EIS are as follows:

John Spain Associates	Planning & Development, Human Beings & Socio-Economic Context
Faber Maunsell	Traffic & Transportation
ANV Technology	Air Quality and Climate Impact & Noise Impact
AWN Consulting	Soil And Water Impact.
Indigo	Landscape & Visual Impact
Roseanne Meenan	Cultural Heritage Impact
Dr. Niamh Roche	Flora and Fauna Impact
John Cronin Associates	Architectural Conservation
Prof. Dermot O' Connell	Sunlight & Daylight Impact
RWDI Anemos	Wind Turbulence Impact
Arc	Photomontages

1.7 POTENTIAL SIGNIFICANT EFFECTS

- 1.7.1 This EIS assesses the extent of the impact of the amended Grand Canal Dock Planning Scheme. All potential significant effects are considered.

1.7.2 Each section of the EIS deals with all probable impacts as well as details on their duration and frequency. Recommendations are made as to suitable mitigation measures to be implemented to reconcile and reverse these impacts.

1.8 ENVIRONMENTAL SENSITIVITY OF THE GEOGRAPHICAL AREA OF THE SITE

1.8.1 The subject site is considered to be a brownfield urban site. The site comprises of two land parcels divided by Britain Quay. The larger site has been cleared and is surrounded by hoarding. The smaller site is also cleared and includes the former Hailing Station. As outlined in the amended planning scheme, the area

“occupies a strategic and prominent position on an important gateway to the City and near an important crossing of the river. The area also marks a significant change in the character and urban development as the evolving docklands meet the port”.

1.8.2 The site has been extensively disturbed in recent years. Land use in the vicinity of the site reflects the areas historical use as a port/industrial area. Some old stone and brick warehouses remain to the south of the site. The immediate area is the subject of large-scale on going redevelopment.

1.8.3 There is an absence of natural resources including trees and mature vegetation. This EIS analyses all of the natural resources on the site in detail to ensure that any potential impacts are assessed and where appropriate minimised by ameliorative measures.

1.8.4 It should be noted that the site does not fall within any of the following type of areas:

- Wetland area;
- Coastal zone;
- Mountain or forest area;
- Nature reserve or park;
- Area in which the environmental quality standards laid down in legislation of the EU have already been exceeded.

1.8.5 Sir John Rogerson’s Quay and Britain Quay are designated as an area of conservation in the Dublin City Development Plan. The Hailing Station which is located on part of the site is a protected structure. Full consideration of conservation issues is provided in Section 8 of this report.

- 1.8.6 It is further noted that a competition was held in 2002 for the design of a landmark tower and studio on the smaller site on Britain Quay. It is now proposed that this tower may extend to 120 metres in height. This is evidently a significant issue in terms of potential impact. Full cognisance of this proposal is considered in this EIS.

1.9 A NOTE ON QUOTATIONS

- 1.9.1 EIS's by their very nature contain statements about the proposed development, some of which are positive, and some negative. Selective quotation or quotations out of context can give a very misleading impression of the findings of the study. The study team urge that quotations should, where reasonably possible be taken from the conclusions of specialists' sections or from the non-technical summary and not selectively.

1.10 STATEMENT OF DIFFICULTIES ENCOUNTERED

- 1.10.1 If specific difficulties were encountered in the preparation of this EIS, they are explained, where relevant in the relevant section of this statement.
- 1.10.2 One specific difficulty was that no definitive scheme has been designed for the subject site. Details at this stage are therefore schematic and are conceptual in nature. The EIS therefore has considered a number of different options that may be progressed on the subject site, the detail of which will be subject to individual Section 25 applications to the Dublin Docklands Development Authority. This report therefore provides a more strategic assessment of the potential impact of development on the subject lands.

1.11 NON-TECHNICAL SUMMARY

- 1.11.1 A copy of the Non Technical Summary of this EIS is provided as a separate, and self contained document.

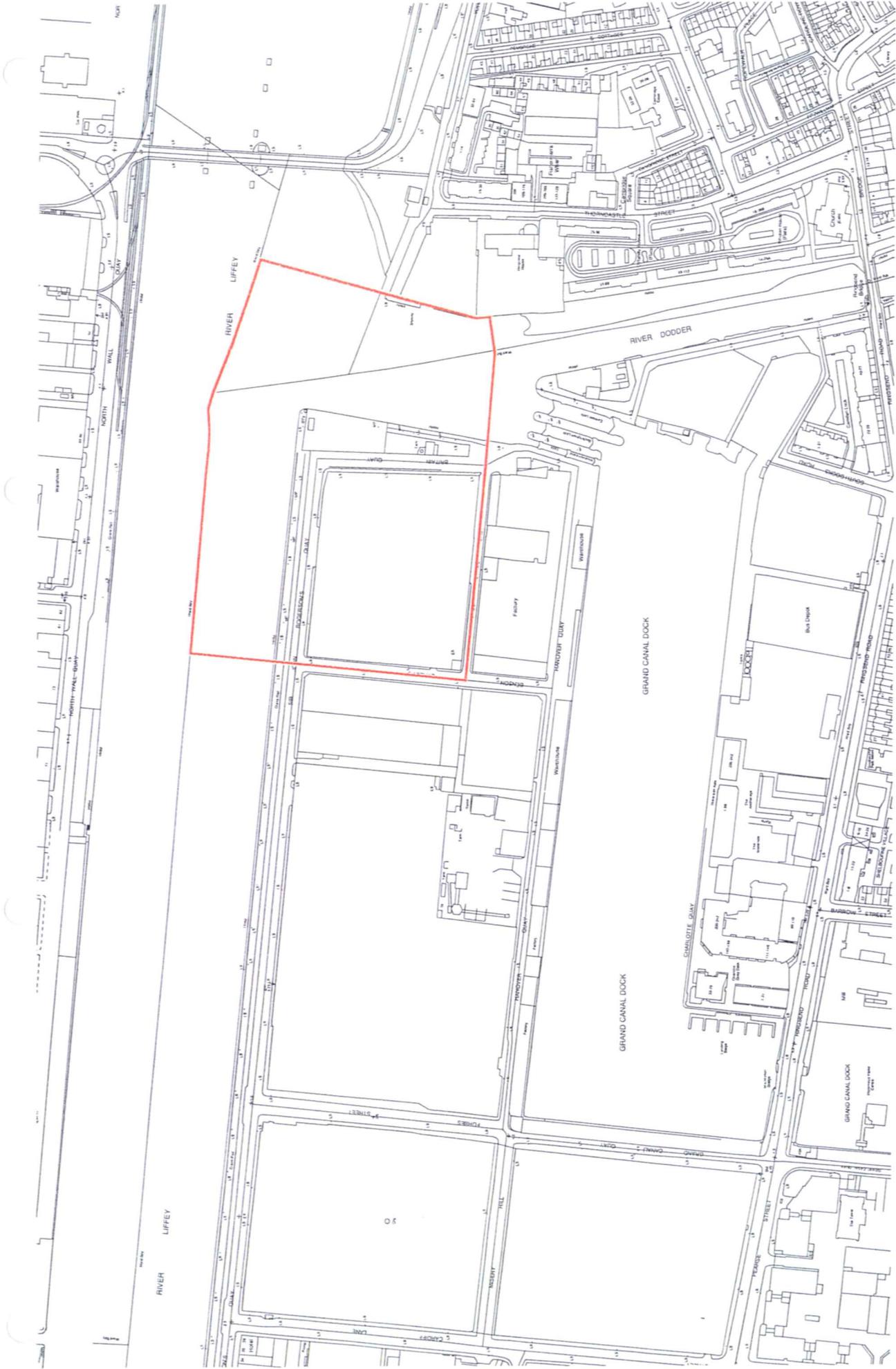


Fig. 1.1 Site location plan

2.0 DESCRIPTION OF PROPOSED DEVELOPMENT

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2.1 DESCRIPTION OF THE EXISTING ENVIRONMENT

- 2.1.1 The subject site included in the area of the Amended Planning Scheme includes Area 4, as described in the Grand Canal Dock Planning Scheme, 2000, and a large part of the water body surrounding it to the north and east (the confluence of the Liffey, the Dodder and the Grand Canal).
- 2.1.2 The subject site is bounded by Sir John Rogerson's Quay, Britain Quay, Green Street East and Benson Street. The site includes one significant urban block with an area of 1.65 hectares and a smaller wedge shaped site on the Britain Quay/Sir John Rogerson's Quay Campshire which is 0.25 hectares in area.
- 2.1.3 The subject site is a redundant industrial site, in part comprising the location of the former Hammond Lane Metal Works and Molloy and Sherry Freight Haulage Company.
- 2.1.4 The site itself would be considered to be a brownfield site. The area in the immediate vicinity of the site is visually unattractive, although it is now subject to significant development creating a high quality new urban environment. The predominant land use character in the wider vicinity of the site is changing from historical industrial uses to new mixed residential and commercial uses.
- 2.1.5 The general area is the subject of major new redevelopment at present with a number of modern residential and commercial developments having been recently constructed or currently under construction. As outlined in the Amended Planning Scheme:

“Significant adjoining and adjacent development have now been certified in accordance with the planning scheme. The redevelopment of the “Chocolate Factory” site on the west side of Benson Street has been certified and is proceeding. Immediately west of the subject site, the new urban square Benson Street is at design stage and will be developed shortly. The mixed use development to the south on the end/corner site at Green Street East/Britain Quay/Hanover Quay has been certified in accordance with the Planning Scheme”.

Accordingly, the visual character of the area has begun to alter dramatically from a bleak disused industrial landscape to an attractive and vibrant, modern business and residential district.

Section 2/1

- 2.1.6 To the south of the site, are a number of stone warehouses and stores. Several of these have been converted for office and commercial use. To the east of the site, is the landmark Charlotte Quay Millennium Tower development, a high quality residential development with a restaurant/bar at ground floor level. It is proposed to construct a new public transport, pedestrian and cyclist bridge that will link Britain Quay with South Bank Quay. The function of the proposed bridge is to link the Ringsend/Poolbeg area with the Grand Canal Docks/City Centre area. Private cars and commercial vehicles will not be permitted to use this bridge. The East Link Bridge is located further east of the subject site.
- 2.1.7 The River Liffey and Campshires bound the site to the north. On the opposite side of the River, is the Point Depot, which is subject to significant development proposals in accordance with the Dublin Docklands Development Authority North Lotts Planning Scheme including a landmark tower development at the proposed Point Village. The DDDA has prepared a draft amending planning scheme for the Point Village to allow for, inter alia, increased height of the tower to 130 metres and increase in capacity of the Point Depot.

2.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

- 2.2.1 It is proposed to comprehensively redevelop the subject lands for mixed use commercial, office, retail and residential use. It is envisaged that the site will also accommodate a significant landmark tower up to 120 metres in height.

Urban Design

- 2.2.2 There are 2 principle development options proposed for the subject lands.
- 2.2.3 Figure 2.1 indicates the two options that are included in the Amended Planning Scheme. In Option 1, the landmark building is located at the edge of Sir John Rogerson's Quay on the River Liffey and Britain Quay at the entrance to the Grand Canal Dock. The existing street structure is retained. In Option 2, the landmark building is again located at the quay edge. However, the two sites are amalgamated and developed as one unit, and the street structure amended. In both options 5 linear blocks are proposed. The building height of the blocks varies between the two options. Fig. 2.2 shows an axonometric view of option 1 and 2.
- 2.2.4 In addition to the two design options set out in the amendments to the Planning Scheme, two variation alternative options are also considered in this EIS. Figure – 2.3 indicates the two variant development options. In Options 1(a) and 2(a) the landmark

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building is set back from the River Liffey Quay edge. The EIS assesses all four development options.

Quantum of Development

2.2.5 In relation to the quantum of development proposed, there are three different options.

Option 1

60:40 Residential: Commercial

370 residential units
41,700 sq. metres of commercial development

Option 2

70:30 Residential: Commercial

432 residential units
36,100 sq. metres of commercial development

Option 3

40:60 Residential: Commercial

247 residential units
52,770 sq. metres of commercial development

2.3 PROPOSED LAND USES

2.3.1 The Amended Planning Scheme sets out specific guidance regarding the location and type of development that will be progressed on the subject lands. Figure 2.4 indicates the land use concepts for the two principle urban design approaches (Options 1 and 2) for future development on the site. Figure 2.5 indicates the land use concept for the two alternative options – 1a and 2a.

Residential

2.3.2 It is envisaged that within the site, residential development will be focussed on Green Street East and Benson Street. Residential accommodation will also be provided on Sir John Rogerson's Quay and Britain Quay as part of comprehensive mixed-use developments in these areas.

2.3.3 It is a requirement that a minimum of 25% of all units shall have 3 no. bedrooms and a minimum floorspace of 80 sq. metres.

- 2.3.4 Own front door town houses and owner occupier and family type units will be promoted on Green Street East. Apartment development should be dual aspect. In limited circumstances such as at difficult corner locations, single aspect units with a western, southern or eastern aspect may be considered.

Office and Enterprise Use

- 2.3.5 Small ground floor businesses having a significant public function such as estate agents, recruitments consultants etc will be encouraged in areas where animation of the public realm is important.

Retail

- 2.3.6 It is envisaged that small and medium size retail will be developed at ground floor level on the main frontages of the development and on the proposed new square where animation of the public realm is important. The number and frequency of retail units will be maximised to reflect a fine grain of development at ground floor level. Suitable uses will include local convenience, small specialist retail, restaurants and cafes etc.

Landmark Building

- 2.3.7 A competition was held in 2002 for the design of a landmark tower and studio on the 0.25 hectare portion of the site. The winning entry proposed a 60 metre tower with studio at the top level and an associated plinth building. It is now envisaged that the landmark building may be as high as 120 metres with a plot area of 25 sq. metres. The overall slenderness ratio for the tower will not be less than 4:1. It is outlined in the Amended Planning Scheme that the ground floor of the tower should present active uses to surrounding spaces. The architectural design of the tower should show clear consideration of the base, shaft and capital elements.
- 2.3.8 The development of other associated uses within the site such as multi media arts centre, performing arts venue or other cultural activity will be encouraged within the vicinity of the square.

2.4 DESIGN PARAMETERS

- 2.4.1 The Amended Planning Scheme also provides specific guidance regarding overall design parameters and guidance regarding future development proposals within the subject lands. The Amended Planning Scheme Document should be consulted for full details of these design parameters. A summary is provided below.

Urban and Block Structure

- 2.4.2 The various options for the urban and block structure for Options 1 and 2 and alternative options 1a and 2a are indicated in diagram 2.6 and 2.7. It is stated in the Amended Planning Scheme:

“A variation to the orthogonal block pattern of the Planning Scheme is appropriate to the area under amendment to articulate the end of the peninsula and facilitate the intensification of activities at a new focal point and public realm.”

- 2.4.3 The alternative assessed is a block structure for the two land holding options based on the established perimeter block pattern. A new diagonal street will traverse the main site connecting the new square at Benson Street and the proposed new urban space and landmark building at the corner of Sir John Rogerson’s Quay and Britain Quay.

Urban Grain

- 2.4.4 It is envisaged that the block structure will optimise block size and will allow for a series of north south linear blocks at offsets to give maximum light penetration and vistas to the waterfront. All block frontages will be required to front public spaces and streets. The larger block frontages to Benson Street, Sir John Rogerson’s Quay and Britain Quay shall be articulated to provide for a finer grain of development. This will require consideration of block subdivision into smaller plots typologies and uses.

Scale and Massing

- 2.4.5 The scale of the urban blocks will be related to a position within the overall hierarchy of streets and spaces in the area and the desired use and character of new streets and spaces. The principal frontages to Sir John Rogerson’s Quay and Britain Quay will present a larger grain and scale of development, reflecting their prominence and position. The scale of development along Benson Street will reflect permitted and ongoing development on the street and its function as a significant street in the area. The scale of development to the proposed new urban square will reflect the scale of the space and the need to maximise sunlight and daylight.

Building Height

- 2.4.6 Building heights within the blocks will vary in order to achieve appropriate urban scale. Indicative block heights are shown on figures 2.1 to 2.2 for Options 1 and 2 and the alternative options assessed 1 (a) and 2 (a).

- 2.4.7 It is envisaged that the main element of the Landmark Tower, will not exceed 100 metres in height to parapet level above existing street level. Accommodation above this level must be well set back and in aggregate with architectural and service elements will be permitted subject to a maximum overall building height not exceeding 120 metres above existing street level.

Roofscape

- 2.4.8 Proposed development on the site will express variety and interest at roof level.

Disabled Access

- 2.4.9 All buildings and spaces will be designed for ease of access and use by the disabled.

Public Space and Amenities

- 2.4.10 The quality of public space is of paramount importance in the development of this area. All streets and urban spaces will be considered in a comprehensive way, prioritising pedestrian use, quality of design and finishes. The connections between streets and spaces will need to be carefully handled. Level changes should be minimised with emphasis placed on continuous surfaces.

The Campshires

- 2.4.11 The Campshires will be extended from Sir John Rogerson's Quay along the Britain Quay waterfront as an integral part of the development of the subject lands. The extended Campshire will need to provide for comfortable pedestrian access and use.
- 2.4.12 The development of small kiosks and pavilions on the existing Campshire at Sir John Rogerson's Quay to support recreational and leisure uses will be encouraged. Provision will be made for a water taxi landing on this Campshire. The development of Britain Quay will allow for lay-by moorings.

New Urban Space

- 2.4.13 A new urban space will be developed on the site. It will be located towards the north-eastern corner of the site. The space will be developed to the highest design standards, ensuring quality and robustness. It will provide for a wide range of uses and activities. The space should also be the focus for active ground floor and cultural uses. It would provide an ideal frontage for a hotel. The public space will need to be designed to prioritise pedestrian movement. Adequate facilities will need to be provided for cyclists.

Dodder Bridge - Public Transport Bridge

- 2.4.14 A public transport bridge will span the confluence of the Dodder and the Grand Canal Dock, springing from Britain Quay and landing at York Street in Ringsend. The Bridge will be designed solely for use by pedestrians, cyclists and public transport.
- 2.4.15 The public transport, cycle and pedestrian only bridge across the Dodder will accommodate two way passage of buses with additional cycle and pedestrian paths. It will have slender proportions, minimising visual impact with a high quality aesthetic design. It will be a lifting or swinging structure with closed air draft to permit small leisure craft.

Parking

- 2.4.16 Parallel on-street car parking will be provided along the Sir John Rogerson's Quay building frontage and on the northern end of Benson Street. All other car parking associated with the development will be provided in underground parking areas.

Development Access

- 2.4.17 General vehicular, two-way access will be provided around the perimeter of the area. Vehicular access into the development will be provided at Benson Street and Green Street East. Business, service and loading access will be from the street.

2.5 ALTERNATIVES CONSIDERED

- 2.5.1 As explained above 4 different urban design options for the development of the subject lands are considered in this report. The Amended Planning Scheme includes two principal urban design approaches to the future development of the subject lands. These options are indicated on figure 2.1. However, there are two variation options – Option 1(a) and 2(a) which are also considered in the EIS. In addition three different land use options in terms of quantum of development have been considered for the site. Cognisance of all urban design and land use options that may be developed on the subject lands have been considered in the EIS.
- 2.5.2 As outlined previously, there was a previous application on the subject lands for a mixed use development comprising 231 residential units, offices, retail/restaurant units, leisure centre and crèche. The proposal consisted of four smaller orthogonal blocks within the site. The proposal provided for a part podium at ground floor level and a landmark tower, measuring 95 metres in overall height above street level, on the corner of Sir John Rogerson's Quay and Britain Quay. The cumulative impact of combining this

permission with the proposed 120 metres tower on the quayside has also been considered. This is discussed further in Appendix 2.1.

2.5.3 Further to this a competition was held in 2002 for the design of a landmark tower and studio at the top levels and an associated plinth building. It was proposed that the tower would be approximately 60 metres in height.

2.5.4 The previous scheme granted on the site, and the proposals for the landmark tower in the competition entry were considered as alternatives when drafting the amended planning scheme. It should be noted that the landmark tower may now extend to 120 metres in height, and this higher tower is assessed in this EIS.

Dodder Bridge Alternatives

2.5.5 A number of alternative options for the proposed Dodder Bridge were considered. These included:

- A Fixed span bridge
- Lifting span allowing sea going vessels access to the Grand Canal Dock with closed air draft to permit smaller vessels
- Swinging span allowing sea going vessels access to the Grand Canal Dock with close air draft to permit small vessels.

2.5.6 The main reasons for choosing the options outlined in the Planning Scheme, taking into account the environmental effects, are:

- To reinforce the landmark nature of the tower.
- To allow for each apartments to have a view of the River Liffey.
- To facilitate a different urban form of development from that currently under construction to the west.
- To provide a link between the Chocolate Factory park and the landmark tower.
- To provide for new public spaces.
- A lifting or swinging span to allow marine traffic access to the dock basin.

2.6 DEMOLITION

2.6.1 The redevelopment of the subject lands will involve the demolition of any remaining structures on site. Demolition work will be carried out in accordance with approved best practice and standards.

2.7 RECYCLING AND WASTE PROVISIONS

- 2.7.1 Recycling and waste provisions will be provided in accordance with the requirements of Dublin City Council/Dublin Docklands Development Authority.

2.8 CONSTRUCTION PHASE

- 2.8.1 The proposed development of the subject lands will involve the construction of a major urban infill residential and commercial scheme/s. General methods of construction will include foundations which will be pile driven and may also involve deep pads and raft foundations, the use of load bearing concrete blocks and poured concrete flooring, in addition to frame structures. Exact details of construction methods and management will be provided with future Section 25 applications on the subject lands. Developers and contractors implementing the development will be required to fully meet their obligations under relevant Health and Safety Regulations.

Figure 2.1: Block Heights – Option 1 and 2



Option 1

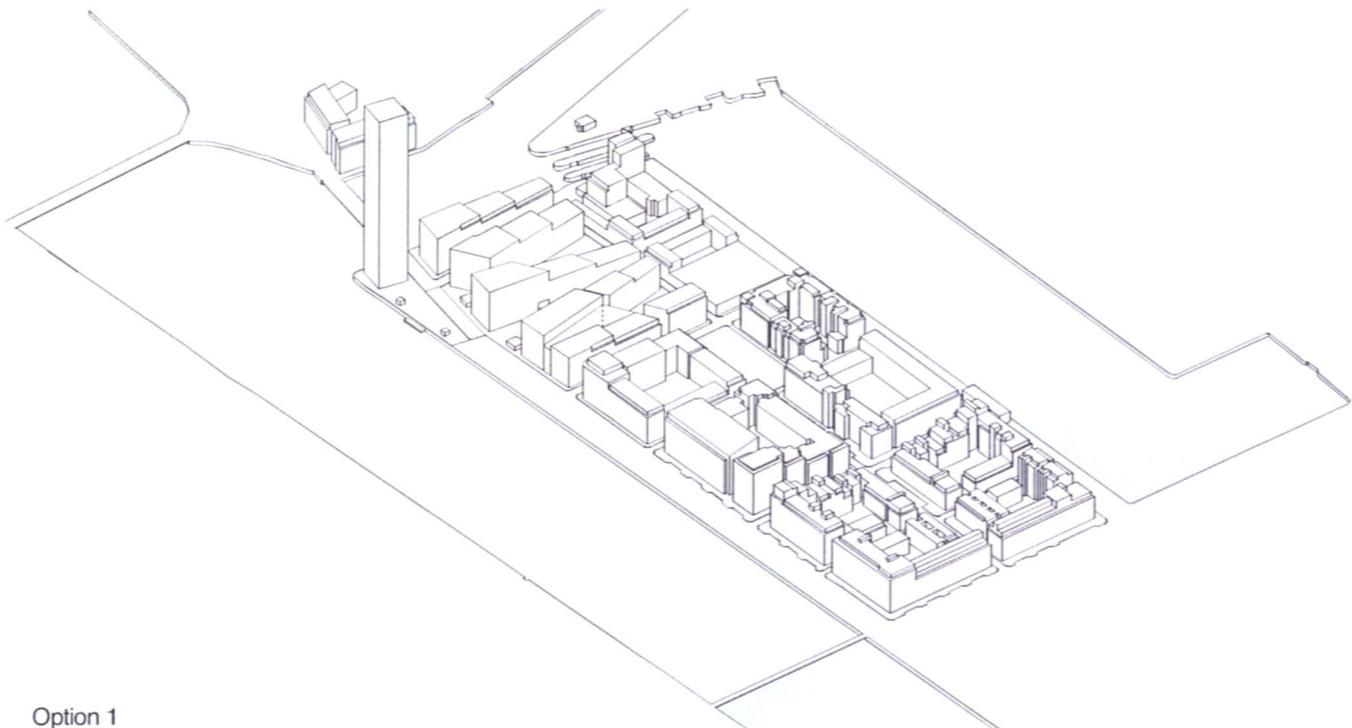


Option 2

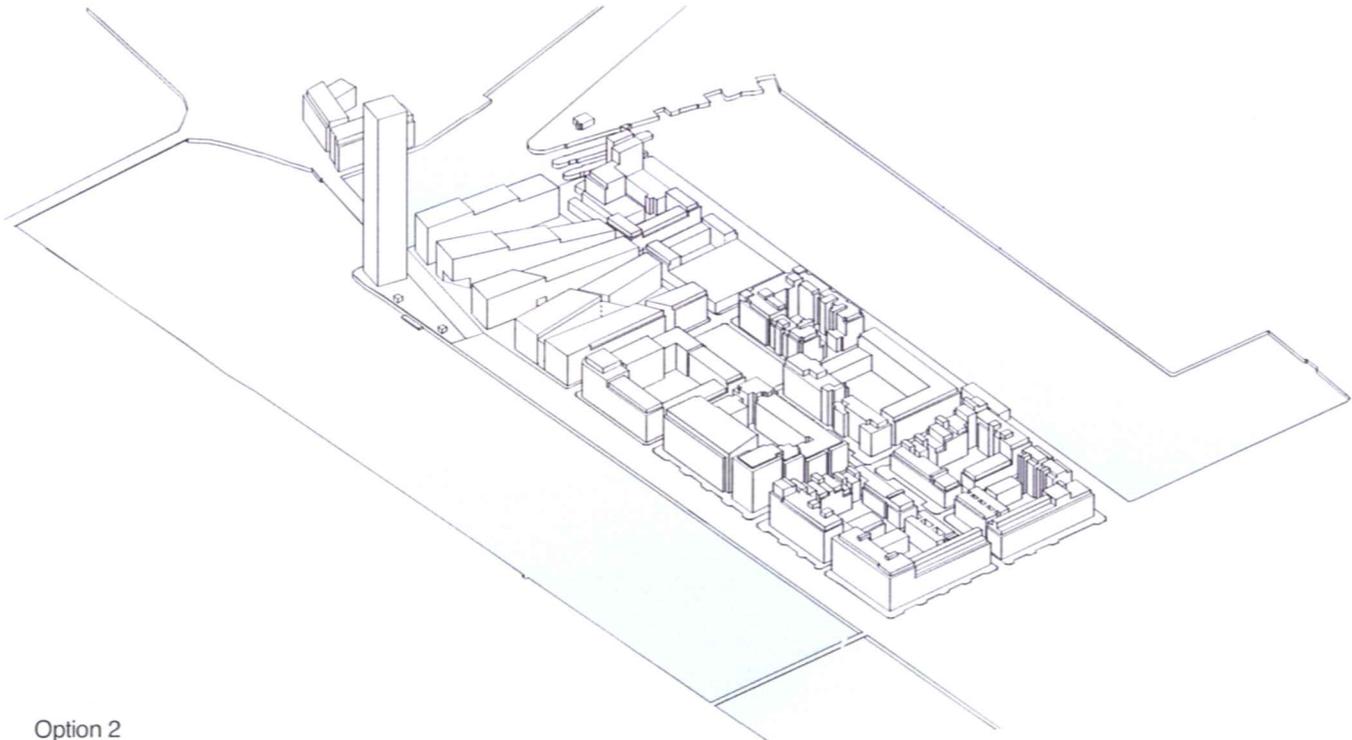
Notes: - Subject to Plot Ratio
 - Number of storeys includes set back storeys where indicated

-  - 8 storeys commercial or 9 storeys residential
-  - 7 storeys commercial or 8 storeys residential
-  - 6 storeys commercial or 7 storeys residential
-  - 5 storeys commercial or 6 storeys residential
-  - 1 storey commercial
-  - High landmark building
-  - Top storey setback indicated thus

Figure 2.2: Axonometric Views Option 1 and 2

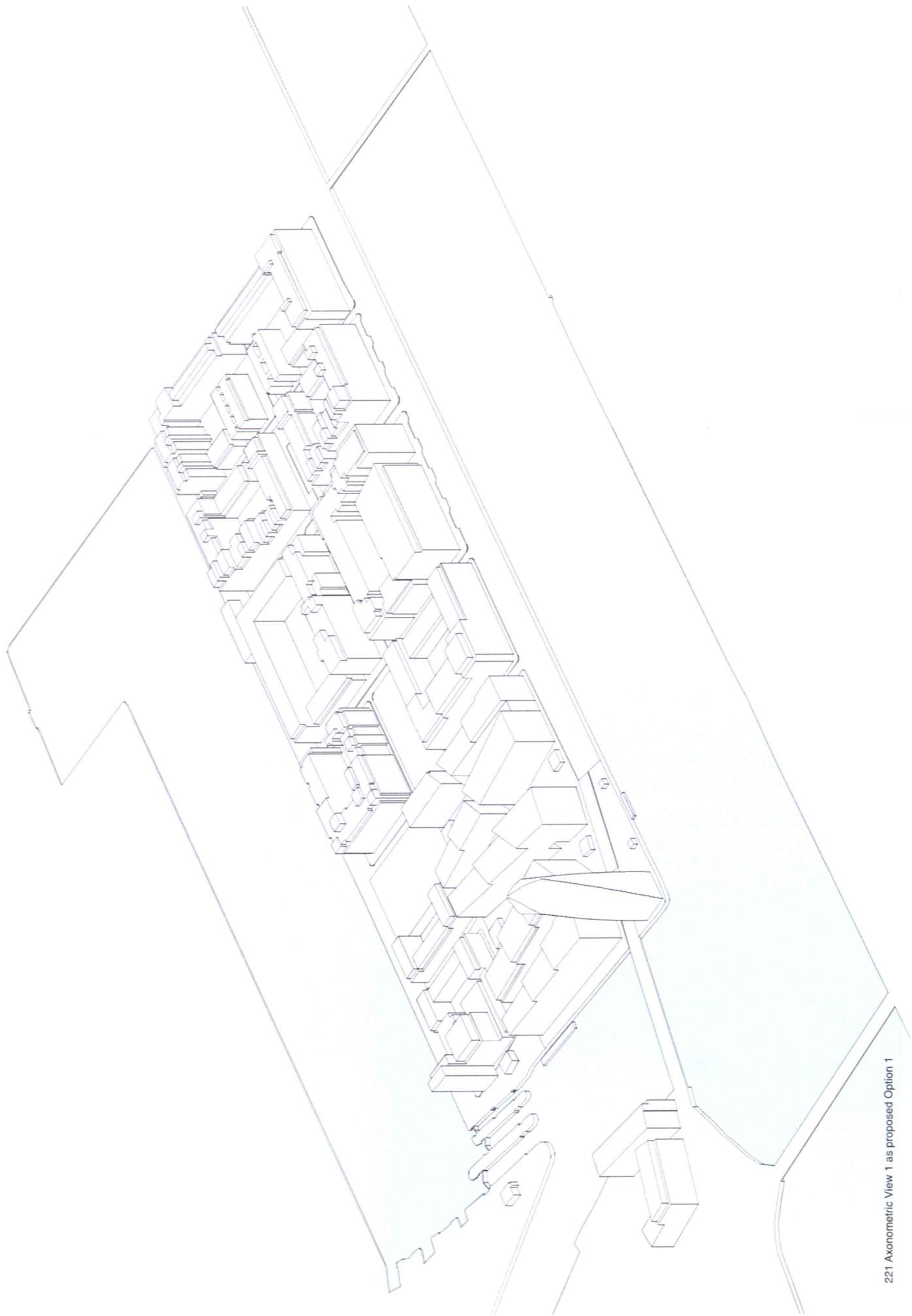


Option 1



Option 2

Figure 2.3: Axonometric View 1 as Proposed Option 1



221 Axonometric View 1 as proposed Option 1

Figure 2.4: Axonometric View 2 as proposed Option 1

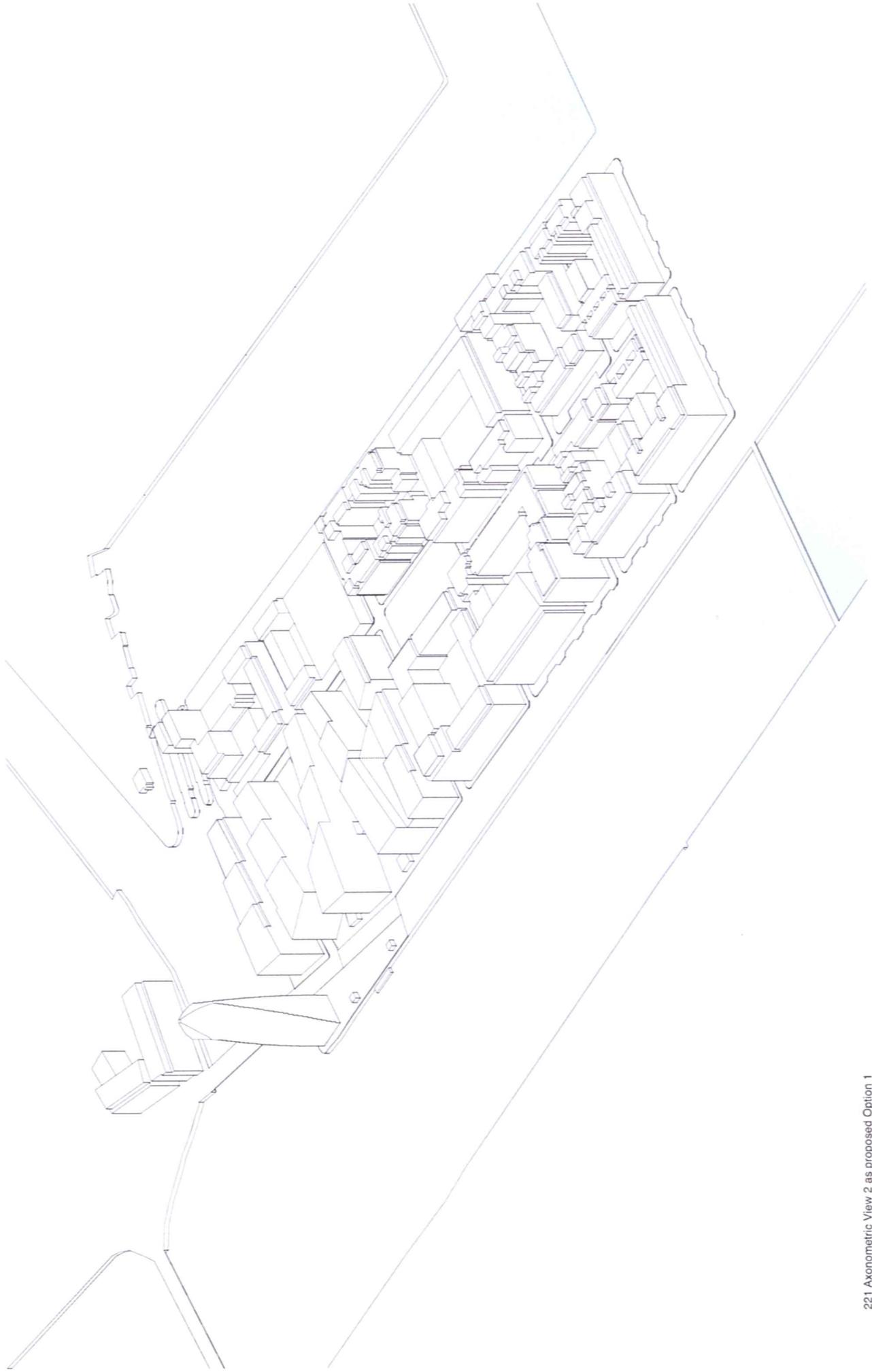


Figure 2.5: View 3 as Proposed Option 1

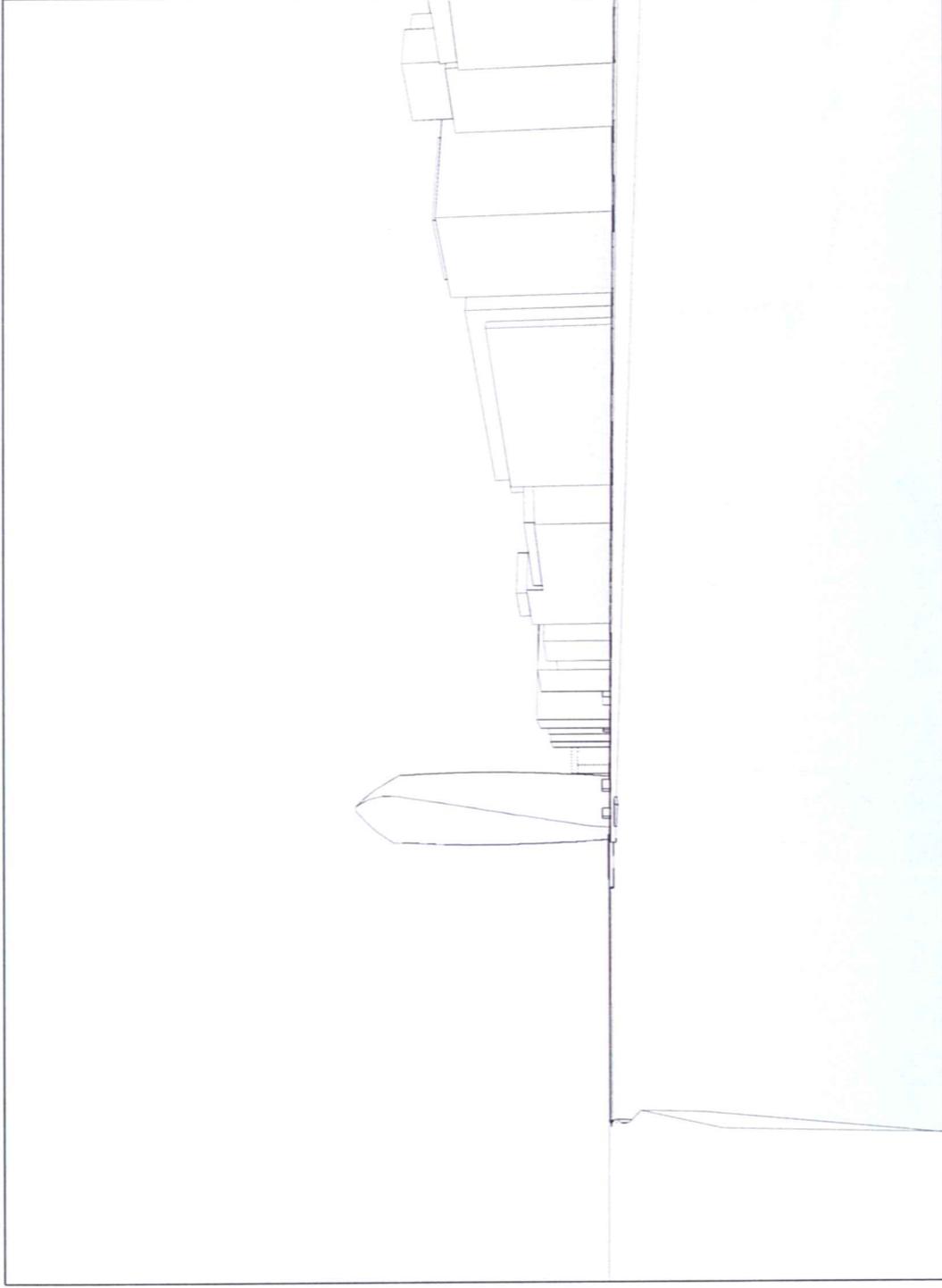


Figure 2.6: View 4 as Proposed Option 1

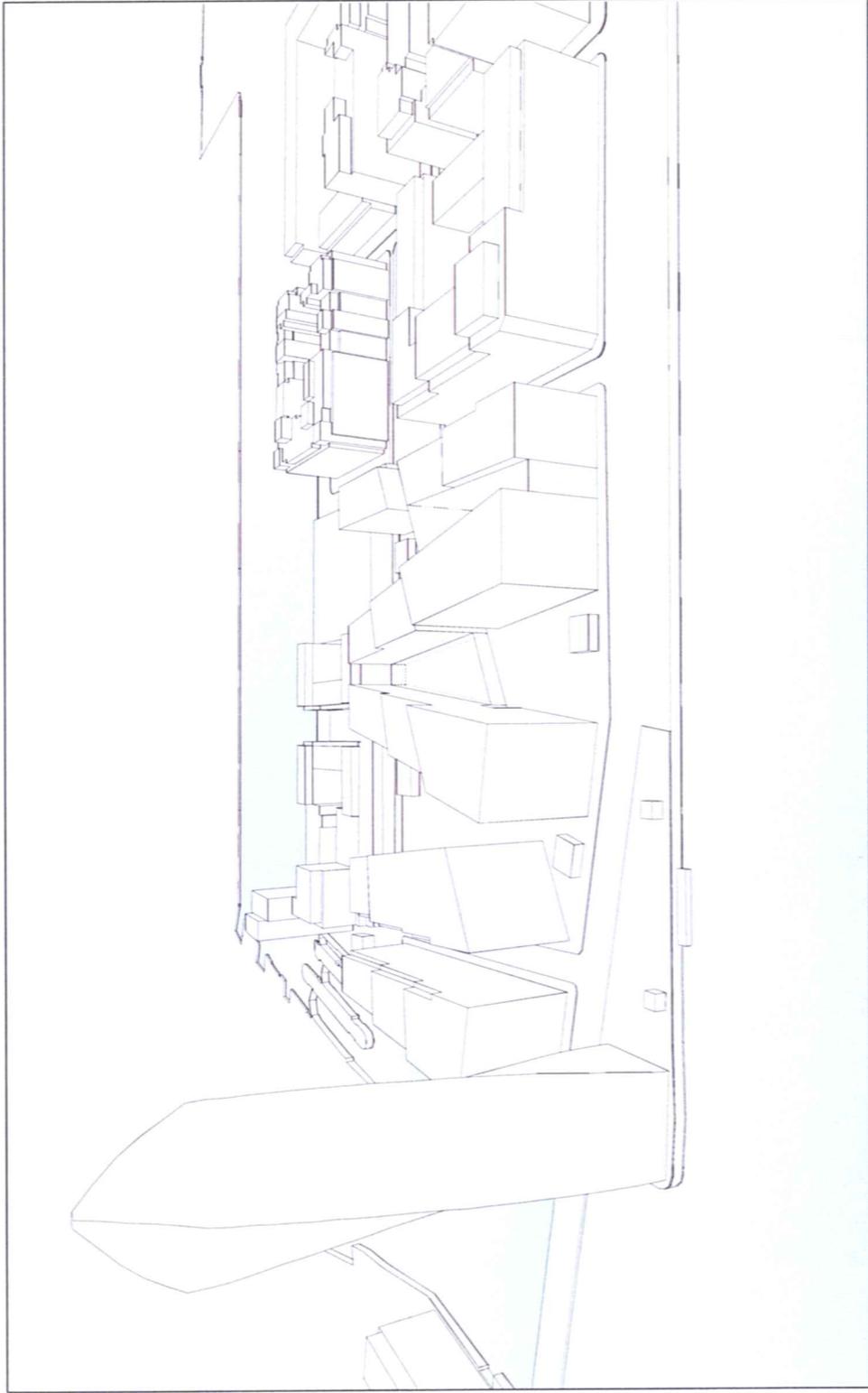
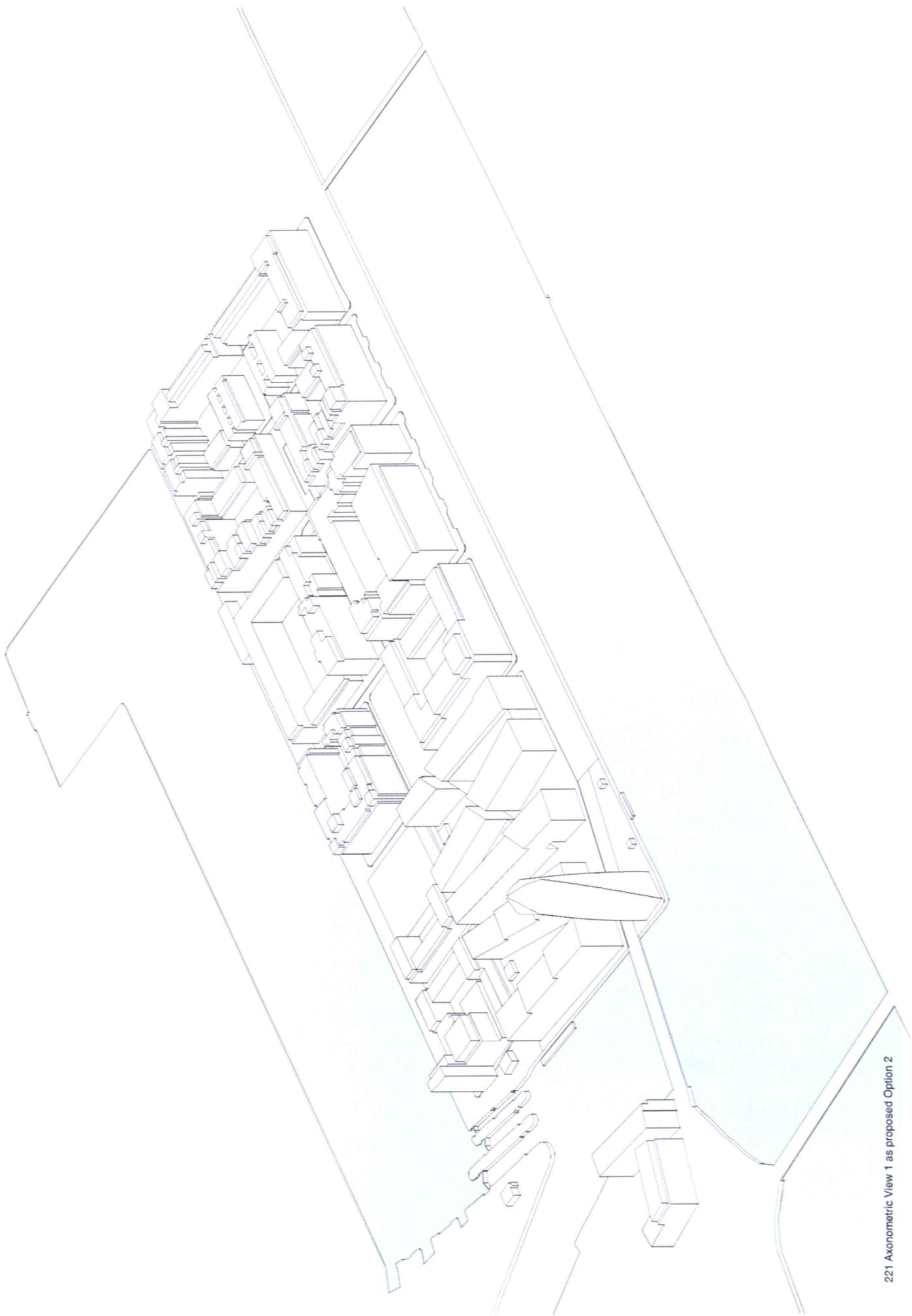


Figure 2.7: Axonometric View 1 as Proposed Option 2



221 Axonometric View 1 as proposed Option 2

Figure 2.8: Axonometric View 2 as Proposed Option 2

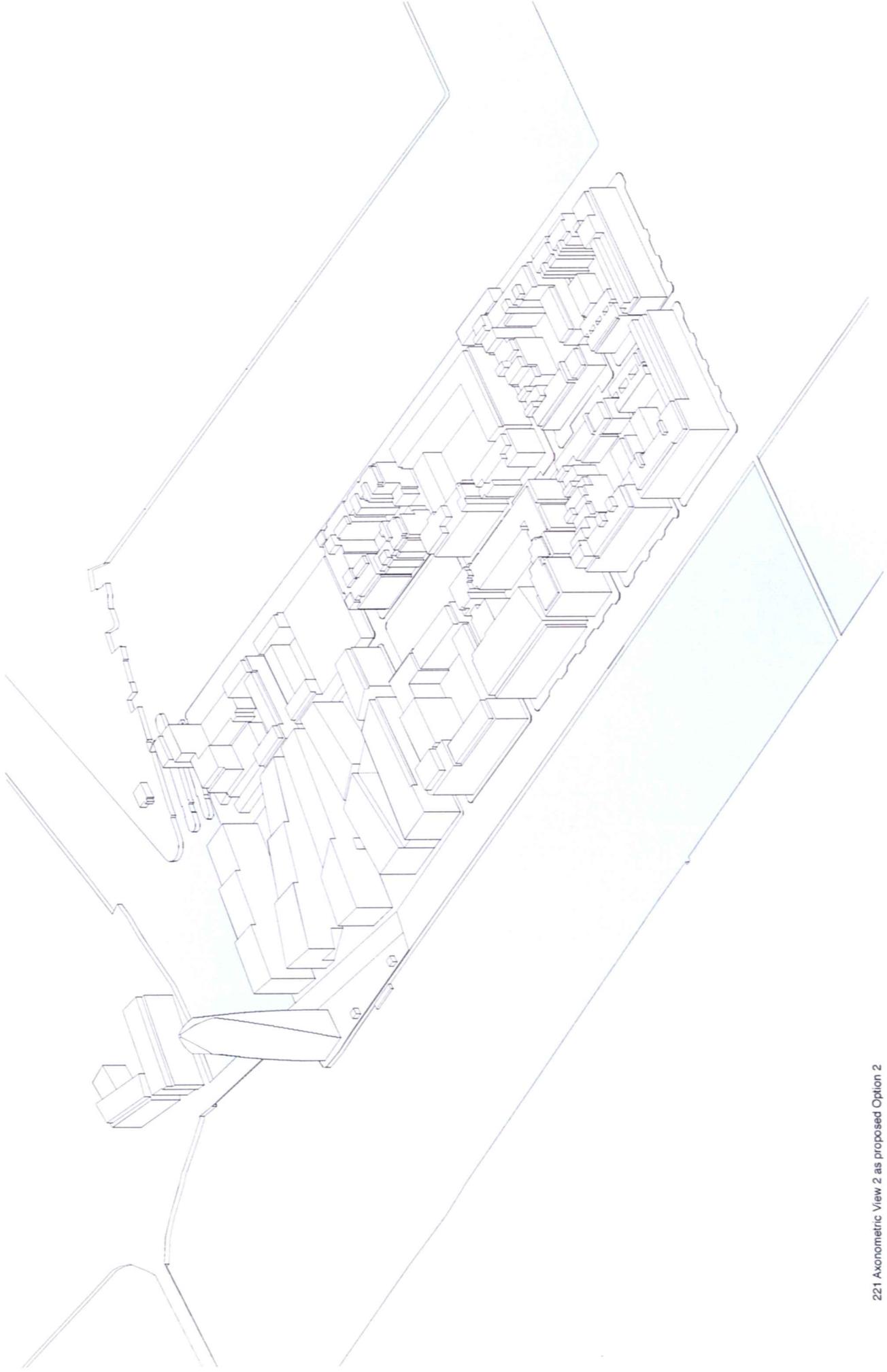


Figure 2.9: View 3 as Proposed Option 2

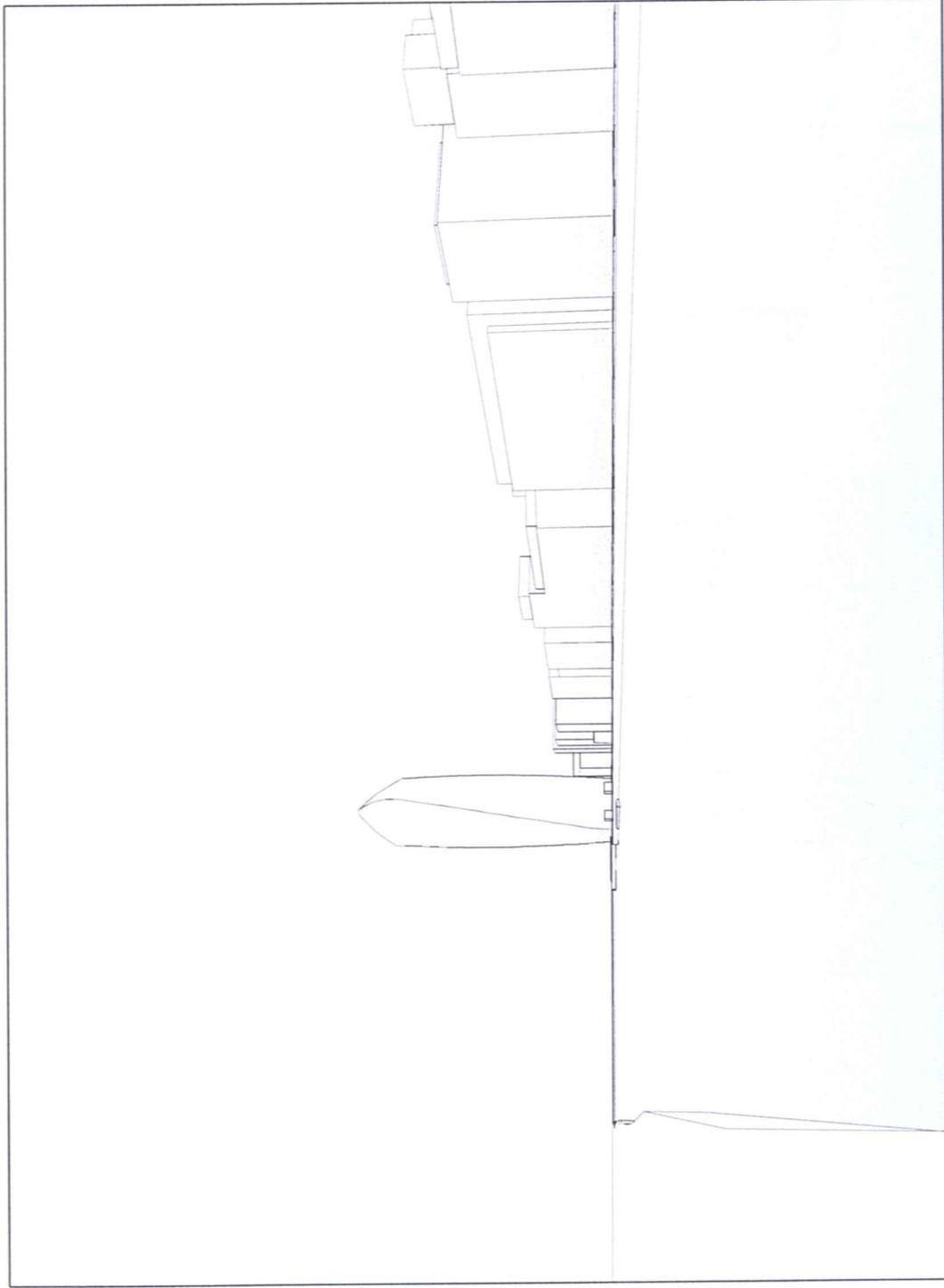
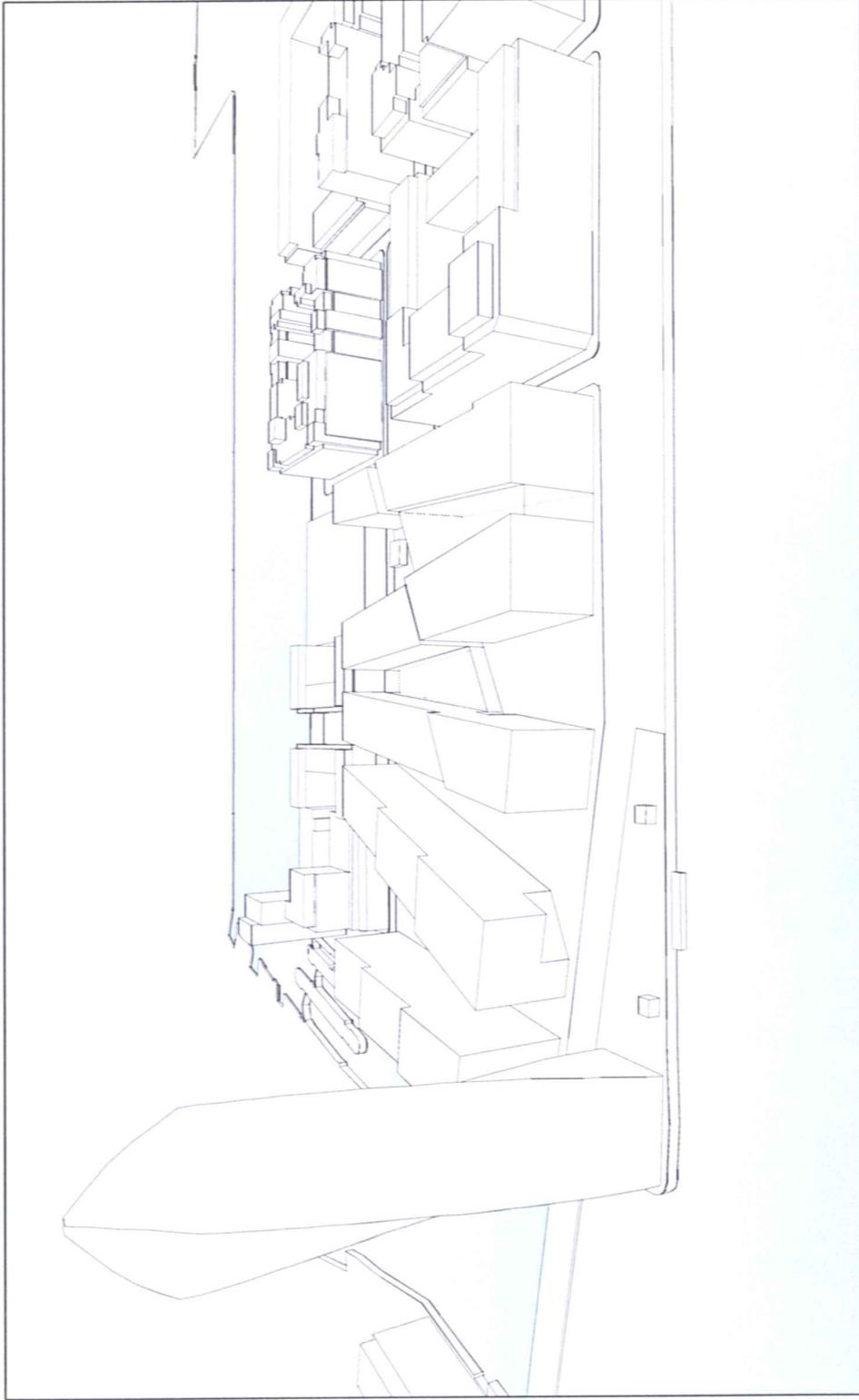
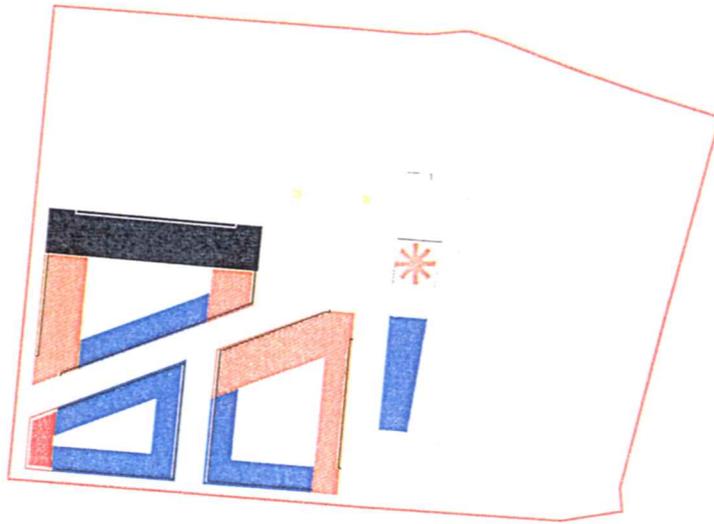


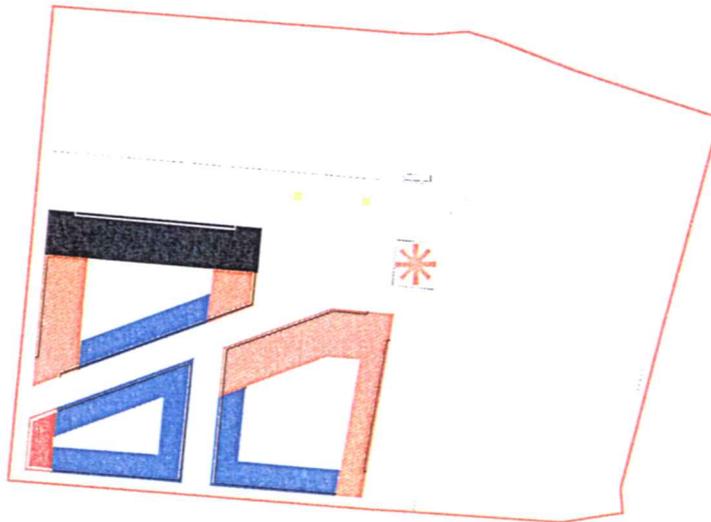
Figure 2.1 View 4 as Proposed Option 2



221 View 4 as proposed Option 2



Variation 1a



Variation 2a

-  - 8 storeys commercial or 9 storeys residential
-  - 7 storeys commercial or 8 storeys residential
-  - 6 storeys commercial or 7 storeys residential
-  - 4 storeys commercial or 5 storeys residential
-  - 1 storey commercial
-  - High landmark building
-  - Top storey setback indicated thus

Figure 2.12: Axonometric View Variation 1a

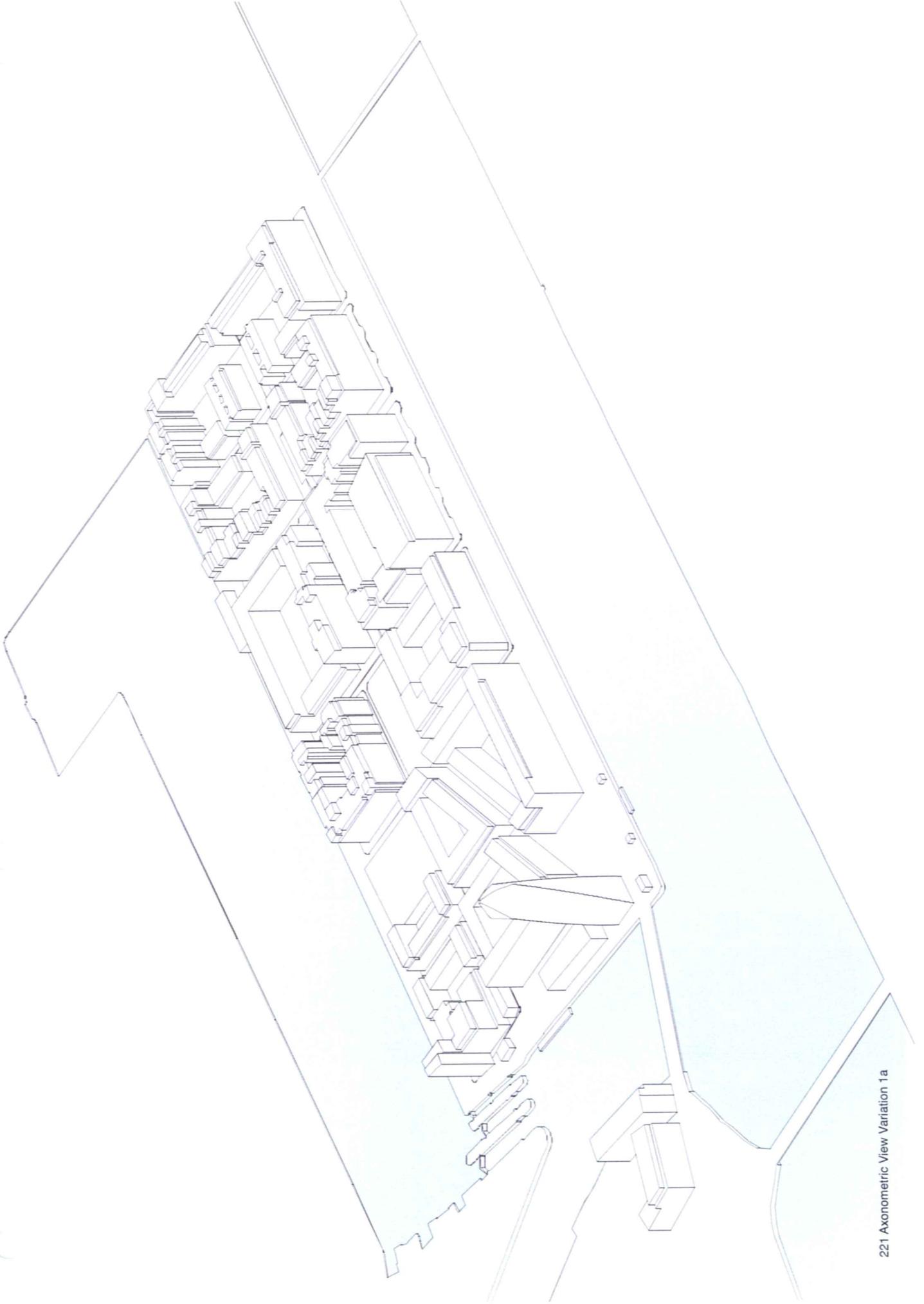


Figure 2.13: Axonometric View 2 Variation 1a

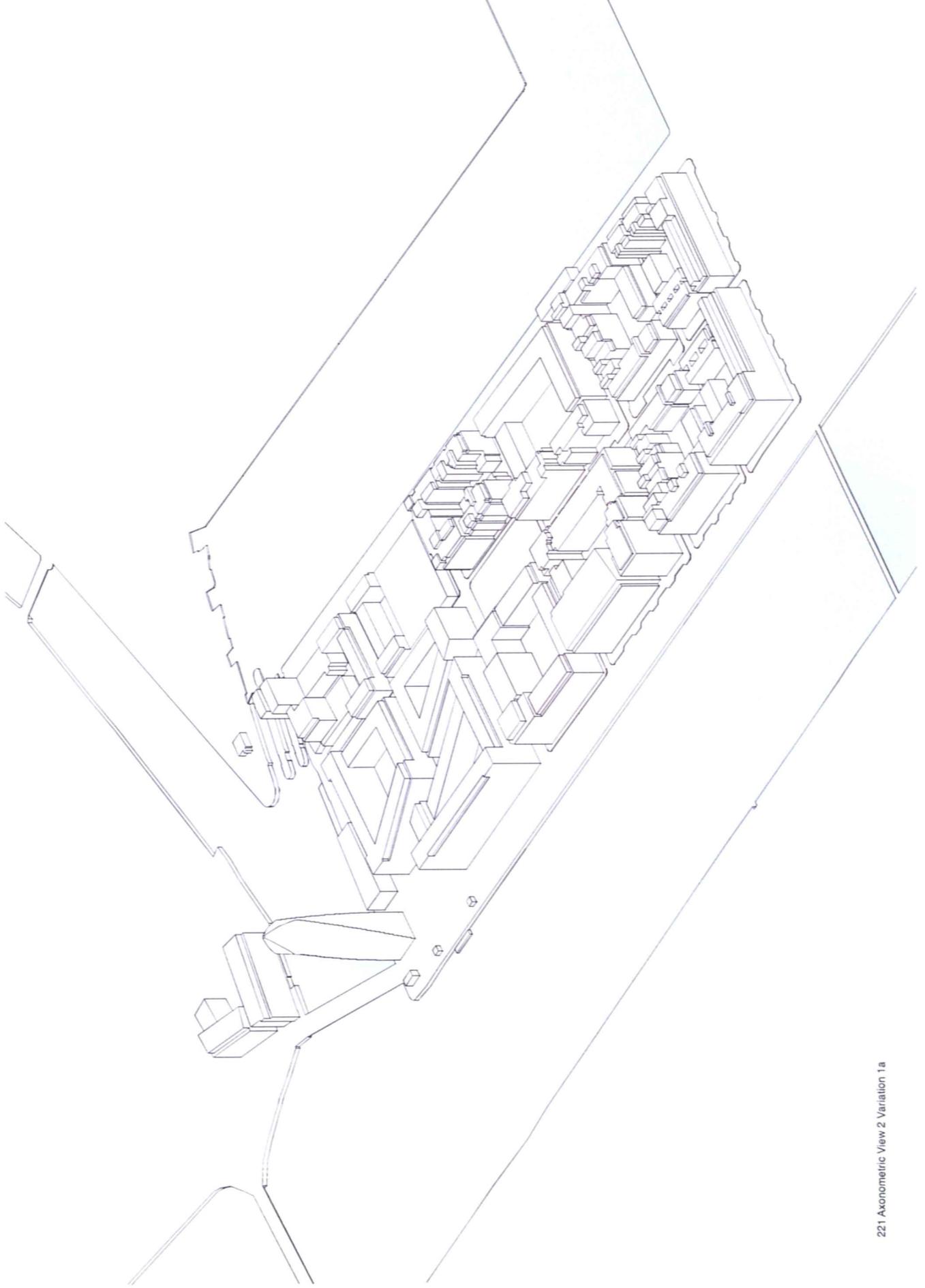


Figure 2.14: View 3 Variations 1a and 2a

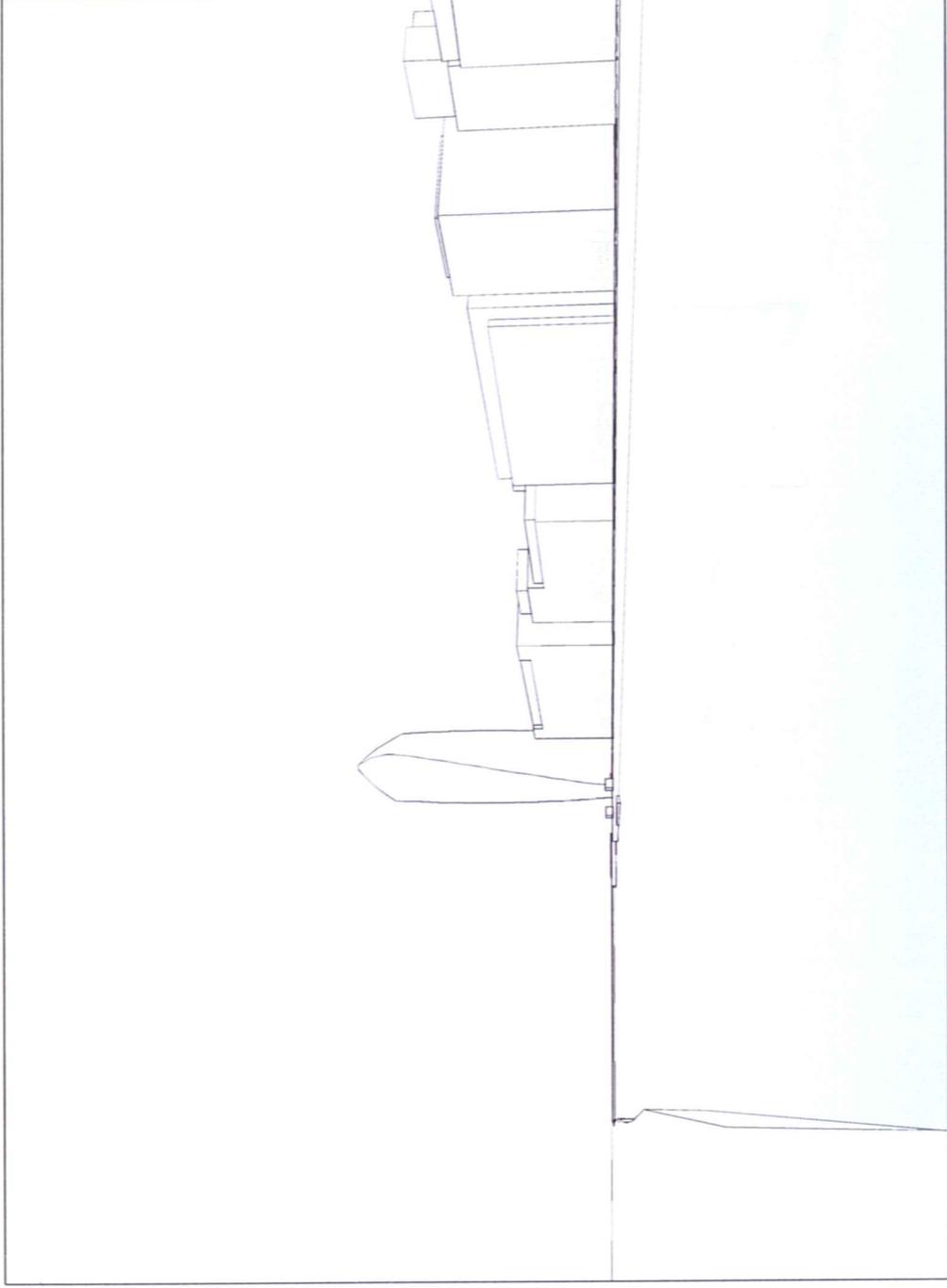


Figure 2-5: View 4 Variation 1a

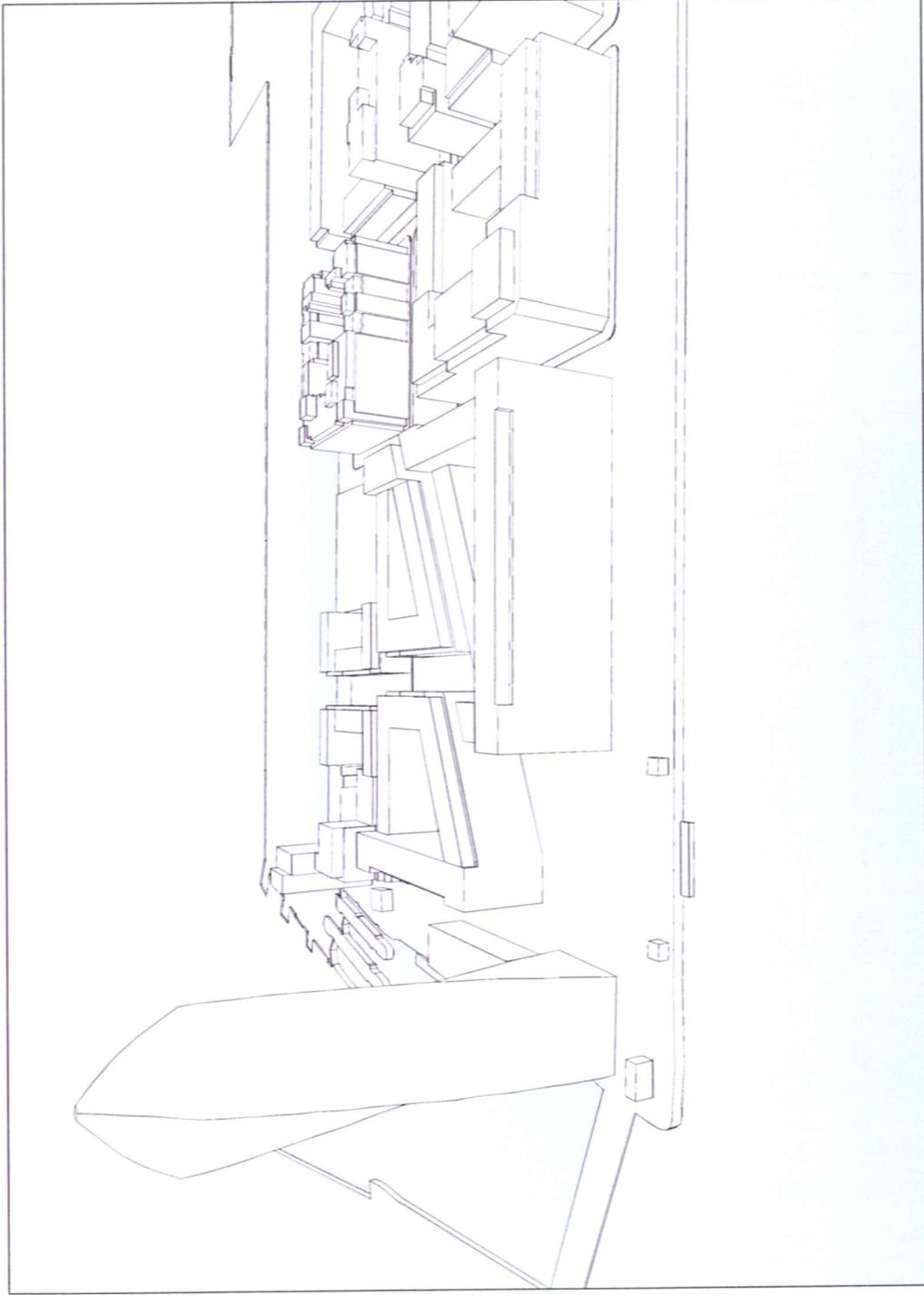


Figure 6: Axonometric View Variation 2a

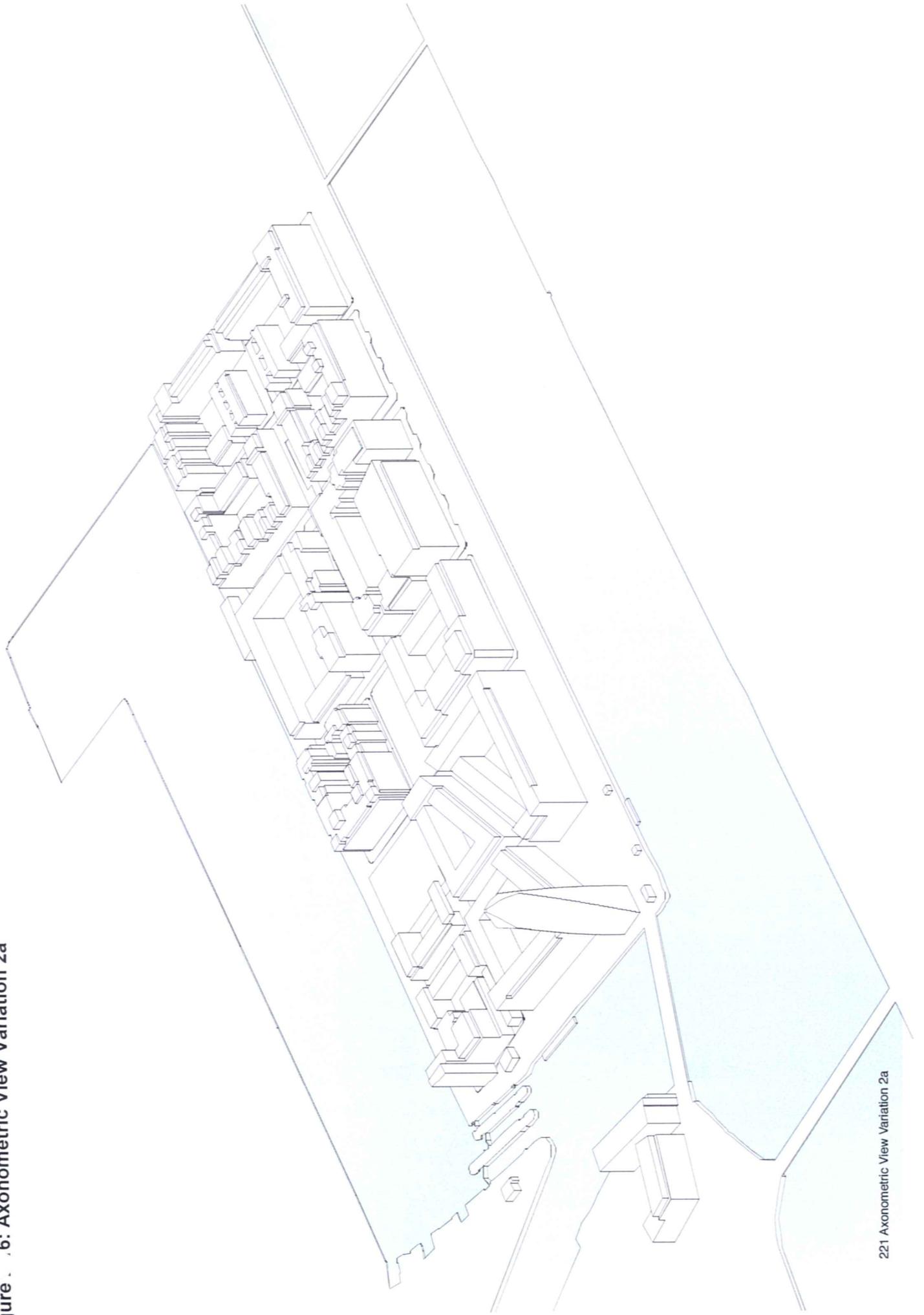


Figure 2. View 4 Variation 2a

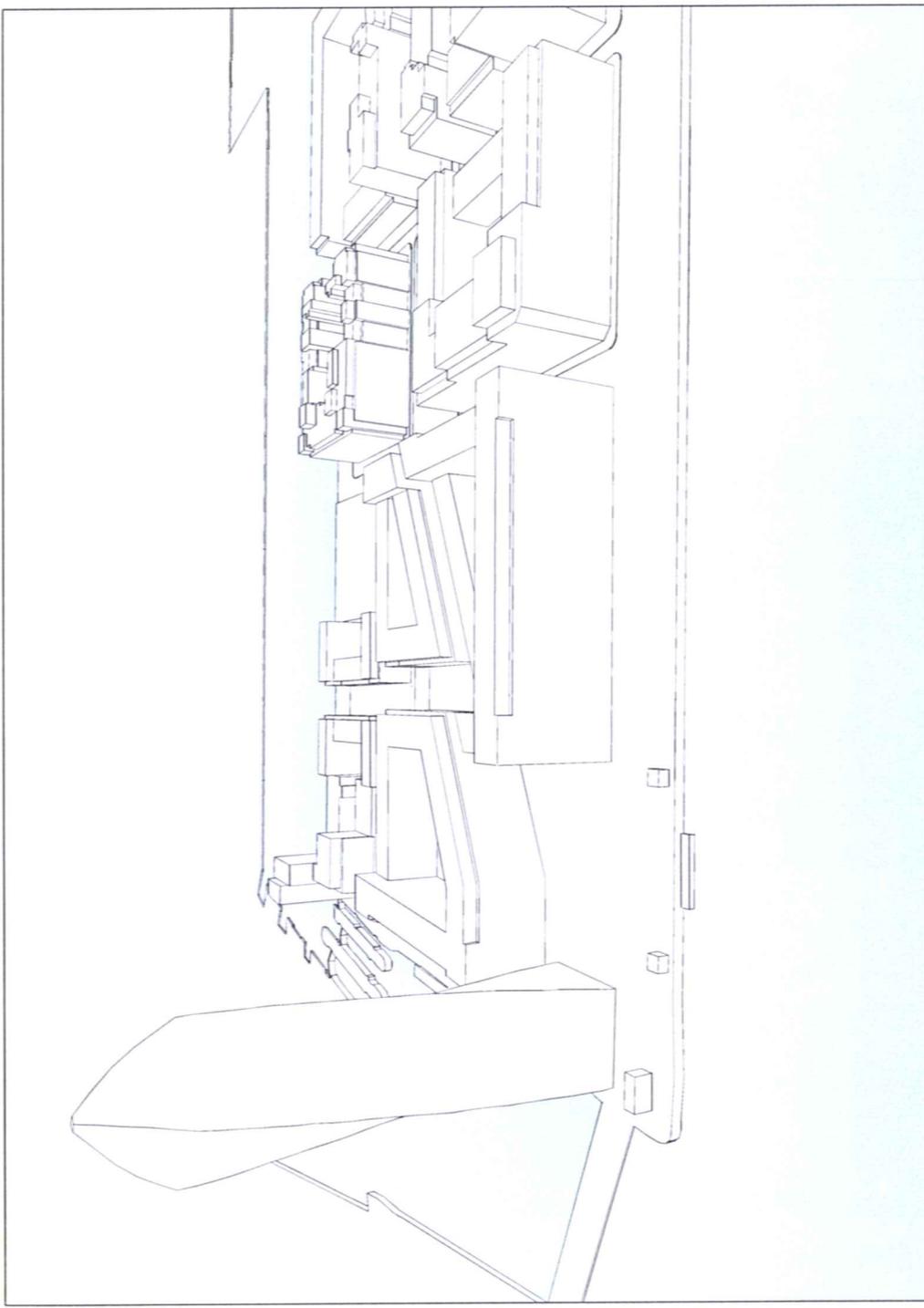
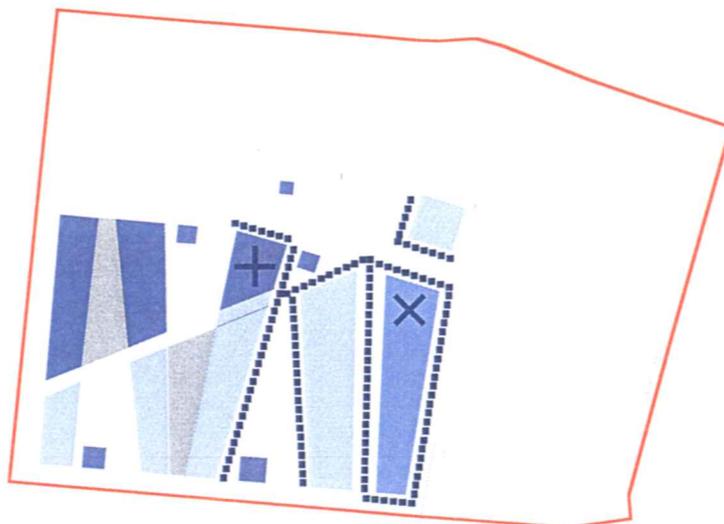
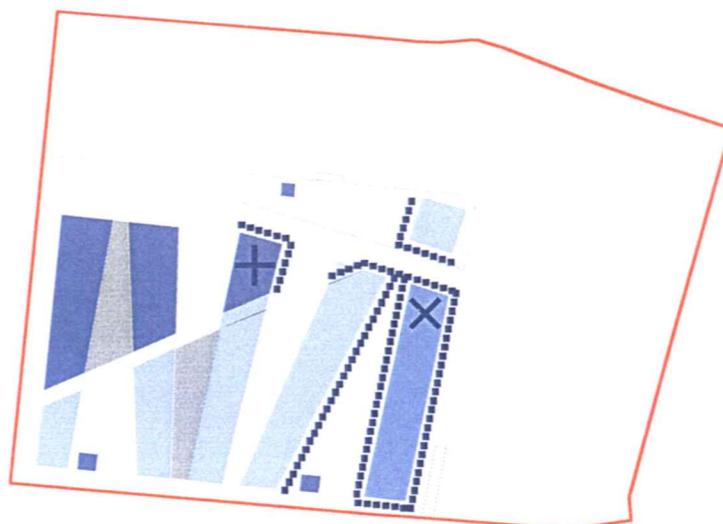


Figure 2.18: Landuse Concepts – Options 1 and 2



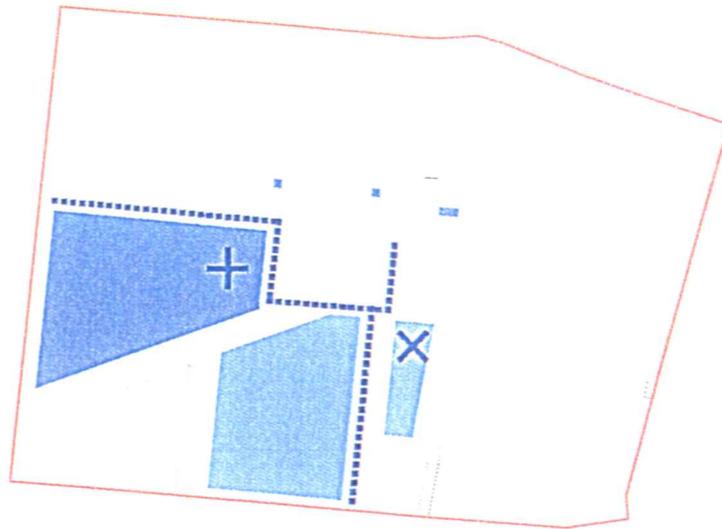
Option 1



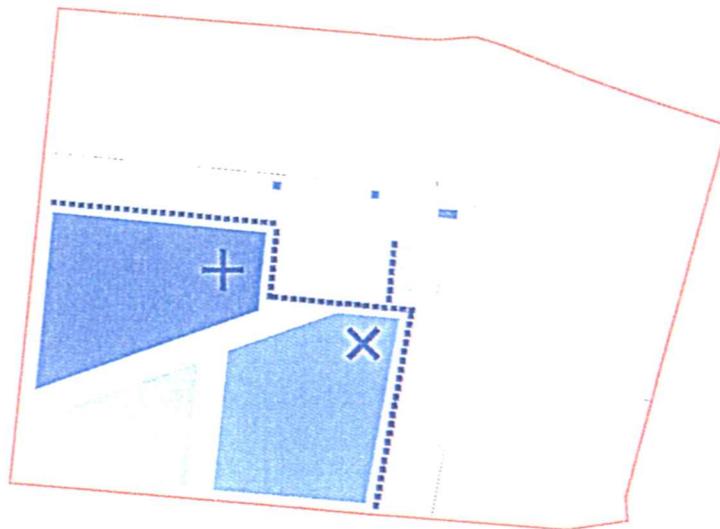
Option 2

-  - illustrative commercial use
-  - illustrative mixed use
-  - illustrative residential use
-  - possible cultural use
-  - possible hotel use
-  - active and retail ground floor uses

Figure 2.19: Landuse Concepts – Options 1a and 2a



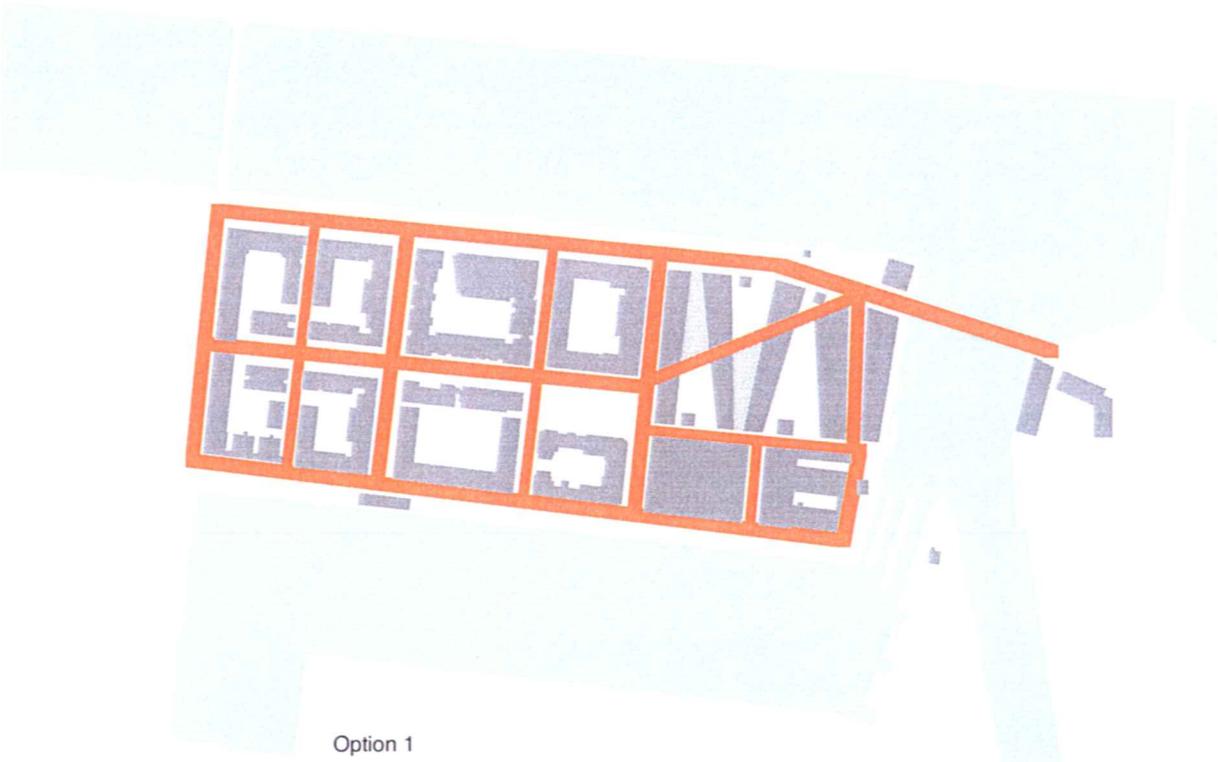
Variation 1a

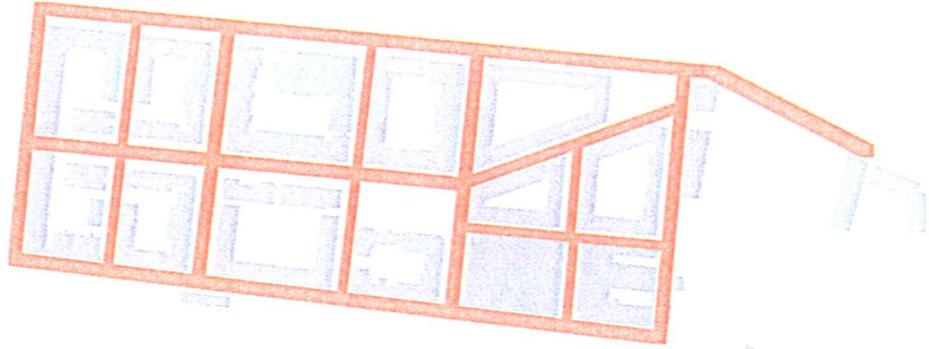


Variation 2a

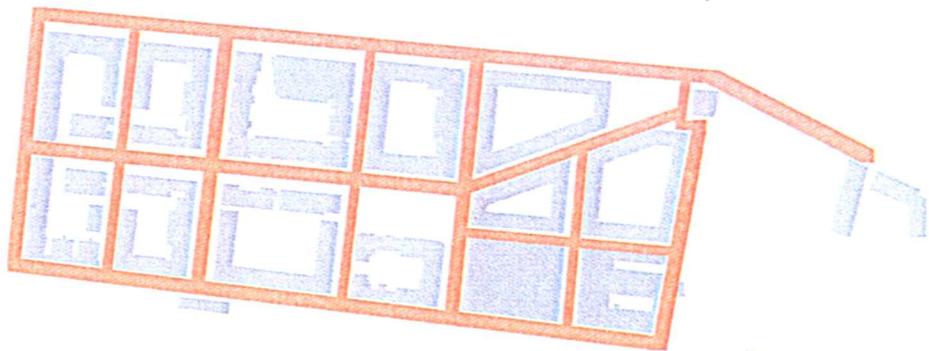
-  - illustrative commercial use
-  - illustrative mixed use
-  - illustrative residential use
-  - include cultural use
-  - possible hotel use
-  - active and retail ground floor uses

Figure 2.20: Urban Structure Option 1 and 2





Variation 1a



Variation 2a

221 Urban Structure Variations 1a and 2a

3.0 PLANNING AND DEVELOPMENT CONTEXT

3.0 PLANNING AND DEVELOPMENT CONTEXT

3.1 INTRODUCTION

3.1.1 This section of the EIS sets out the planning and development context of the proposed amendment to the Grand Canal Dock Planning Dock Scheme 2000 to facilitate the redevelopment of the subject site. It reviews relevant national, regional, city and local planning policy and provides a comprehensive planning policy context for the amendment to the Grand Canal Dock Planning Scheme 2000.

3.2 THE NATIONAL SPATIAL STRATEGY (2002)

3.2.1 The National Spatial Strategy (NSS) was published on the 28th November 2002. The NSS is a 20-year planning framework for all parts of Ireland. It aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. The commitment to prepare the NSS was included in the National Development Plan 2000 – 2006.

3.2.2 The NSS broadly incorporates the recommended strategy of the Strategic Planning Guidelines for the Greater Dublin Area, which are examined in greater detail below.

3.2.3 Key to the future success of the Strategy is the strengthening of Dublin's position as the primary urban centre in the country but also to promote balanced regional development. The strengthening of Dublin's position as a major European and global urban centre will help maintain the critical mass of population, infrastructure and services necessary to continually attract Foreign Direct Investment (FDI) with important beneficial spin offs for the Regions.

3.2.4 The strategy supports the consolidation of urban development within the Dublin Metropolitan region, which will reduce the demand for travel and provide the most efficient return for increased investment in public transport. The consolidation of urban development includes a more intensive use of urban zoned lands to reduce the need to develop new greenfield locations on the periphery of the urban area. The proposed amendment to the planning scheme provides for a more intensive use of a strategic inner city site, and is fully compliant with the objectives of the NSS.

3.3 THE NATIONAL SUSTAINABLE DEVELOPMENT STRATEGY (1997)

3.3.1 The aim outlined in the sustainable development strategy, published in 1997, was

"to ensure that economy and society in Ireland can develop to their full potential within a well protected environment, without compromising the quality of that environment and with responsibility towards present and future generations and the wider international community".

3.3.2 The principal goals and policies defined in the Strategy continue to inform the development and delivery of policies and programmes in the area of environmental protection and sustainable development.

3.3.3 The integration of environmental considerations into other policy areas is a key means of securing balanced development. In particular, land-use and transportation are key policy areas, in securing balanced and sustainable development.

3.3.4 Land-use development, which reduces the growth in demand for transport, especially private transport, and/or is located on high quality public transport routes, is a key objective of the Strategy.

3.3.5 The objectives of this Strategy form the basis of many subsequent policy documents published by the Government including, The National Spatial Strategy, The Strategic Planning Guidelines for the Greater Dublin Area and the Residential Density Guidelines for Planning Authorities.

3.3.6 The proposed development is considered to conform with the principles of sustainability, particularly as the proposal is for a high-density urban infill scheme, on a brownfield site, in close proximity to the city centre.

3.4 RESIDENTIAL DENSITY GUIDELINES FOR PLANNING AUTHORITIES (1999)

3.4.1 The Residential Density Guidelines for Planning Authorities were prepared by the Department of the Environment and Local Government in order to guide Planning Authorities regarding the issue of residential density.

3.4.2 The Guidelines recommend that relatively high densities should be favoured on brownfield urban infill sites, particularly those sites in

proximity to high quality existing and proposed public transportation. It is stated:

“Brownfield lands which may be defined as “any land which has been subjected to building engineering or other operations, excluding temporary uses or urban green spaces” generally comprise redundant industrial lands or docks and may also include former barracks, hospitals or even occasionally obsolete housing areas. Where such significant sites exist and, in particular, are proximate to existing or future public transport corridors, the opportunity for their re-development to higher densities, should be promoted”

- 3.4.3 The proposed development comprises a high density development on a brownfield site close to the city centre. The proposal is therefore considered to comply with the recommendations of the Residential Density Guidelines.

3.5 THE REGIONAL PLANNING GUIDELINES FOR THE GREATER DUBLIN AREA (2004)

- 3.5.1 The Regional Planning Guidelines were recently adopted. The guidelines provide a robust sustainable planning framework for the Greater Dublin Area within the context of the Planning and Development Act 2000 and the National Spatial Strategy 2002 – 2020. They provide a long term strategic planning framework for the development of the Greater Dublin Area in the 12 year period up to 2016 within the NSS vision for 2020.

- 3.5.2 It is envisaged in the strategy that the Greater Dublin Area will accommodate 1.83 million people by 2020. Dublin is identified as one of the main growth areas within the Metropolitan Area. With regard to the Metropolitan area, the guidelines state:

“Development within the Metropolitan Area will be consolidated, allowing for the accommodation of a greater population than at present, with a much enhanced integrated public transport system. For Dublin City Centre, this will require a further increase in overall residential development densities, as permitted in terms of the DoEHLG Residential Density Guidelines for Planning Authorities, the delivery of well designed urban environments enhancing the quality of life for residents and workers alike, as well as measures to ensure priority for public transport.”

- 3.5.3 The proposed development of a high density scheme, in close proximity to good public transport connections will achieve this objective.

3.6 DUBLIN CITY DEVELOPMENT PLAN 2005

- 3.6.1 The Dublin City Development Plan 2005-2011 has recently been published. The site is zoned Z14 in the Development Plan:

“To seek the social, economic and physical development/or rejuvenation of an area with mixed use of which residential and “Z6” would be the predominant uses”

- 3.6.2 Under the Z6 zoning objective uses which are permitted in principle include *“ATM, Betting Office, Car Park, Childcare Facility, Conference Centre, Cultural/Recreational Building and Uses, Enterprise Centre, Hotel, Industry (light), Live Work Units, Open Space, Park and Ride Facility, Public Service Installation, Restaurant, Science and Technology-Based Industry, Shop (Neighbourhood), Training Centre.”*

- 3.6.3 Under the Z6 zoning objective uses considered open for consideration include *“Advertisement and Advertising Structures, Car Trading, Civic and Amenity/Recycling Centre, Factory Shop, Funeral Home, Garage (Motor Repair/Service), Nightclub, Office, Outdoor Poster Advertising, Petrol Station, Place of Public Worship, Public House, Residential, Veterinary Surgery, Warehousing (retail/non food)/Retail Park, Warehousing.”*

- 3.6.4 The Amended Planning Scheme provides for a mix of residential and commercial units. The commercial units will include small and medium sized retail and retail services units, office and enterprise units (estate agents, recruitment consultants etc). The amended planning scheme also provides a number of multi media and cultural uses. It is considered that the proposed landuses are fully compliant with the landuse policy of the Dublin City Development Plan.

- 3.6.5 It is a stated policy in the Development Plan:

“to promote high density development in the inner city, prime urban centres, close to transport routes and within the Framework Development Areas while integrating the design of the new developments into the existing character of the present and historic urban and suburban landscapes and incorporating the highest standard of urban design and architecture.”

- 3.6.6 Policy 15.3.0 of the Development Plan goes onto state that:

“High densities will be promoted throughout the city area and in particular will be sought within a walking catchment of public transport infrastructure (approximately 500m from a QBC route and 800 m from a rail terminal); major centres of employment, prime

urban centres, neighbourhood centres and areas in need of regeneration.”

3.6.7 The Amended Planning Scheme provides for a high density of development on a site which is within walking distance of the DART line at Barrow Street. It an objective of the new Development Plan to provide a pedestrian bridge linking Forbes Street and North Wall Quay . In this context the subject site will be within walking distance of the Proposed Interconnector Route linking Heuston Station to Spencer Dock, through the extension of the LUAS line.

3.6.8 In the context of the public transport infrastructure in the vicinity of the subject site the higher density of development provided for by the Amended Planning Scheme is considered appropriate.

3.6.9 The Amended Planning Scheme includes the provision of a landmark tower up to 120 metres in height. In relation to the provision of landmark or high buildings within the city the Development Plan states:

“Dublin City Council also recognises the growth of Dublin as a significant world financial/commercial centre and it is Dublin City Council policy to allow for the development of high buildings in appropriate locations in order to promote investment, vitality and identity.”

3.6.10 In response to the need to facilitate the development of high buildings, the City Council commissioned a study to examine the issue. The study entitled “Managing Intensification and Change: A Strategy for Dublin Building Height” is discussed in more detail in Section 3.11.

3.7 DUBLIN DOCKLANDS AREA MASTER PLAN (2003)

3.7.1 The Master Plan for the Dublin Docklands Area 2003 follows on from the original plan published in 1997 in outlining a strategy for the social, economic and physical rejuvenation of the Dublin Docklands Area. In relation to the function of Planning Schemes within the DDDA area the Master Plan states:

“The provision of detailed area planning schemes prepared pursuant to Section 25 of the Act are important elements in the implementation of the broad strategy outlined in the Master Plan.”

3.7.2 The Master Plan acknowledges the need to control and direct landuse patterns in the docklands area to ensure a sustainable and mixed use city quarter. The following examines the proposed Amended Grand Canal Dock Planning Scheme in the context of the landuse objectives of the Masterplan.

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Residential

- 3.7.3 The Master Plan acknowledges the need to provide for additional residential development in the area to accommodate existing and new residents in the area. The ratio of residential to commercial development provided for in various options of the Amended Planning Scheme includes at least 40% residential development. Therefore the amendment is in line with the objectives of the masterplan to secure a significant amount of residential development in the area.
- 3.7.4 The objectives of the masterplan regarding Social and Affordable Housing are reflected in the Amended Planning Scheme.
- 3.7.5 Map 8 of the Masterplan defines the Grand Canal Dock Area as Residential in Mixed Use Areas. The landuse ratios of the Amended Planning Scheme provide for residential development in a mixed use development.
- 3.7.6 The standards and controls in respect of mix of unit size and the internal and external layout of the residential developments referred to in the Masterplan are incorporated in the Amended Planning Scheme.

Commercial/Office Development

- 3.7.7 The Masterplan acknowledges an issue with the over supply of office space in Dublin City and the Docklands Area and the requirement or capacity for additional office space in the Dockland's Area. The various options and flexibility provided for in the Amended Planning Scheme take reflect the changing demand in office and commercial floor space in the city.

Retail Development

- 3.7.8 It is the objective of the masterplan to secure the provision of adequate levels of suitable retailing. The Masterplan states that '*local neighbourhood retail uses should in general be encouraged at ground floor on main routes through the Docklands in order to secure vitality and security*'. All of the options provided for in the proposed amendment include a significant commercial element which will include local convenience stores, small specialist retailers and retail service providers at ground floor level.

Purpose Built Attractions

- 3.7.9 The Masterplan refers to the potential to create a number of destinations which would add to the range of urban entertainment in the city. The GCD Amended Planning Scheme will facilitate the

development of a landmark building to include a new state of the art studio. It is anticipated that a number of spin off or associated uses such as a multi media arts centre and a performing arts venue will develop in the vicinity of the square.

- 3.7.10 The plan outlines a number of general policies relevant to the proposed development site. The Amended Planning Scheme is generally accords with these policies and objectives particularly in terms of public transport provision, securing public access to the dockside and civic design.

Urban Design and Architecture

- 3.7.10 Chapter 6 of the Masterplan provides guidance regarding urban design, although it does not prescribe in detail the urban design approach for each area of Docklands. It sets out a number of guiding principles which are considered in the context of the proposed scheme.

Context

- 3.7.11 Map no. 15 shows that the Area falls within the South Quays distinct character area extending from the Matt Talbot Bridge to the Dodder. It is outlined in the plan that:

“Designers will be required to identify and recognise the essential elements of quality which determine the character of an area, and then reinforce, exploit or develop it in new developments. This could include the retention of a particular street pattern, the conservation of critical building elements, the exploitation of characteristic views, or the sensitive introduction of complementary uses.”

“In particular, the Authority would seek to conserve the essential elements of the existing street patterns and their existing building lines, the quay walls and Campshire areas”

Policy 6.1 3(ii) seeks a “...coherent architectural expression to both sides of the river in order that the Liffey corridor can be read as an entity”

- 3.7.12 The proposed planning scheme for this area considers the sites strategic location as a gateway to the city. The proposed landmark tower will reinforce and create a presence on this pivotal site. Original features such as cobbling etc will be retained as far as possible within the scheme.
- 3.7.13 Option two proposes to amend the street structure of the area. This amendment to the street pattern would be a significant change

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to the character of the area. Both Planning scheme options have irregular building lines/frontages to Sir John Rogerson's Quay and Green Street East.

Variety

- 3.7.14 It is stated in the plan that variety within development should be promoted. The proposed scheme promotes a diverse range of buildings and land uses within the planning scheme area.

Permeability

- 3.7.15 It is stated in the Plan:

“The linking of spaces, buildings and uses is the key to a pedestrian friendly environment. Main routes should be distinguished by exploiting vistas, key buildings and land marks and the activities and function of the places made visible, thus bringing a sense of liveliness to spaces”

- 3.7.16 Cognisance of this objective has been taken in the proposed amended planning scheme. All of the proposed development options for the site include a proposal to create a new diagonal street across the site thus producing a vista to the proposed land mark tower development. In general the orthogonal street pattern has been respected and retained. Key pedestrian routes such as the campshires will be retained. The land mark tower will be located at a prominent location within the development site either at or close to the quay edge.

Legibility

- 3.7.17 It is further outlined in the Masterplan that buildings should be proportionate in scale and height to the spaces they occupy and care should be taken in the design of frontages, corners, entrances etc

- 3.7.18 Development proposed within the planning scheme area will range from 1 to nine stories in height. Detailed consideration to the scale and massing of buildings has been given and they are considered appropriate considering the context and location of the site.

Movement Spaces

- 3.7.19 It is stated in the Masterplan

“The quality of the design of roads, pedestrian ways, public squares and open spaces is as critical importance as the design of the buildings that surround them. The treatment of surfaces,

landscaping, street furniture, signage, artwork etc., must be considered in an integrated manner and sensitively used as coherent linking elements”

- 3.7.20 Public open spaces, pedestrian routes etc, will be designed to a high quality within the planning scheme area. Full cognisance of this objective of the masterplan should be taken in any detailed development proposals within the area.

Scale and Height

- 3.7.21 It is stated in the plan:

“The Grand Canal Dock Planning Scheme identifies the Grand Canal Dock Station and the confluence of the Dodder and Liffey as being suitable for high landmark buildings”

- 3.7.22 The amended planning scheme provides for a landmark tower at this location.

- 3.7.23 Section 6.1 concludes with 23 policies regarding urban design and architecture in the Docklands area. Any development progressed under the amended Grand Canal Dock Planning Scheme must have full regard to these policies.

Dodder Bridge

- 3.7.24 It is an objective of the Master Plan to provide a public transport bridge and pedestrian only bridge across the gut of the Dodder.

3.8 GRAND CANAL DOCK PLANNING SCHEME

- 3.8.1 On the 8th of March, 2000 the Minister for the Environment and Local Government specified by Order, under powers conferred on him by Section 25(1) (A) of the Dublin Docklands Development Authority Act, 1997, designated the Grand Canal Dock Area as an area for which a Planning Scheme may be prepared. The Planning Scheme was approved by Order of the Minister on the 21st of December, 2000 and is largely based on the Grand Canal Dock Area Action Plan (1999).

- 3.8.2 The principle aim of the Grand Canal Planning Scheme is to provide a more detailed framework for the planning and development of the area within the context of the Dublin Docklands Area Master Plan, 1997. The Planning Scheme outlines:

- The nature and extent of proposed development;
- The proposed distribution and location of uses;

- Proposals relating to the overall design of the proposed development including maximum heights and external finishes of structures;
- Proposals relating to the development of amenities and the conservation of the architectural heritage or other features; and,
- Proposals relating to transportation, including the roads layout, the provision of parking places and traffic management.

3.8.3 Any development which is certified by the Authority to be consistent with the approved Planning Scheme is exempted development for the purposes of the Planning Code.

Amendments to the Development Control Standards of the Current Planning Scheme

3.8.4 The Planning Scheme sets out the overall strategy for the development of the area, which is based on the following set of principles:

- Connects the area into the wider area;
- Provides sufficient density and mix of uses to create a sustainable vibrant district, and integrates living, working and leisure;
- Creates a high quality urban environment;
- Responds to the waterside context to create a unique sense of place;
- Promotes the use of water bodies for visual and economic development;
- Establishes the block structure and urban grain that provides various scales of accommodation within a rigorous structure; and,
- Conserves protected structures and the historic character of the area.

3.8.5 The Proposed Amendment to the Planning Scheme is fully compliant with the strategic objectives or principles of the original Planning Scheme. The provisions of the existing Planning Scheme remain in force, unless expressly altered by the amending scheme. The following provides a brief analysis of the Development Control Standards of the original Planning Scheme, as applied to the area of the subject amending planning scheme.

Density and Extent of Development

3.8.6 The current Planning Scheme considers that it is desirable to achieve an average plot ratio indicative of the **Dublin City Council**

Development Plan standards. of 2.5 to 3.0:1 with “higher ratios being open for consideration adjoining major public transport termini (in the case of the Grand Canal Dock Station).” It is stated

“Plot ratios should fall within the indicative range outlined in the Dublin City Council Development Plan, 2005, and subject to the provision of Paragraph 15.4.0 of the Development Plan.”

3.8.7 Paragraph 15.4.0 of the Dublin City Plan states:

“Plot ratio as a tool to help control the bulk and mass of buildings. It expresses the amount of floor space in relation (proportionally) to the site area, and is determined as follows:

$$\text{Plot ratio} = \frac{\text{gross floor area of the building(s)}}{\text{site area}}$$

Plot ratio will apply to both new buildings and extension to existing buildings. Indicative standards of plot ratio for certain zones of the City are set out below.

<u>Zoning Objective</u>	<u>Indicative Plot Ratio</u>
Zone 4	2.0
Zone 10	2.0 – 2.5
Zone 5	2.5-3.0
Zone 8	1.5
Zone 14	2.5-3.0

In certain circumstances, higher plot ratios may be permitted:

- Adjoining major public transport termini and corridors, where an appropriated mix of residential and commercial uses is proposed.

- To facilitate comprehensive redevelopment in areas in need of urban renewal.

- To maintain existing streetscape profiles.

- Where a site already has the benefit of a higher plot ratio.

Plot ratios can determine the maximum building floorspace area or volume on a given site, but on their own cannot determine built form. The same area or volume can be distributed on a site in different ways to generate very different environments.

Consequently plot ratio standards need to be used in conjunction with other development control standards including:

- *Site coverage.*

- *Building height.*

- *Public and private open space.*

- *The standards applied to residential roads and parking provision.”*

3.8.8 The above statement regarding plot ratio has allowed for a little more flexibility regarding the quantum of commercial development that can be achieved in the Grand Canal Dock scheme area. This addendum document considers this change to the commercial floor areas proposed under Option 1 to 3. The resultant increase in commercial floor area (in the order of 10,000 sq. metres for each development option) is considered immaterial and to have no significant environmental impact.

3.8.9 In general, the Planning Scheme states that an overall density of 247 dwelling units per hectare should not be exceeded. Development in the amending planning scheme is subject to these provisions.

3.8.10 The overall density of 247 dwellings units per hectare will not be exceeded. The maximum number of residential units to be provided is 432 (Option 2) which equates to a residential density of 227 units per hectare.

3.8.11 The Planning Scheme also states that in order to create a busy, pleasant environment, new development should be mixed use and an overall land use mix of 40% residential and 60% commercial will be promoted throughout the area. Options 1 and Option 2 of the proposed amendment also propose landuse ratios of 60:40 and 70:30 respectfully. The revised ratios variations reflects Policy 4.10 (2) of the 2000 Planning Scheme.

Residential Development

3.8.12 According to the original Planning Scheme, in all residential proposals an appropriate mix of house types and sizes should be provided. The Planning Scheme establishes a rationale for the location of various housing typologies. Apartment accommodation should take advantage of the views over the Liffey. All roof gardens, balconies and communal courtyards should provide high quality space for the apartments.

3.8.13 The proposed amendment to the Planning Scheme will require that 25% of all units shall have 3 no bedrooms and a minimum floor space of 80 sq. metres. This will ensure that a greater amount of the residential units are occupied by families, in line with the

objectives of the Masterplan to provide a more diverse population profile.

Block Structure and Urban Grain

3.8.14 According to the original Planning Scheme, as a result of the layout of the docks and the areas historical use, a simple grid structure exists across the Grand Canal Docks area. New development in the area should reinforce this grid structure and where possible new streets and pedestrian routes are proposed to create a fine network of routes and decrease travel distances between destinations.

3.8.15 The proposed amendment to the Planning Scheme provides for alternatives to the rigid grid structure. The proposed Amended Scheme states:

“A variation to the orthogonal block pattern of the Planning Scheme is appropriate to the area under amendment to articulate the end of the peninsula and facilitate the intensification of activities at a new focal point and public realm.”

3.8.16 The alternatives assessed in the EIS is a block structure for the two land holding options based on the established perimeter block pattern. A new diagonal street will traverse the main site connecting the new square at Benson Street and the proposed new urban space and landmark building at the corner of Sir John Rogerson’s Quay and Britain Quay.

Landmark Buildings

3.8.17 The Planning Scheme has specific guidance regarding high landmark buildings. Sensitively designed landmarks enhance the urban quality of the area adding interest and points of reference which aid orientation.

3.8.18 The proposed development site is identified as a potential location for such a high landmark building in Diagram 11 of the Planning Scheme. The Planning Scheme stipulates that any high landmark building at this location shall not exceed 60 m in height above pavement level and a suitable slenderness ratio should also be adopted.

3.8.19 The amended Planning Scheme includes a landmark building with an approximate height of 120 metres and a slender ratio of not less than 4:1. The subsequent sections of the EIS assess the impact of this landmark tower on the adjoining environment. In planning policy terms, the intense development on this site through the provision of a high rise building can be justified by the strategic

location of the site in close proximity to the public transport network, the facilities and amenities of the city centre, and at the end of the river view which would allow it to serve a legibility function for the rest of the city.

Overall Design

- 3.8.20 The Planning Scheme also sets out a number of specific policies with regard to the overall architectural design that must be adhered to with regard to the design of any proposal submitted for Section 25 approval. These include entrances, corner elements, combined heat and power, materials and finishes, waste management and water, and water conservation. These policies will be amended to reflect the revised objectives for the subject site.

Transportation

- 3.8.21 The amended Planning Scheme includes a public transport bridge which will span the confluence of the Dodder and the Grand Canal Dock, springing from Britain Quay and landing at York Street in Ringsend. The Bridge will be designed solely for use by pedestrians, cyclists and public transport.

3.9 A PLATFORM FOR CHANGE – STRATEGY 2000 – 2016

- 3.9.1 This report outlines the Dublin Transportation Office Strategy for the Greater Dublin Area. 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.
- 3.9.2 The document outlines that it is proposed to construct and extend the Luas Line C (Abbey Street to Connolly Station) to Docklands. It is also proposed that a new east – west line will be constructed from Lucan via Ballyfermot, Dolphin's Barn and the South City Centre to Docklands via the proposed Macken Street Bridge.
- 3.9.3 It is proposed that there will be numerous interchange stations on the Metro, Dart/Suburban Rail, Luas and bus networks, particularly in the city centre. There will be bus feeders to rail based public transport. It will be possible to make almost all journeys on the public transport networks with just one interchange. It is proposed to locate such an interchange at Docklands.
- 3.9.4 The document also outlines the strategy for Dart/Suburban Rail. It is stated:

“The centre piece of the DART/Suburban Rail strategy is an underground interconnector linking Heuston Station with East Wall junction via Pearse Station and Docklands. This interconnector allows for through running from the Kildare line to the Maynooth and northern lines. It provides a by-pass to the east of the existing severe bottleneck approaching Connolly Station; it serves areas of high demand, especially the south east inner city and Docklands; and it allows for the maximum use of the Maynooth and Kildare lines. Both of these lines will be electrified and this will permit a major extension to the present DART system” (A Platform for Change p. 10).

- 3.9.5 It is proposed to construct the interconnector by 2016. The extension of the Luas into the Docklands area is scheduled for completion by 2006. A detailed assessment of traffic and transportation issues is provided in Section 5 of the EIS.

3.10 MANAGING INTENSIFICATION AND CHANGE – A STRATEGY FOR DUBLIN BUILDING HEIGHT

- 3.10.1 In September 2000, DEGW published guidelines reviewing the issue of building height in Dublin within the broader context of the city design and the development process. According to the authors:

“The study identifies character areas within Dublin City (Corporation area) and then maps areas according to their condition zones for change measured by both rate and scale, in order to define the potential for increased density and increase in building height. The arguments for and against high buildings are presented and the opportunities for intensification and building height explored, within this context. Dublin, it is argued, should aim to retain its character through a policy of incremental change, whilst allowing for large scale growth and innovation in building form at strategic locations” (Managing Intensification and Change: A Strategy for Dublin Building Height, Preface).

- 3.10.2 The study provides an analysis of the various areas of the city centre and their suitability for higher buildings. The site of the proposed amendment is located within Character Area A-Docklands Area. The area is referred to as ‘*industrial use and new regeneration area, harbour area and includes residential areas, which will be affected by any new development*’. The subject site is also located within *Zone for Change No 4: Areas of Diverse Character* which is described as ‘*potential new character areas within contextual constraints*’.
- 3.10.3 Section 5.4 of the study identifies potential locations for high buildings in Dublin. The site subject of the proposed amendment to

the Grand Canal Dock Planning Scheme is identified as a suitable location an individual high rise building because of its location at the termination point of long views along the river corridor.

3.10.4 In relation to suitable locations for the development of a cluster of high rise buildings the study is clear that *“further expansion of Dublin’s infrastructure to service new expansion sites towards the harbour, Poolbeg Peninsula, Grand Canal Dock and underdeveloped lands to the west of Hueston Station will create the potential for these locations to develop high rise cluster or core forms in the long term.”*

3.10.5 The site subject to the proposed amendment to the Grand Canal Dock Planning Scheme to include 120 metre high landmark tower is in line with the policy of the Managing Intensification and Change – A Strategy for Dublin Building Height.

3.11 GRAND CANAL CORRIDOR STUDY

3.11.1 The Grand Canal Corridor Study was prepared to set out the physical planning framework for the corridor, to bring together the existing environmental, commercial and social elements in an integrated manner.

3.11.2 The following objectives were defined for the Grand Canal Dock (GCD):

- The use of the GCD as the primary focus for redevelopment for the area that will combine economically viable land uses with the development of a socially balanced residential community;
- To retain the dual character of the GCD as the place where inland waterways craft meet sea going craft;
- To retain the diverse and attractive character of the area in the future and to exploit it for tourism;
- To exploit sensitively the resources of the area for tourism;
- To provide the maximum possible controlled public access to the water body;
- To rationalise and manage actively the water resource and surrounding lands;
- To seek high quality design and building standards that will respect and enhance the character of the area; and,
- To maximise the revenue generating potential of the area.

3.11.3 All of these objectives have been incorporated into the Grand Canal Dock Planning Scheme (2000) and have informed the amendment to the Planning Scheme. As discussed above, the proposed development of a high quality landmark building

incorporating residential use, commercial/retail uses at the lower levels will enhance and improve the area.

3.12 CONCLUSION

- 3.12.1 In conclusion it can be seen that the Amended Grand Canal Dock Planning Scheme will generally comply with national, strategic and local development policies for the area.
- 3.12.2 The City Development Plan has a number of policies relevant to the Grand Canal Dock Planning Scheme. It is a particular policy of Dublin City Council to encourage residential development close to strategic public transport corridors in the city centre. The proposed amendment accords with these and other relevant objectives in the Development Plan. The proposed uses also accord with the zoning objectives outlined in the Development Plan.
- 3.12.3 In 1997, the Dublin Docklands Development Authority prepared a detailed Masterplan for the Docklands area. This Masterplan has now been superseded by the Docklands Masterplan 2003. This outlines in general terms the Authority's objectives for the future development of the area. The Amended Grand Canal Dock Planning Scheme accords with the objectives and policies laid out in the Masterplan document.
- 3.12.4 The principle aim of the Grand Canal Dock Planning Scheme is to provide a more detailed framework for the planning and development of the Area within the context of the Dublin Docklands Area Master plan, 2003. The amendment to the previously approved Planning Scheme proposes to provide a number of changes to include an increase in the height of the landmark tower at Sir John Rogerson's Quay and Britain Quay and alternative urban block structures.
- 3.12.5 The Amendments to the original planning scheme are considered appropriate in the context of the planning permission for a 95 metre tower in the subject area, the suitability of the location for a landmark building and the need to provide for an intense form of development at certain locations.

4.0 HUMAN BEINGS

4.0 HUMAN BEINGS – SOCIO ECONOMIC

4.1 INTRODUCTION

4.1.1 One of the most important objectives of an environmental impact assessment is to establish the effect of a proposed development on human beings. Human beings are an integral part of our environment and therefore it is necessary to comprehensively assess the effects of the proposed development that will be borne by humans. This section of the EIS assesses the human environment of the subject site in terms of population profile and trends, labour force profile and community structure.

4.2 DESCRIPTION OF EXISTING ENVIRONMENT

4.2.1 The subject site is located within Dublin City Centre, in the South Dock Ward as defined by the Central Statistics Office (CSO). The site is also within the Dublin Docklands Development Authority area. The Dublin Docklands Development Authority regeneration and rejuvenation programme has brought new commercial and residential communities into what was traditionally an industrial area.

4.2.2 In order to assess the impact of the proposed development on human beings it is necessary to identify a study catchment area. The identification of a catchment area will facilitate the environmental impact assessment relating to human beings. The catchment area includes the electoral wards of North Dock B, North Dock C, Mansion House A, South Dock, Pembroke East A and Pembroke West A. These electoral wards correspond with the extent of the area of the Dublin Docklands Masterplan 2003. The following analysis of the receiving environment is divided into 5 sections which are Population, Age Profile, Household Size, Employment and Community.

Population

Table 4.1: Population of Dublin County and City 1996 - 2002

Area	1996 Population	2002 Population	Absolute Growth	% Change
Dublin County and City	1,058,264	1,122,821	64,557	6.1
Dublin City	481,854	495,781	13,927	2.9
Dublin City North	287,216	290,521	3,305	1.2
Dublin City South	194,638	205,260	10,622	5.5
Total	2,021,972	2,114,383	92,411	4.57

Source: Census of Population 2002

Table 4.2: Population of electoral divisions in catchment area 1996 - 2002

Electoral Ward	1996 Population	2002 Population	Absolute Growth	% Change
North Dock B	3,655	3,628	-27	-0.7
North Dock C	2,411	3,568	1,157	48
Mansion House A	3,139	4,269	1,130	36
South Dock	3,307	3,764	457	13.8
Pembroke West A	3,292	3,241	-51	-1.5
Pembroke East A	4,349	4,304	-45	-1
Total	20,153	22,774	2621	Average % Change = 13

Source: Census of Population 2002

- 4.2.3 The tables above highlight the change in population in the Dublin area, in the Catchment Area of the Dublin Docklands area and in the South Dock Electoral Ward. The Dublin County and City has experienced a moderate growth in population recently. The population in the County and City increased by 6.1% while the population increased by 2.9% in the City.
- 4.2.4 Within the Electoral Wards of the Dublin Docklands Area, three wards experienced a slight decline in population between 1996 and 2002. The populations of North Dock B, Pembroke West A and Pembroke

East A decreased by approximately 1% between 1996 and 2002. However, other wards experienced significant growth in their populations. North Dock C's population increased by 48%. Mansion House A's population increased by 36% and South Dock's population increased by 13.8%. The growth of the South Docks area was slightly above the average percentage change in population of the Catchment Area which was 13%.

- 4.2.5 The relatively higher growth rate of the Catchment Area in comparison to the Dublin County and City Area can most probably be explained by the significant growth in new apartment development in the area. e.g. IFSC, City Quay, Charlotte Quay, Westland Row and Pearse Street. The negative growth in population in areas such as North Dock B, Pembroke West A, Pembroke East A is most probably attributable to the lack of recent residential development within these areas.

Age Profile

Table 4.3: Age profile of Dublin County and City 2002

Area	0-14	15-24	25-44	45-64	65+	Total
Dublin County and City	19%	18%	33%	20%	10%	1,122,821
Dublin City	16%	18%	34%	19%	13%	495,781
Dublin City North	18%	18%	32%	20%	13%	290,521
Dublin City South	14%	18%	36%	18%	13%	205,260
Total	17%	18%	34%	20%	12%	2,114,383

Source: Census of Population 2002

Table 4.4: Age profile of electoral divisions in catchment area 2002

Area	0-14	15-24	25-44	45-64	65+	Total
North Dock B	17%	16%	36%	18%	14%	3,628
North Dock C	15%	28%	39%	14%	4%	3,568
Mansion House A	13%	31%	35%	14%	8%	4,269
South Dock	9%	23%	46%	12%	10%	3,764
Pembroke West A	11%	15%	39%	20%	15%	3,241
Pembroke East A	15%	19%	36%	19%	12%	4,304
Total	13%	22%	38%	16%	10%	22,744

Source: Census of Population 2002

- 4.2.6 The tables above illustrate the age profile of the Dublin area and the Electoral Divisions within the Study Area and the South Dock area. It is clear from the Tables shown that the percentage of population within the 25 – 44 age cohort in the Catchment Area is higher than the corresponding figure for Dublin County and City. The South Dock Area has a particularly high proportion of its population within this cohort and therefore the population structure of the area is skewed towards the middle ages. This reflects new household formation within the Catchment Area and within the South Dock Area especially.
- 4.2.7 The percentage of population within the working age cohorts (15 – 64) in Dublin City and County, the Catchment Area and the South Dock Area are generally comparable. 72% of the Dublin City and County area population are within these cohorts. 76% of the Catchment Area population are within these cohorts and 81% of the South Dock areas are within these cohorts. Therefore it can be stated that generally the South Dock area is a younger, more economically active population than the Dublin Region.

Household Size

Table 4.5: Average household size in Dublin Region 2002

Area	No. of Persons	No. of Private Households	Persons per Household
Dublin County and City	1,085,143	37,9372	2.86
Dublin City	468,889	180,852	2.59
Dublin City North	279882	101,706	2.75
Dublin City South	189,007	79,146	2.38
Total	2,022,921	741,076	2.73

Source: Census of Population 2002

Table 4.6 Average household size in catchment area 2002

Area	No. of Persons	No. of Private Households	Persons per Household
North Dock B	3,534	1,396	2.53
North Dock C	3,312	1,248	2.65
Mansion House A	3,315	1,457	2.27
South Dock	3,302	1,569	2.10
Pembroke West A	3,106	1,368	2.27
Pembroke East A	4,296	1,525	2.82
Average persons per h'hold	20,865	8,563	2.43

Source: Census of Population 2002

- 4.2.8 Generally speaking the size of households in the State has been decreasing since the 1971 Census. The average household size has fallen in Dublin City and County from 3.59 in 1981 to 2.86 in 2002. Within Dublin City the average household size has fallen from 3.34 in 1981 to 2.59 in 2002. The average household size in Dublin is generally smaller than in the state. The average household size in the South Dock area in 1996 was 2.4. Following the 2002 Census the average household size is 2.1, which is the lowest average household size in the catchment area.

Labour Force

Table 4.7: Labour force in Dublin area 2002

Area	Total Population aged over 15	Total in Labour force	Total Not In Labour Force	Unemployment Rate
Dublin County	907,629	555,306	352,323	8.5%
Dublin City	415,609	250,330	165,279	10.4%

Source: Census of Population 2002

Table 4.8: Labour force in catchment area 2002

Area	Total Population aged over 15	Total in Labour force	Total Not In Labour Force	Unemployment Rate
North Dock B	3,006	1,863	1,143	12.7%
North Dock C	3,048	2,057	991	16.3%
Mansion House A	3,733	2,007	1,726	10.7%
South Dock	3,433	2,304	1,129	6.4%
Pembroke West A	2,876	1,771	1,105	5.8%
Pembroke East A	3,655	2,276	1,379	12.2%
Total	19,751	12,278	7,473	Ave U. Rate = 10.7%

Source: Census of Population 2002

- 4.2.9 The tables above illustrate the number of persons at work and the levels of unemployment in the Dublin Area, the catchment area and the South Dock area. Table 4.7 illustrates how Inner City Dublin has a higher unemployment rate (10.4%) than Dublin County (8.5%). The average unemployment rate of the catchment area (10.7%) is comparable to the overall inner city unemployment rate (10.4%). The South Dock area and Pembroke West A have the lowest unemployment rates in the catchment area. The rates are 6.4% and 5.8% respectively.
- 4.2.10 The unemployment rate for the catchment area in 1996 was 12.6%. Following the 2002 Census the unemployment rate for the catchment area dropped to 10.7%. A possible explanation for this drop in the unemployment rate is due to the high level of economic growth

experienced over the last decade which has primarily centred on the Dublin Region. This would have impacted on the employment levels within the catchment area as it is within easy commuting distance of the major employment centres of Dublin City and the Dublin Docklands area.

Community Structures

- 4.2.11 The residential population of the Docklands as a whole has more than halved in the last century. This dramatic change has occurred, in the main, as a direct consequence of the significant change in the operation of docks and the development of 'containerisation' since World War II, dramatically reducing labour requirements in the industry. However, as Table 4.2 and 4.4 above illustrate there are now new embryonic communities forming alongside the older established residential communities.
- 4.2.12 There are established residential communities to the south and east of the subject site at Ringsend, Thorncastle Street, Townsend Street, Pearse Street and Macken Street. Many families have lived here for several generations. Support services and facilities serving these residential communities are well developed and they include 12 primary and 3 secondary schools, libraries, religious institutions, shops, public houses and personal and professional services. Furthermore, all communities within the area are in close proximity to the major retail, commercial, community and amenity facilities of the City Centre.
- 4.2.13 There are over 100 community groups located in the Docklands Area. These undertake a number of functions ranging from secondary level educational assistance, to support for the elderly and re-cycling enterprises. Within the Ringsend/Irishtown area a strong community network exists. The Ringsend and Irishtown Community Centre has been refurbished and extended with assistance from the Dublin Docklands Development Authority under its Community Development Project Initiative Programme.
- 4.2.14 There is a strong working community in the area also. There is a significant level of existing and proposed employment related activities in the area. The Docklands Masterplan 2003 proposes a proportionate mix of 60/40 residential and commercial activity for development within this area. There is employment related activities located in the vicinity of the subject site along the Liffey Quays, Pearse Street, Macken Street and Lombard Street. Furthermore, construction of mixed use schemes on various sites on Sir John Rogerson's Quay, Hanover

Quay, South Lotts Road and Barrow Street has commenced in recent years.

4.3 PROPOSED DEVELOPMENT

4.3.1 The subject site is included in the area of the Amended Planning Scheme includes Area 4, as described in the Grand Canal Dock Planning Scheme, 2000, and a large part of the water body surrounding it to the north and east (the confluence of the Liffey, the Dodder and the Grand Canal).

4.3.2 It is proposed to comprehensively redevelop the subject lands for mixed use commercial, office, retail and residential use. It is envisaged that the site will also accommodate a significant land mark tower up to 120 metres in height.

4.3.3 In relation to the quantum of development proposed, there are three different options.

Option 1

60:40 Residential: Commercial
370 residential units
51,700 sq. metres of commercial development

Option 2

70:30 Residential: Commercial
432 residential units
46,100 sq. metres of commercial development

Option 3

40:60 Residential: Commercial
247 residential units
62,770 sq. metres of commercial development

4.4 PREDICTED IMPACTS OF THE DEVELOPMENT

Employment Creation

4.4.1 A development on the scale of that proposed will generate a significant number of jobs. These are reviewed below:

Construction Phase

- 4.4.2 The construction phase of the development will last approximately 3-4 years. It is a substantial project and will generate numerous jobs in construction and related industries for the duration of the build. In addition there will be spin off benefits to local businesses and shops in the vicinity of the site.

Operational Phase

- 4.4.3 There are three different options regarding the quantum of development proposed on the site. The lowest quantum of commercial development proposed is 46,100 sq. m. and the highest quantum of commercial development proposed is 62,770 sq. m. Once operational and regardless of which option is developed the proposed development will create jobs in the commercial and retail element of the development once fully completed.
- 4.4.4 It is estimated that these jobs will be in areas such as cleaning, servicing, retailing, and professional services. There will be a number of local convenience, small specialist retail outlet, bars, restaurants and cafes at ground floor level. It is also envisaged that there will a number of small ground floor offices and enterprises such as estate agents, recruitment consultants etc. which will require well trained employees.

Local

- 4.4.5 The diversity of the development proposed will generate many different job types and different skill requirements. It is anticipated that many of the jobs created will be less demanding of professional skills and educational attainment.

Community Impacts

- 4.4.6 It is likely that the development will have a degree of impact upon the community in the vicinity of the development site. These are discussed below.

Construction Phase

- 4.4.7 It is anticipated that the construction of the development will generate a degree of disturbance in the vicinity of the site in terms of noise and dust etc. Where a potential impact is identified, it is considered elsewhere in the EIS. The travellers currently residing on Britain Quay

will be accommodated at an alternative location by the City Council in accordance with statutory requirements.

- 4.4.8 It must be emphasised that the impacts will be short term and that in the long run, the completed scheme will have long term beneficial impacts for both local residents and the wider community. The construction methods employed and the hours of construction proposed will be designed to minimise potential environmental impacts to the existing residential population.

Operational Phase

- 4.4.9 This EIS addresses potential impacts during the operational stage elsewhere in the document. Where any adverse impacts are identified, appropriate mitigation measures to reduce and ameliorate these impacts are suggested.
- 4.4.10 This proposal is a key element of the development of the Grand Canal Docklands Area. To date, the impacts of the development of the completed phases of Docklands on the local community have not been dramatic. Attempts have been made to pass on the benefits of the development of the Docklands to the local community in terms of employment opportunities, environmental improvement schemes, and community support etc. However, quantifying particular benefits, other than these is difficult due to the lack of a benchmark for comparison. In the longer term, it is likely that such a fundamental change in the physical structure and function of the Docklands Area will have a corresponding impact upon the community in the same area.
- 4.4.11 The move away from the primary and secondary sectors of industry at the national level, to the tertiary - service sector is no more physically manifested than in the Dublin Docklands. In many other countries where this transition has also occurred, local communities who relied upon old industries, have in many ways lost their 'raison de être' and have evolved to the challenges of the service economy with differing degrees of success. Successful examples of transition all benefit from a high degree of support from authorities conceived to manage the transition such as the DDDA. It is therefore imperative that the DDDA continues to support the resident community of the Authorities area during the next stages of development by the continued application of the 'Local Labour Initiative/Charter', which has successfully operated in the IFSC.

Property Values

- 4.4.12 The development of this currently redundant industrial site will have a beneficial impact upon the environmental quality of the area and help to rejuvenate an area in need of investment. This will improve the residential amenity of the area, making the area more desirable within which to reside. This will have a positive impact upon property values, which will increase in line with demand.

Residential Development

- 4.4.13 As outlined above there are three different options relating to the quantum of development proposed. Notwithstanding this, the proposed development will accommodate at least 247 new apartments in close proximity to a high quality public transport network. The development will bring life and vibrancy to this currently visually unattractive and rundown area. It is anticipated that the increase in population will support local services and facilities. The development will provide much needed residential accommodation in this rapidly developing urban area. Furthermore, there will be an improvement in the quality of the public space and amenities in the area which will enhance the residential environment.

4.5 MITIGATION MEASURES

- 4.5.1 It is not anticipated that the development will have any significant negative socio-economic impact on the environment, therefore, no mitigation measures are proposed.

4.6 MONITORING

- 4.6.1. Not Applicable.

5.0 TRAFFIC AND TRANSPORTATION

5.0 TRAFFIC AND TRANSPORTATION

5.1 INTRODUCTION

5.1.1 This chapter assesses the traffic and transportation issues associated with the proposed development at Sir John Rogerson's Quay, Grand Canal Docks, Dublin 2.

5.1.2 The purpose of this Chapter is to:

- Identify the existing environment in terms of traffic and transportation at the present time, in the opening year of the proposed development (2008), and for a future year design horizon some eight years after the opening year (2016).
- Quantify the likely development trip demand in the opening year and design year in terms of traffic movements, parking demands, pedestrian and cyclist movements and the additional demands on the likely available public transport infrastructure.
- Identify and quantify the likely impacts resulting from the operational state of the completed development in both the opening year and ten year horizon.
- Identify suitable measures to mitigate traffic and transportation impacts, if any, occurring in the opening year or within the ten year design horizon.

5.1.3 This section of the EIS has been prepared during the period February 2006 and all references and assumptions are based on information that is available at the time of writing.

5.2 EXISTING ENVIRONMENT

5.2.1 This section describes the surrounding area and existing road network conditions in the immediate environment of the proposed development.

Site and Environs

5.2.2 The site is located on Sir John Rogerson's Quay, Dublin 2. It fronts onto the River Liffey in the South Docklands area of Dublin, some 1.8km east of Dublin City Centre and is enclosed by Sir John Rogerson's Quay to the north, Britain Quay to the east, Green Street to the south and Benson Street to the west. A site location plan can be seen in Appendix 5.1.

5.2.3 As the proposed site is fronting onto the River Liffey and also faces onto the Grand Canal Docks to the east and south, road access to the site is east-west in direction, via Sir John Rogersons Quay to the north or Hanover Street to the south. These roads link to the city network at Macken Street and Cardiff Lane.

5.2.4 The proposed development is within the Grand Canal Dock Planning Scheme Area.

Existing Infrastructure

Road Network

5.2.5 The proposed development fronts onto Sir John Rogerson's Quay, an approximately 10.4 metre wide single carriageway urban street. The corresponding carriageway widths (two-way) on the other three boundaries of the site are as follows.

- Britain Quay 12.5 metres
- Green Street East 6.4 metres
- Benson Street 10.1 metres

Existing Traffic Conditions

5.2.6 Base year traffic turning volumes have been obtained for the junctions listed below:

- Sir John Rogerson's Quay/Cardiff Lane
- Misery Hill/Cardiff Lane

- Macken Street/Pearse Street

5.2.7 Traffic flows used in this chapter have been taken from the Draft 'Grand Canal Traffic Study' prepared by Nicholas O'Dwyer Ltd. in 2005. The Draft study has been supplied to Faber Maunsell by the DDDA, the purpose of which is to provide background existing and future traffic data, for use in this study. The Draft study contains traffic volumes for the AM and PM peak hours, which were found to be 08h00 – 09h00 and 17h00 - 18h00. Traffic flow diagrams have been collated from the Draft study for this assessment and are presented in Appendix 5.2 of this EIS.

5.2.8 In summary, it is noted that the existing two way flow on Macken Street North is approximately 1,650 vehicles/hour in the AM peak and 1,500 vehicles/hour in the PM peak. The two-way flow on Cardiff Lane is approximately 1,430 vehicles/hour in the AM peak and 1,400 vehicles/hour in the PM peak. The current traffic figures show an unusually high level of Heavy Goods Vehicle activity as a result of the large amount of construction work currently in progress in the study area.

5.2.9 The difference in the flows can be explained by the following factors: (i) traffic using Hanover Street East to avoid the congestion that occasionally occurs at the Cardiff Lane/Sir John Rogerson's Quay junction, and (ii) construction traffic entering/exiting the sites on Macken Street North from the Pearse Street junction.

Assessment of Base Year Traffic Volumes

5.2.10 Observations of the study area road network show that there are currently no operational problems in the immediate vicinity of the proposed development. This is largely due to the fact that the site is located at the end of a 'cul-de-sac' in the road network formed by the River Dodder and Grand Canal Dock. As a result of the low level of existing traffic, all junctions in the immediate vicinity of the subject site are controlled on a priority basis. The nearest signal controlled junction is at the Pearse Street/Macken Street junction approximately 0.9km from the subject site.

Pedestrians

5.2.11 Pedestrian facilities in the area of the proposed site comprise of a series of relatively narrow footways flanking the existing carriageways. Around the perimeter of the site, the widths of the footways on the various frontages are as follows:

Section 5/3

- Sir John Rogerson's Quay 2.1 metres
- Britain Quay 2.1 metres
- Green Street East 1.3 metres
- Benson Street 1.6 metres

In addition, the campshire areas along Sir John Rogerson's Quay and Britain Quay offer pedestrian facilities adjacent to the waterfront.

Cycle Provision

- 5.2.12 There are currently no dedicated cycle facilities in the area. However, the low through volumes of traffic on the surrounding streets result in reasonably good conditions for unsegregated cycle activity (cyclists and general traffic mixing) in the vicinity of the site.

Public Transport Services

Rail

- 5.2.13 The DART rail service stops at Grand Canal Station on Barrow Street, approximately 1km from the proposed development, and on Pearse Street, approximately 1.25km from the proposed development. The DART operates on routes serving the east of the City across both sides of Dublin Bay, and services extend from Greystones/Bray in County Wicklow to Malahide and Howth in North County Dublin.
- 5.2.14 During normal operating conditions there are 81 northbound and 78 southbound DART services stopping at Grand Canal Dock Station each weekday, 45 northbound and 55 southbound services on Saturday, and 46 northbound and 45 southbound services on Sunday.
- 5.2.15 In addition to the DART services, there are also Irish Rail Commuter services operating on weekdays between Maynooth and Dublin (Western Commuter), between Bray/Dun Laoghaire and Dublin (South Eastern Commuter), and between Dundalk/Drogheda (Northern Commuter).
- There are 6 northbound Commuter services stopping at Grand Canal Dock each weekday (1 of these is an evening commuter service to Maynooth, and the other 5 are services from Bray/Dun Laoghaire).

- There are 5 southbound Commuter services stopping at Grand Canal Dock each weekday (1 of these is a morning service from Maynooth, 1 is a morning service from Dundalk, 2 are morning services from Drogheda, and 1 is an evening service to Co. Wicklow and Gorey).
- 5.2.16 Additional Commuter services and normal daytime inter-urban services stop at Pearse Station, which is 2 minutes travel from Grand Canal by DART, and Connolly Station, which is 8 minutes from Grand Canal by DART. Pearse Station and Connolly are also within reasonable walking distance of the site, being approximately 13 minutes and 25 minutes walk from the site. Connolly Station is a mainline transport hub and has additional suburban services and interurban Enterprise services to Belfast.
- 5.2.17 Connolly Station and Store Street (Busaras) are currently the closest stations on the Luas Line A/C route (approximately 20-25 minutes walk). The Luas light rail service operates both on and off-street having opened in 2004. Luas Line A operates from Tallaght to Abbey Street (via the Red Cow Interchange and Heuston Station), and Line C is the extension from Abbey Street to Connolly Station. This Luas line has a high frequency service throughout the day. From the Luas at Connolly Station access to the Grand Canal area can be by DART/Commuter service, or on foot.
- 5.2.18 Luas Line B from Sandyford to St. Stephens Green (via Dundrum and Ranelagh) is also in operation, having opened in 2004. The Stephen's Green terminus is approximately 27 minutes walk from the site, although there are existing bus services that facilitate a connection between St Stephen's Green and Nassau Street/Pearse Street, where further bus routes connect to the area near the site.

Bus

- 5.2.19 Dublin Bus operates a number of routes in the area. The bus services within the vicinity of the subject site comprise:
- Within 500m
 - Pearse Street – Dublin Bus Route No.3 (City Centre – Sandymount – Belfield)
 - Pearse Street – Dublin Bus Route No.1 (City Centre – Poolbeg)
 - Within 750m
 - North Wall Quay-Dublin Bus Route No.53a (City Centre – Sandymount – Belfield)

5.2.20 These services run on bus lanes for all or part of their routes, including Pearse Street.

5.3 FUTURE YEAR ENVIRONMENT

5.3.1 This section describes the expected conditions in the surrounding area and road network for the future years assessed.

5.3.2 It is assumed that the development would be constructed during the period 2006-2008, and therefore the assessment has been based on an opening year of 2008 and a design horizon of 2016. The future year of 2016 ties in with a 'break point' in the Dublin Transportation Strategy Update: 2000-2016, developed by the Dublin Transportation Office (DTO), and also with the new Ten Year Transport Plan, published by the Government in November 2005.

Infrastructure Improvements

Road

5.3.3 A number of significant road infrastructure improvements are proposed/programmed for Dublin City Centre. The primary project that will have a bearing on site study area is the Guild Street-Macken Street Bridge. The construction of this bridge will provide a road link across the River Liffey between the South and North Quays adjacent to Spencer Dock, and will provide an orbital link connecting the north and south circular routes in the City. It is understood that the tender process for construction of the bridge occurred in 2005. At time of writing in early 2006 this bridge has not commenced construction and there is no confirmed programme for implementation, although it was originally included in the DTO Strategy for completion by 2003, and in the 2006 DTO Traffic Model. It is clearly likely that the bridge may not be in place before the development of the subject site has commenced. However, it is considered likely that it would be in place by 2008-2010, which could tie-in to the overall completion of development of the subject site.

5.3.4 The Dublin Port Tunnel (currently in construction) is expected to be completed in 2006. This road will connect Dublin Port on the north side of the Liffey to the M1 and M50 Dublin Orbital Motorway, and while it does not provide direct access into the study area road network, the effect of removing Port HGV traffic from the City Quays (further west) is likely to free up significant capacity at congested junctions along the City Quays. This is expected to improve the situation for westbound traffic on Pearse Street, which

frequently queues back from the Tara Street/Butt Bridge junction to the MacMahon Bridge at Grand Canal Quay during the weekday evening peak period. The Eastern Bypass route linking the N11 at Fosters Avenue to the Dublin Port Tunnel is the second, longer-term phase of this part of the road infrastructure strategy, removing significant traffic from the surface streets in the study area. The DTO Strategy had previously identified this element being completed by 2016, although the new Ten Year Transport Plan only refers to feasibility and planning work on this project and makes no commitments to delivery of the project. Therefore no account has been taken of it in the 2016 design year assessment.

5.3.5 It is also expected that in future years road pricing/congestion charging may effectively reduce the attractiveness of car commuter trips in central Dublin, in favour of non-car modes.

5.3.6 As previously identified, the area of Sir John Rogerson's Quay/Grand Canal to the east of Macken Street is effectively a cul-de-sac area, and although there is a proposal for a South Link Bridge connecting Britain Quay (at the north east corner of the subject site) to York Road/Thorncastle Street in the Ringsend area, this is intended to be available for public transport, cyclists and pedestrians only, and therefore there is no reason for significant volumes of through traffic in the immediate area of the site.

Rail

5.3.7 The current DART upgrading works (DASH Project) are expected to be completed in 2006, providing greater capacity and a better level of service on the coastal line, which serves Grand Canal and Pearse Stations, the two nearest railway stations to the site. Therefore for an opening year of 2008, it is expected that the subject site can enjoy an improved DART service in the Grand Canal Dock area. The new Spencer Dock Terminal Station will also allow the development of a new service to Navan over the next ten years.

5.3.8 In 2008 both Luas Line A/C and Line B will have been operational for approximately four years. The extension of Line C from Connolly Station to The Point on the north side of the River Liffey is programmed for completion by 2008 (as identified in the Ten Year Transport Plan), via the IFSC-Spencer Dock-North Lotts area. The same Plan identifies that the Connolly-Heuston Underground Rail Interconnector (for Suburban Rail/DART services) is expected to be completed by 2015. This connects the two mainline stations via

Spencer Dock, passing under the Liffey to Pearse Station and St Stephens Green.

- 5.3.9 Further Luas lines were included in the Ten Year Plan, including Lucan - Docklands (by 2013), which provides for a route from Spencer Dock (crossing the Macken Street Bridge) with an indicative route showing stops at Erne Street, Barrow Street, Harcourt Street, Rialto, and Ballyfermot, interconnecting with METRO, DART and Suburban services on the way. A link between the two existing city lines is also proposed, passing through the City Centre and connecting to Broadstone and Grangegorman, serving the new DIT campus.

Bus

- 5.3.10 As part of planned improvements to bus services in the Grand Canal/South Docklands area it is expected that there will be a frequent bus service provided within 400m (5 minutes walking time) of the development prior to the opening year of 2008. In addition the 2003 Masterplan seeks the expansion of radial and local bus services.
- 5.3.11 A significant sum is programmed to be expended in the next two years on extension and improvements to the existing Quality Bus Network, with most of the programmed improvements in the DTO Strategy to be completed by 2006-2007. As part of these measures, there will be also be significant additional cycle priority in the City Centre area.
- 5.3.12 As previously noted, the South Link Bridge is proposed to connect York Road/Thorncastle Street to Britain Quay where the Grand Canal and River Dodder meet the River Liffey. This bridge is part of a recent Section 25 Application to the DDDA and is proposed to carry buses, cyclists and pedestrians only. This will provide further opportunities to connect from the proposed future Luas stops at the Point Depot and Spencer Dock to the south side of the City Centre/Docklands area. The proposed South Link Bridge will reduce the distance from the site and the Dublin Bus service at Bridge Street to approximately 500 metres.
- 5.3.13 The Guild Street-Macken Street bridge is also proposed to have a bus lane in each direction, with additional bus services on the South Quays and in the Grand Canal area.

Pedestrians/Cyclists

- 5.3.14 There are a number of proposed bridge links across the Liffey. A pedestrian bridge opened in 2005 between Lombard Street (the continuation of Westland Row) on the south side of the Liffey to the IFSC/Custom House Quay in front of the former Stack A Warehouse (which is being redeveloped for cultural/entertainment and other leisure activities).
- 5.3.15 A further pedestrian bridge is proposed between Forbes Street and Spencer Dock, providing a link between the North Lotts area and the Grand Canal area. There are also pedestrian footpaths and cycle lanes included in the proposed Guild Street-Macken Street Bridge and the proposed South Link Bridge.
- 5.3.16 In addition pedestrian and cycle improvements to the Campshires and Grand Canal areas are continuing along with the development of these lands.
- 5.3.17 The Docklands Area is planned to have a comprehensive network of pedestrian and cycle facilities to realise the recommendations and objectives of Dublin City Council, the DDDA and the DTO Strategy.

Future Year Traffic Flows

- 5.3.18 The future year traffic flows mentioned in this chapter have been referenced from the Nicholas O'Dwyer Draft 'Grand Canal Traffic Study'. Traffic flow data from the study was obtained for the following junctions:
- Sir John Rogerson's Quay/Cardiff Lane
 - Misery Hill/Cardiff Lane
 - Macken Street/Pearse Street
- 5.3.19 The future years that have been assessed in this chapter are 2008 and 2016. The traffic flow diagrams for the 2008 and 2016 AM and PM peaks are included in Appendix 5.2 of this EIS.
- 5.3.20 The Draft Grand Canal Traffic Study provides traffic flow data for up to 2006 without the inclusion of the Macken Street Bridge and from 2006 with the bridge in place in the road network.

- 5.3.21 This assessment considers the likely development opening year of 2008 for expected traffic flows both with and without the bridge operational. These modelled flows include for the implementation of only the committed/confirmed transport infrastructure described earlier in this section, major new development (Grand Canal Dock) and the increases in general traffic through increased car ownership. Due to peak period congestion in the City Centre area, this assessment takes a conservative estimate of approximately 1.5% background traffic growth per annum from 2006-2008, applied against the 2006 pre-Macken Street Bridge flows from the Draft Grand Canal Traffic Study (i.e. 3% growth in total from 2006-2008).
- 5.3.22 In the longer term, while it is still possible the Eastern Bypass and additional high capacity public transport infrastructure could be in place by 2016 - reducing traffic on Pearse Street and Macken Street – this assessment takes a robust view and assumes that these measures are not operational in 2016. Therefore it has been assumed that without these proposed measures and based on the full development of the Grand Canal/North Lotts areas of the eastern Docklands there has been approximately 1.5% background traffic growth per annum from 2006-2016, (i.e. approximately 15% growth in total).
- 5.3.23 The EIS also considers the traffic impacts of the public transport bridge across the Dodder.

5.4 PROPOSED DEVELOPMENT

5.4.1 The proposed development consists of a mix of residential and commercial development. With regards to the split between commercial and residential uses, there are three options proposed, which are described below:

Option 1

60:40 Residential:Commercial

370 residential units and 51,700 m² of commercial development

Option 2

70:30 Residential:Commercial

432 residential units and 46,100 m² of commercial development

Option 3

40:60 Residential:Commercial

247 residential units and 62,770 m² of commercial development

5.4.2 There are four urban design approaches to the site. Drawings demonstrating the proposed options are appended to this study, Appendix 5.3. Each of the designs have been taken into account in the assessment of the traffic impact of the proposed development.

Parking

5.4.3 Parking requirements for the development have been referenced from the Dublin Docklands Development Authority (DDDA) standards. These standards take into account the following factors:

- The Grand Canal Planning Scheme parking requirements.
- The City Development Plan parking requirements.
- Site location within reasonable walking distance of almost 500 Dublin Bus services operating each day.
- The proximity to the commercial heart of the City Centre and surrounding development.
- The surrounding area and on-street parking regime.
- The type of development proposed.
- Typical uptake of residential car parking in similar developments in Central Dublin.

5.4.4 The parking requirements and the proposed parking provision for the development have been outlined for each of the development options in the tables below:

Option 1

Land Use	GFA SQ M	No. Units	% of area	Car parking requirement (DDDA)	Car Parking Provision (TBC)
Residential		370	60	370	370
Commercial	51,700		40	259	259
Total			100	629	629

Option 2

Land Use	GFA SQ M	No. Units	% of area	Car parking requirement (DDDA)	Car Parking Provision (TBC)
Residential		432	70	432	432
Commercial	46,100		30	231	231
Total			100	663	663

Option 3

Land Use	GFA SQ M	No. Units	% of area	Car parking requirement (DDDA)	Car Parking Provision (TBC)
Residential		247	40	247	247
Commercial	62,770		60	314	314
Total			100	561	561

Cycle Parking

5.4.5 Secure cycle parking should be provided within the site for long stay users (residents and commercial staff), and on-street provision should be made for short stay users (visitors, couriers, etc.).

5.4.6 The Grand Canal Dock Planning Scheme requires that cycle parking for new developments will be provided in accordance with Dublin City Development Plan (DCDP) Area 1 Standards.

5.4.7 The Area 1 Standards require the following:

- Commercial uses 1 per 150 sq m GFA
- Residential uses 1 per unit

5.4.8 The cycle parking requirements and provision can be seen for each of the three options in the tables below:

Option 1

Land Use	GFA SQ M	No. Units	% of area	Cycle parking requirement (DCDP)	Cycle Parking Provision (TBC)
Residential		370	60	370	370
Commercial	51,700		40	345	345
Total			100	715	715

Option 2

Land Use	GFA SQ M	No. Units	% of area	Cycle parking requirement (DCDP)	Cycle Parking Provision (TBC)
Residential		432	70	432	432
Commercial	46,100		30	307	307
Total			100	739	739

Option 3

Land Use	GFA SQ M	No. Units	% of area	Cycle parking requirement (DCDP)	Cycle Parking Provision (TBC)
Residential		247	40	247	247
Commercial	62,770		60	419	419
Total			100	665	665

Dodder Bridge

5.4.9 The proposed bridge would cater for bus, taxi, pedestrians and cyclists only. It would allow for public transport links between new development on the Poolbeg Peninsula and the City Centre. Access by private cars would be prohibited. In the longer term the bridge may be used by Luas, but this would be subject of a separate statutory process. As such, the proposed development will not have any significant impact on the operational capacity of the bridge.

5.5 TRAFFIC GENERATION AND DISTRIBUTION

Trip Rates

5.5.1 The traffic generated by the proposed development, when completed and occupied, has been considered in relation to the proposed parking allocation, the site location and the type of development proposed.

5.5.2 The trip rates used for the proposed development have been based on trip rates for similar schemes in the Docklands area, taking account of parking provision as set out in the Masterplan. These trip rates have been considered to be acceptable to the DDDA and Dublin City Council's Traffic Department in previous similar assessments.

5.5.3 The trip rates for the proposed development have been tabulated below:

Land Use	Trip Rates			
	AM in	AM out	PM in	PM out
Residential	0.05	0.17	0.15	0.08
Commercial	0.21	0.05	0.1	0.23

5.5.4 These trip rates have been applied to each of the proposed development options and the results have been tabulated below:

Option 1	Vehicle Trips (vph)						
Land Use	GFA SQ M	No. Units	% of area	AM in	AM out	PM in	PM out
Residential		370	60	19	63	56	30
Commercial	51,700		40	109	26	52	119
Total (vph)			100	127	89	107	126

Option 2	Vehicle Trips (vph)						
Land Use	GFA SQ M	No. Units	% of area	AM in	AM out	PM in	PM out
Residential		432	70	22	73	65	35
Commercial	46,100		30	97	23	46	106
Total (vph)			100	118	96	111	141

Option 3	GFA SQ M	No. Units	% of area	Vehicle Trips (vph)			
				AM in	AM out	PM in	PM out
Residential		247	40	12	42	37	20
Commercial	62,770		60	132	31	63	144
Total (vph)			100	144	73	100	164

5.5.5 Each of the options produces approximately the same amount of additional vehicle trips, with approximately 215 vehicles per hour two-way in the AM peak and approximately 230-260 vehicles per hour two-way in the PM peak. To identify the option that will have the optimum impact on the surrounding road network the daily trip generation has been calculated for each of the developments. The daily trip rate for the proposed development can be seen in the following table:

Land Use	Rates	
	Daily in	Daily Out
Residential	1.19	1.19
Commercial	0.75	0.75

5.5.6 These trip rates have been applied to each of the proposed development options and tabulated below:

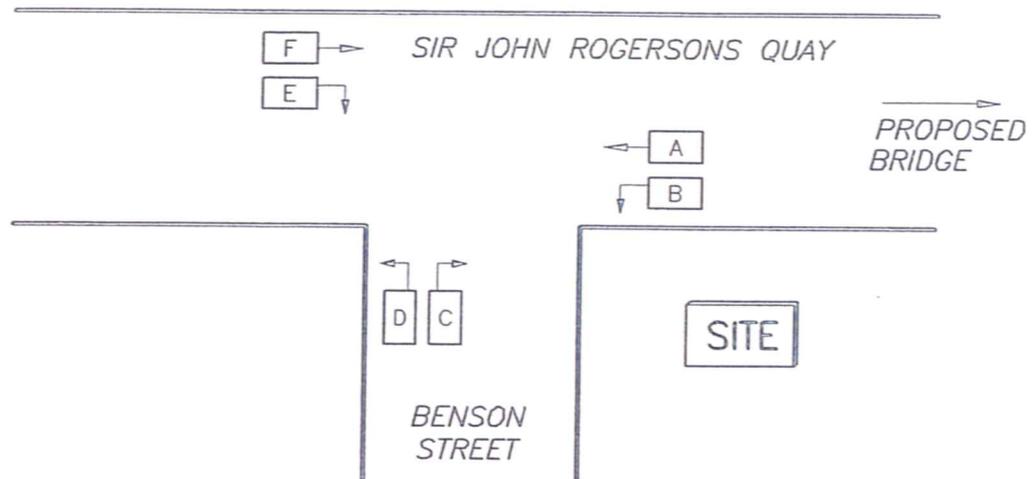
Land Use	Trips		
	Option 1 Daily in/out	Option 2 Daily in/out	Option 3 Daily in/out
Residential	440	514	294
Commercial	388	346	471
Total	828	860	765
Total (2-way)	1,656	1,720	1,529

It can be seen from the table above that in terms of daily trips, in and out of the proposed development, that Option 2 has the largest impact on the surrounding road network, although it has to be said that over the course of a day, the differences will not be clearly discernable in terms of impact on the roads.

5.5.7 The peak hour trip generation rates which would be principally through traffic is illustrated in table 5.9.2.1 (extract from EIS titled "Bridge Linking Britain Quay to York Road Serving Public Transport, Pedestrian and Cyclists", December 2003").



RIVER LIFFEY



TIME	A	B	C	D	E	F	TOTAL
07h00-08h00	0(1)	1(0)	0(2)	2(4)	15(2)	7(1)	25(10)
08h00-09h00	6(3)	0(0)	1(5)	7(2)	17(0)	10(2)	41(12)
09h00-10h00	3(3)	0(0)	2(0)	10(1)	20(2)	14(1)	49(7)
16h00-17h00	17(1)	1(1)	1(4)	12(2)	17(2)	16(2)	64(12)
17h00-18h00	10(0)	1(1)	0(2)	25(2)	6(2)	6(2)	48(9)
18h00-19h00	4(3)	2(1)	1(0)	9(2)	4(1)	7(0)	27(7)
TOTAL	40(11)	5(3)	5(13)	65(13)	79(9)	60(8)	254(57)

- NOTES: 1. Surveyed Thursday 7th October 1999
 2. Figures in brackets represent HGV not included in totals for cars.

TRAFFIC SURVEY - SHEET 1.

Fig. 5.9.2.1

Trip Distribution

- 5.5.8 The distribution of car trips entering and exiting the car park access has been based on the trip distribution of an adjacent zone to the development site.
- 5.5.9 The development generated traffic flows are presented in Appendix 5.2 indicating the turning movements at the Cardiff Lane/Sir John Rogerson's Quay junction and the Misery Hill/Macken Street junction.
- 5.5.10 The traffic associated with the Dodder Bridge is principally through traffic.

5.6 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

5.6.1 In view of the isolated nature of the site remote from existing residential development, the potential impact of the proposed development on traffic in the surrounding area during the construction phase is not expected to be significant.

5.6.2 The primary impact with respect to traffic will concern the interaction between delivery and construction vehicles, and pedestrians. Other areas of potential impact would include the following:

- On-street parking by construction workers.
- Temporary disruption to road services during the installation of underground services on streets around the site.
- Temporary road diversions during installation of underground services on the streets around the site.

5.6.3 The major traffic impacts associated with the construction stage are related to the removal of spoil, delivery of materials, site accommodation and construction parking/loading activities.

5.6.4 A detailed Construction Traffic Management Plan will have to be developed by the contractor will have to identify appropriate locations for marshalling of HGVs delivering materials, and ensure that banksmen are employed to prevent inappropriate parking on footpaths or across pedestrian routes in the vicinity of the site.

Operational Impacts

5.6.5 The operation of the development following completion and occupation will create a number of impacts in traffic and transportation terms.

5.6.6 These impacts are summarised as follows:

- Car movements entering and exiting the site and their impact on the surrounding road network.
- Increased pedestrian activity to the site.
- Increased cycle activity to the site.
- Increased demand for public transport services.

- 5.6.7 The three development options are basically the same in traffic terms in both peak hours, due to the constraint of limited commercial development parking in the DDDA/GCD Masterplan and the site's location, which results in low-end commuter trips during peak hours. Option 2 however has the highest parking requirement at 663 spaces, which results from Option 2 having the highest quantum of residential development within the site area.
- 5.6.8 Option 2 has been assessed for traffic impact because it has the highest daily traffic generation (as can be seen in section 5.4.1) and the AM peak hour has been assessed as it has the highest traffic volumes on the road network.

Junction Capacity Analysis

Car Park Access

- 5.6.9 The volume of traffic in the immediate environs of the site (i.e. Britain Quay, Green St East, Benson St) is going from a base of almost zero flow to approximately 200 to 250 vehicles per hour in the AM and PM peak hours. This volume will have no significant traffic impact.

Sir John Rogerson's Quay/Cardiff Lane

- 5.6.10 The junction of Sir John Rogerson's Quay and Cardiff Lane is currently a priority junction. The junction currently caters largely for two movements (Sir John Rogerson's Quay West to Cardiff Lane right turn, and Cardiff Lane to Sir John Rogerson's Quay West left turn). There is restricted visibility from the northern end of Cardiff Lane due to building lines and construction works. In addition, the tight turning radii outside the Ferryman causes larger vehicles to track across the centre of the road onto the eastbound side of Sir John Rogerson's Quay West when turning left. Due to the ongoing development of the area it is considered important for safety and capacity reasons and that the junction is signalised in the short term, even in advance of the completion of the proposed Macken Street Bridge. Therefore this assessment considers the junction as being signal controlled in 2008.
- 5.6.11 The signal controlled junction has been modelled using TRANSYT to assess its operational capacity in 2008 and 2016 during the AM and PM peak hours, including the effects of additional traffic generated by the proposed development.

Misery Hill/Cardiff Lane

5.6.12 The junction of Misery Hill and Cardiff Lane is currently a priority junction. In 2008, with a number of developments in the Grand Canal completed, it is considered necessary on safety and capacity grounds for the junction to be signalised, even in advance of the opening of the proposed Macken Street Bridge.

5.6.13 The signal controlled junction has been modelled using TRANSYT to assess its operational capacity in 2008 and 2016 during the AM and PM peak hours, including the effects of additional traffic generated by the proposed development.

Macken Street/Pearse Street

5.6.14 The junction of Macken Street and Pearse Street is currently a signalised junction.

5.6.15 The junction has been modelled using TRANSYT to assess its operational capacity in 2008 and 2016 during the AM and PM peak hours, including the effects of additional traffic generated by the proposed development.

Dodder Bridge

5.6.16 As the bridge will be reserved for public transport, pedestrians and cyclists, it will not have any significant impacts upon junctions or link capacity. It will also facilitate a better modal split in favour of public transport.

TRANSYT Results

5.6.17 The results of the TRANSYT analysis are summarised in the following tables. Capacity is measured in Degree of Saturation (%DoS) and maximum queue length (Vehicles). The maximum recommended DoS value is 90%, above this queuing becomes erratic and unpredictable.

Link	Movement	2008 AM No Dev		2008 PM No Dev	
		%DoS	Max Queue	% DoS	Max Queue
11	Sir JR Quay East Straight	4	0	4	1
12	Cardiff Lane North Left turn	42	6	47	10
13	Sir JR Quay West Right Turn	54	9	51	11
14	Sir JR Quay West Straight	32	4	32	6
21	Cardiff Lane South Straight	48	2	41	0
22	Cardiff Lane South Straight /Left	35	1	23	0
23	Misery Hill Right	5	1	7	1
24	Misery Hill Left	6	0	6	0
25	Macken Street North Straight/ Right	15	0	13	0
26	Macken Street North Straight	15	0	24	1
31	Macken Street North Straight/ Right	62	10	44	5
32	Macken Street North Straight/ Left	73	13	74	11
33	Pearse Street East Straight/ Right	60	13	46	9
34	Pearse Street East Straight/ Left	70	14	41	7
35	Macken Street South Straight/ Right	24	4	25	4
36	Macken Street South Straight/ Left	58	12	31	5
37	Pearse Street West Straight/ Right	33	6	38	7
38	Pearse Street West Straight/ Right	47	8	46	8

Link	Movement	2008 AM Post Dev		2008 PM Post Dev	
		%DoS	Max Queue	% DoS	Max Queue
11	Sir JR Quay East Straight	3	0	4	0
12	Sir JR Quay East Left	2	0	1	0
13	Cardiff Lane North Left turn	16	2	33	1
14	Sir JR Quay West Right Turn	49	5	37	3
15	Sir JR Quay West Straight	33	2	27	2
21	Cardiff Lane South Straight	48	3	41	6
22	Cardiff Lane South Straight /Left	35	2	23	2
23	Misery Hill Right	5	1	7	1
24	Misery Hill Left	9	0	9	0
25	Macken Street North Straight/ Right	17	1	22	1
26	Macken Street North Straight	15	1	18	1
31	Macken Street North Straight/ Right	68	9	39	1
32	Macken Street North Straight/ Left	72	14	69	4
33	Pearse Street East Straight/ Right	67	15	49	14
34	Pearse Street East Straight/ Left	77	15	25	11
35	Macken Street South Straight/ Right	25	4	27	8
36	Macken Street South Straight/ Left	54	11	44	4
37	Pearse Street West Straight/ Right	35	6	55	5
38	Pearse Street West Straight/ Right	52	9	55	9

Section 5/21

Link	Movement	2008 AM No Dev		2008 PM No Dev	
		%DoS	Max Queue	% DoS	Max Queue
11	Sir JR Quay East Straight	5	1	7	1
12	Cardiff Lane North Left turn	50	8	62	16
13	Sir JR Quay West Right Turn	56	4	66	16
14	Sir JR Quay West Straight	46	8	41	8
21	Cardiff Lane South Straight	56	6	42	1
22	Cardiff Lane South Left	36	1	28	0
23	Misery Hill Left	28	3	28	3
24	Macken Street North Right	15	1	19	1
25	Macken Street North Straight	27	1	45	7
31	Macken Street North Straight/ Right	67	11	56	5
32	Macken Street North Straight/ Left	78	14	73	10
33	Pearse Street East Straight/ Right	54	11	67	16
34	Pearse Street East Straight/ Left	79	17	11	2
35	Macken Street South Straight/ Right	25	4	28	5
36	Macken Street South Straight/ Left	63	14	35	6
37	Pearse Street West Straight/ Right	37	7	44	9
38	Pearse Street West Straight/ Right	39	6	32	5

Link	Movement	2008 AM Post Dev		2008 PM Post Dev	
		%DoS	Max Queue	% DoS	Max Queue
11	Sir JR Quay East Straight	8	1	13	2
12	Cardiff Lane North Left turn	57	10	71	16
13	Sir JR Quay West Right Turn	65	14	73	20
14	Sir JR Quay West Straight	58	6	29	5
21	Cardiff Lane South Straight	55	2	68	16
22	Cardiff Lane South Left	35	1	1	0
23	Misery Hill Left	40	5	43	5
24	Macken Street North Right	17	0	9	0
25	Macken Street North Straight	27	1	57	21
31	Macken Street North Straight/ Right	67	12	46	9
32	Macken Street North Straight/ Left	82	17	77	18
33	Pearse Street East Straight/ Right	54	11	76	18
34	Pearse Street East Straight/ Left	82	18	12	2
35	Macken Street South Straight/ Right	28	5	28	5
36	Macken Street South Straight/ Left	63	14	31	6
37	Pearse Street West Straight/ Right	37	7	49	9
38	Pearse Street West Straight/ Right	39	6	37	6

Link	Movement	2016 AM Post Dev		2016 PM Post Dev	
		%DoS	Max Queue	% DoS	Max Queue
11	Sir JR Quay East Straight	10	1	15	2
12	Cardiff Lane North Left turn	62	12	71	15
13	Sir JR Quay West Right Turn	58	12	70	18
14	Sir JR Quay West Straight	52	10	55	12
21	Cardiff Lane South Straight	72	13	58	15
22	Cardiff Lane South Left	34	1	24	0
23	Misery Hill Left	36	5	38	5
24	Macken Street North Right	19	1	29	7
25	Macken Street North Straight	31	1	44	15
31	Macken Street North Straight/ Right	76	14	65	8
32	Macken Street North Straight/ Left	86	20	80	15
33	Pearse Street East Straight/ Right	86	24	76	19
34	Pearse Street East Straight/ Left	67	13	17	3
35	Macken Street South Straight/ Right	45	9	33	6
36	Macken Street South Straight/ Left	68	16	37	7
37	Pearse Street West Straight/ Right	37	7	51	10
38	Pearse Street West Straight/ Right	40	6	38	6

- 5.6.16 The results of the analysis indicate that the junctions will operate within the recommended capacity levels in 2008 in both AM and PM peak hours, with or without the Macken Street Bridge in place and including development-generated traffic.
- 5.6.18 The results also indicate that in 2016 there will be some increase in queuing at the junctions. However, it is considered that the queuing will be of low order and for a short duration and is acceptable during network peak conditions in a City Centre location. All junctions continue to work within the recommended capacity levels and all queuing can be catered for within each junction.
- 5.6.19 Therefore it is not considered necessary or appropriate to undertake further modelling or design mitigating measures for the junction.

5.7 MITIGATION MEASURES

Construction Phase

5.7.1 A construction traffic management plan will have to be developed by the contractor prior to the commencement of work on site. Under the terms of the construction plan the contractor will be required to operate all vehicular movements to and from the site in a safe and clean manner.

5.7.2 In particular, the Contractor will be under the obligation to:

- Maintain the surrounding street surfaces free from spoil, debris or other material originating within the site.
- Ensure that the wheels of all vehicles leaving the site are clean prior to departing from the site.
- Maintain signage for any traffic management measures associated with the development.
- Ensure access to quayside at all times.
- Ensure access to surrounding properties at all times.
- Maintain safe routes for all vehicles and pedestrians during the installation of underground services on the surrounding roads and streets.

5.7.3 The contractor will also be required to ensure that cars and other vehicles used by persons engaged in the construction of the development are parked in a safe and legal manner that will not impact on surrounding occupiers.

Operational Phase

Junction Analysis

5.7.4 As described in section 5.6, the results of the junction analysis indicate that the junctions will operate within the recommended capacity levels in 2006 in both AM and PM peak hours, including development-generated traffic, and in 2016 it is considered that the queuing will be of low order and for a short duration that is considered acceptable during network peak conditions in a City Centre location.

5.7.5 Subsequent to the construction of the proposed development, and of the planned environmental improvement works on the

surrounding streets, all junctions adjacent to the subject site shall operate safely and below capacity.

Pedestrians

- 5.7.6 Re-ordering of the footpaths on the surrounding streets, where appropriate and mindful of the listed status of much of the streetscape in this vicinity, will provide a safer environment for pedestrians. This will also serve to restrict car parking on the streets surrounding the subject site to Britain Quay only.

Cyclists

- 5.7.7 The provision of adequate cyclist and pedestrian facilities will be provided in order to supply sufficient modal choice to patrons of the proposed development.

Marine Traffic

- 5.7.8 In the absence of a lifting span with adequate navigation clearance, the proposed bridge could restrict or possibly eliminate movements between the River Liffey and the Grand Canal Docks/Berth. In the absence of an alternative slipway on the eastern side of the Dodder, the launching of rowing boats could be restricted. Mitigation measures include an opening/swinging section on the bridge and a new slipway will be provided as part of any bridge proposal.

6.0 FLORA AND FAUNA

6.0 FLORA AND FAUNA

6.1 INTRODUCTION

Survey Timing

- 6.1.1 The flora and fauna survey was carried out in December 2004 and January 2005. It was not possible, within the timeframe of the assessment to determine all possible species present during all possible conditions of the site.

Flora

- 6.1.2 Summer is considered an optimal time to carry out a vegetation survey since many species are flowering at this time. During a winter survey it is possible to identify some of the flowering species present, based on the presence of seed heads and leaf material (young and old). It is also possible to assess the habitat type and determine whether further survey work will be necessary in the growing season.

Fauna

- 6.1.3 Aerial invertebrate fauna are particularly inactive in cool weather. However, tracks and scats of large mammals are likely to be present. Bat activity surveys cannot be carried out since these species are torpid in cool weather. Birds can be identified during a winter survey but summer migrants will be missed.

Assessment Objectives

- 6.1.4 The objective of the survey was to assess the significance of the flora and fauna on the site proposed for development at Grand Canal Dock, Dublin. It is proposed that this area will be developed for mixed use residential and commercial development. It is also proposed to construct a bridge that will link Britain Quay with South Bank Quay. Various legal instruments such as The Wildlife Acts (1976 and 2000) and the Flora Protection Order (1999) provide protection for species of National conservation importance. Proposed Natural Heritage Areas (pNHA) are conservation designated areas that protect species and habitats of regional and national importance. The EU Habitats Directive (1992) and the EU Birds Directive (1979) oblige member

states to protect species and habitats that are of importance on a Europe-wide scale.

- 6.1.5 Annex I and II of the Habitats Directive and Annex I of the Birds Directive list species and habitats that are of greatest conservation importance on an EU-wide scale and for which conservation areas must be designated. These designations are: Special Protection Areas (SPA) for Birds listed in Annex I of the Birds Directive; and Special Areas of Conservation (SAC) for Habitats listed in Annex I of the Habitats Directive and species listed in Annex II. Some of these habitats or species are prioritised for conservation measures (* Priority Species or Habitats). A number of other Annexes in both Directives list species that require strict protection but not necessarily conservation designated areas.

Assessment Methodology

- 6.1.7 Weather during the surveys was cool but clear. The site was walked systematically while noting plant species, habitat types and searching for signs of mammal activity. Signs of mammal activity include tracks and footprints, discarded prey items, scats and burrows or other resting places. Bird species were noted whenever sighted. Habitats within and bounding the site were assigned to categories and given codes according to the Heritage Council classification system (Fossitt 2000 – A Guide to Habitats in Ireland).
- 6.1.8 Synopses of nearby sites of conservation importance (National Parks and Wildlife, various dates) were consulted during the report writing stage along with relevant texts such as Dublin Naturalists' Field Club (1998) and Madden *et al* (1993).

6.2 DESCRIPTION OF EXISTING ENVIRONMENT

Flora & Vegetation

- 6.2.1 Recolonising bare ground (ED3) and stonewalls (BL1) are the main habitat types present on the site. Surrounding the site there are areas of built land (BL2) and the nearby Grand Canal (FW3) and River Liffey (FW2).
- 6.2.2 Table 6.1 (Appendix 6.1) lists the plant species found on the site. Exotic (non-native) species were only identified to species level if naturalised (i.e. regenerating naturally outside the area of original introduction). Figure 6.1 (Appendix 6.1) is a habitat map indicating the distribution of different habitat types on the site.

Recolonising Bare Ground (ED3)

- 6.2.3 This habitat category covers areas of land where bare or disturbed ground, gravel or artificial surfaces such as concrete or tarmac have been invaded by herbaceous plants. A variety of species are present on the site. These include scentless mayweed (*Tripleurospermum inodorum*), fat hen (*Chenopodium album*), broadleaved willowherb (*Epilobium montanum*), groundsel (*Senecio vulgaris*), shepherd's purse (*Capsella bursa-pastoris*), annual meadow grass (*Poa annua*), chickweed (*Stellaria media*) and knotgrass (*Polygonum aviculare*). A number of species present on the site are introduced plants that are typical of ruderal habitats in Dublin's city centre, for example, Canadian fleabane (*Conyza canadensis*), Oxford ragwort (*Senecio squalidus*), tree lupin (*Lupinus arboreus*) and annual dog's mercury (*Mercurialis annua*).
- 6.2.4 A number of grass species are present such as cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), Italian and perennial rye grass (*Lolium multiflorum* and *L. perenne*) and couch grass (*Elytrigia repens*). Two species that may be rare in a local context were found on the site, one – a melilot (*Melilotus* sp.) - could not be identified to species level due to seasonality. The rare plant, Canadian fleabane, is relatively abundant on the site. However, both melilot spp. and Canadian fleabane are non-native introduced species and are of low conservation importance. Occasional cushion mosses such as *Tortula muralis* occur.
- 6.2.5 Recolonising bare ground is indicated in solid brown in Figure 6.1 (Appendix 6.1). Plate 6.1 (Appendix 6.1) shows recolonising bare ground habitat on the site. Recolonising bare ground habitat is not listed for protection under Annex I of the EU Habitats Directive and is not rare or of conservation importance.

Stonewalls (BL1)

- 6.2.6 A retaining stonewall lines the site. There are few species present on the stone walls except butterfly bushes (*Buddleja davidii*) and wall barley (*Hordeum murinum*). Wall barley is an introduced species that is typically found on pavements and walls in Dublin.
- 6.2.7 Stone walls noted during the survey are indicated in red zig-zag in Figure 6.1 (Appendix 6.1). Stone walls are not listed in Annex I of the EU Habitats Directive.

Built Land (BL3)

- 6.2.8 This is an extensive habitat type surrounding the site and generally refers to the presence of warehouse or other buildings. Some of these are relatively old, stone-built structures and occasionally the stonewalls support some vascular plants such as ivy (*Hedera helix*) and ivy-leaved toadflax (*Cymbalaria muralis*). This is the main habitat category surrounding the site.
- 6.2.9 Built land is indicated in orange hatching in Figure 6.1 (Appendix 6.1). Built land is not listed in Annex I of the EU Habitats Directive.

River and Canal (FW2 and FW3)

- 6.2.10 The River Liffey is categorised as a lowland depositing river. The Grand Canal is categorised as habitat type FW3.
- 6.2.11 River and canal are indicated with blue cross-hatching in Figure 6.1 (Appendix 6.1). Neither habitat type are listed in Annex I of the EU Habitats Directive, although Grand Canal Dock is included in the Grand Canal proposed Natural Heritage Area. The Liffey pNHA (site code 128) extends between Leixlip Bridge and Palmerstown so it is well upstream of the site at the Docklands. Also, the Dodder is a pNHA (site code 991) but only between Firhouse Bridge and Oldbawn Bridge in south Co. Dublin. So both are well outside (and upstream) of any potential zone of influence of the site.

Fauna*Mammals*

- 6.2.12 There were no signs of large mammals, apart from feral cats. No signs of badger (*Meles meles*) activity or setts were found and this species is unlikely to be present.
- 6.2.13 Wild mammals protected under the Wildlife Acts and which may occur on the site include occasional foraging bats in summer. All Irish bat species are protected under the Wildlife Acts (1976 and 2000) and under Annex IV of the EU Habitats Directive. Some of the relatively common species of bat such as the pipistrelles (*Pipistrellus* sp.) and Leislers' bats (*Nyctalus leisleri*) have been recorded along the Grand Canal at Leeson Street, Baggot Street and elsewhere in the city centre, but no survey could be carried out for these species in winter since they hibernate in cool weather. There are no buildings or trees suitable for roosting bats on the site of the proposed development.

- 6.2.14 Foxes (*Vulpes vulpes*), brown rats (*Rattus norvegicus*), field mice (*Apodemus sylvaticus*) and house mice (*Mus (musculus) domesticus*) may occur but these species are not protected under conservation legislation. There was no evidence for the presence of a fox's earth (resting place) on the site.

Birds

- 6.2.15 A number of bird species were observed during field work. Table 6.2 (Appendix 6.1) shows a list of bird species recorded on the site of the proposed development. All of these, apart from meadow pipits, are common in Dublin's city centre, for example blue tits, jackdaws and magpies and several species of gull. Two meadow pipits were observed on the site in January – this record is somewhat unusual since this relatively common species is normally associated with rural areas, where it breeds in summer. However, meadow pipits have also been recorded from the Trinity College campus in winter (Madden *et al* 1993) so a record for a city centre location is not unprecedented. The presence of the species is not of conservation importance since it is only likely to occur on the site sporadically.
- 6.2.16 A number of species that were noted flying over the site are associated with nearby aquatic and marine habitats. These species are listed in Table 6.3 (Appendix 6.1) and include the Amber Listed cormorant, common gull and black-headed gull. Amber Listed species are of medium conservation concern (Newton *et al.* 1999). However, none of the species listed in Table 6.3 are typically found foraging or nesting in recolonising bare ground habitat.

Amphibians and Reptiles

- 6.2.17 No amphibians or reptiles are likely to occur on the site of the proposed development.

Overall Evaluation

Flora

- 6.2.18 There is no flora on the site which may be considered of conservation significance. The presence of some buddleja shrubs lining the site boundaries is of some importance in providing shelter for songbirds.

Fauna

- 6.2.19 No mammal species of conservation interest were recorded from the site during the December and January surveys. However, bats may forage over the site on occasion in summer. There are no areas suitable for roosting bats on the site.
- 6.2.20 No bird species of conservation concern were recorded during the December/January surveys although all song birds are protected under the Wildlife Acts (1976 and 2000). All of the species recorded are, however, widespread throughout Ireland and/or in Dublin's city centre.

Designations

- 6.2.21 The nearest conservation designated area in the vicinity of the proposed development is the Grand Canal, which is a proposed Natural Heritage Area (Site Code 2104). This pNHA designation does not border the site of the proposed development and the development is unlikely to impact it directly.

Dodder Bridge

- 6.2.22 A detailed flora and faunal survey was carried out in October 2003 to determine potential impacts of the development of the Dodder Bridge between Britain Quay and York Road. For full habitat and species lists see Environmental Impact Statement titled "*Bridge Linking Britain Quay to York Road Serving Public Transport, Pedestrian and Cyclists for Donloe Ewart*" prepared by Reid Associates, December 2003 (See Appendix 6.2). This floral and faunal assessment indicated that any impacts of the bridge development would be of low ecological significance provided certain measures were carried out during construction and operation. Examples of mitigation measures proposed include emplacing steel piles in such a way as to minimise siltation during construction, and providing silt traps and hydrocarbon interceptors to catch surface run-off during bridge operation.

6.3 PREDICTED IMPACTS OF THE DEVELOPMENT

Construction phase

- 6.3.1 The proposed development will result in:
- Conversion of recolonising bare ground to built ground.

- Reduction in potential nesting and foraging habitat for the various song bird species.
- Potential increased sediment run-off from the building site into the River Liffey.

Operational Phase

- Continued reduction of foraging and nesting habitats.
- Landscaping of some areas resulting in a slight increase in foraging and nesting habitats for common species of song bird.

6.4 MITIGATION MEASURES

Construction Phase

- 6.4.1 No untreated sediment run-off should be allowed enter directly into the Liffey or Grand Canal (all stages of construction work).

Operational Phase

- 6.4.2 Landscaping of the site should be carried out using native species which have been recorded from the locality since this would be of greater potential benefit to local wildlife. These species include, but are not limited to:

- Various willows e.g. Grey willow (*Salix cinerea*) and goat willow (*S. caprea*)
- Ash (*Fraxinus excelsior*)
- Alder (*Alnus glutinosa*)
- Hawthorn (*Crataegus monogyna*)
- Holly (*Ilex aquifolium*)
- Elder (*Sambucus nigra*)

7.0 CULTURAL HERITAGE (ARCHAEOLOGY)

7.0 CULTURAL HERITAGE - ARCHAEOLOGY

7.1 INTRODUCTION

7.1.1 This section assesses the archaeological and historical importance of the land under consideration for development. The main purpose of this section of the EIS is to assess the impact of the proposed development on the existing archaeological environment and to propose ameliorative measures to safeguard any monuments, features or finds of antiquity.

7.1.2 The assessment is based on an examination of published and unpublished sources, both documentary and cartographic, along with a field inspection. The site was visited in April 2005 and survey work undertaken.

7.1.3 Relevant sources consulted included:

- Sites and Monuments Record for Dublin.
- Cartographic evidence.
- Archaeological reports carried out for previous Environmental Impact Studies¹
- *Dublin Docklands Area Master Plan. Inventory of the Architectural and Industrial Archaeological Heritage.* School of Architecture U.C.D. 1996.
- Secondary sources.

7.2 PROPOSED DEVELOPMENT

7.2.1 The proposed development site is located at the extreme east end of Sir John Rogerson's Quay. It is bounded by Sir John Rogerson's Quay on the north side, by Britain Quay on the east side, and by Green St. East and by Benson St. on the west side.

¹ Environmental Impact Statement of Development Proposals contained in the Draft Planning Scheme for the Grand Canal Dock. Dublin Docklands Development Authority. June 2000

Environmental Impact Statement for Mixed Use Development at Sir John Rogerson's Quay, Dublin 2. February 2001.

Environmental Impact Statement for Bridge linking Britain Quay to York Road Serving Public Transport, Pedestrian and Cyclists. December 2003

- 7.2.2 The subject site will be comprehensively developed for mixed use residential and commercial schemes. A high landmark building will be erected on the north-east corner of the site. A bridge will be constructed that will link Britain Quay with South Bank Quay. The existing street layout may be retained or replaced depending on the final choice of design. In general underground parking will be provided.
- 7.2.3 The development will take place within the areas contained by the quay walls and the streets. Therefore it will be located within the areas of reclaimed ground. It is assumed that foundations will be piled and that there will be major excavation for underground parking.

7.3 DESCRIPTION OF EXISTING ENVIRONMENT

History of the Area

- 7.3.1 The history of the area has been described in detail in previous archaeological reports, referred to above in this report.
- 7.3.2 The area of the convergence of the rivers Liffey and Dodder was an area of tidal marches and slobbs prior to the construction of the quaysides.
- 7.3.3 In order to travel to Ringsend from Dublin, the Dodder had to be forded and it seems likely that the site of the present bridge over the Dodder was the site of the ford. The present bridge was built in 1802. There was probably an earlier bridge but its location is not known.
- 7.3.4 The Liffey was always inclined to silt up, hindering the movement of ships up river to the centre of the town. The mouth of the river spanned a much wider area so that for instance, all the land between Nassau St. and the present south quays were sloblands in the 17th century. Land was reclaimed, eastwards, through the 17th century. At the beginning of the 18th century construction of a wall along the southern edge of the river commenced. During the century, the wall was extended eastwards out into the Bay resulting in what is known today as the South Wall.
- 7.3.5 Sir John Rogerson was granted the land behind the wall which he proceeded to reclaim. Brookings Map of 1728, shows that the quay wall had been constructed; no houses were yet constructed and the land behind was still liable to flooding. Reclamation took place over the first half of the 18th century. Rocque's map of 1756 suggests that the land had been reclaimed by this time; it is named 'The South Lotts'. No houses are marked on the easternmost extension of the quay at this time and a small area of water is still marked

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behind the quay wall at the extreme east end suggesting that it still flooded periodically. A north-south wall demarcates the western side of mouth of the Dodder; the wall is marked as 'road to Ringsend' on Rocque. Brooking, Rocque and Thomas Larcom (1837) show a recess in the east-facing sea wall at Great Britain Quay, which may have been a quayside. This has disappeared by 1876 when the sea wall has been squared off.

7.3.6 Few structures are marked on the Sir John Rogerson's Quay front on Duncan's map of 1821 but one is marked on the very eastern end of the quay. This is also shown on Larcom's map of 1837. By 1876 structures are shown along most of the east end of the quay and there is still a small freestanding structure at the extreme east end. This may represent the small structure that still stands there today albeit derelict. This was marked as 'Ferry' on the 1905 and 1936 OS6" sheets (School of Architecture UCD p.621) and on a 1963 OS map. No structure was marked here on an OS map of 1860 but this may be because the scale is very small. A wedged shaped structure is marked on the maps of 1963 and the most recent map, situated between Britain Quay and the eastern sea wall.

7.3.7 The Grand Canal Docks were constructed on this reclaimed land. When first built, the Grand Canal terminated at Grand Canal Harbour off James' St. A spur line, known as the Circular Line, was built between 1790 and 1796 which connected canal traffic to the port of Dublin. The Grand Canal Docks were opened in 1796. They were never very successful due to the small size of the three locks and because there were always problems with silting at the mouth of the Dodder. In addition new docks were built on the north side of the river close to the Custom House (Cox and Gould 24). Construction of the Docks and of the locks altered the landscape of the recently reclaimed land here. Construction of the East Link bridge and the associated R131 road would also have changed the nature of the landscape here.

Existing Environment

7.3.8 Today the site is currently vacant; buildings that stood there have been demolished and the ground level has been reduced. Two arches or vaults were observed in the section face at the north-east corner of the site, running out under the quayside. The hailing station remains on the smaller portion of the site.



Plate 7.1: View of subject site from North Quays



Plate 7.2: View of interior of site looking towards North-East

7.3.9 The quayside is bounded on the north side by the River Liffey and on the east side by the body of water represented by the

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convergence of the River Dodder and the Liffey. Water from the Grand Canal Dock also issues into this body of water.

- 7.3.10 There is a mixture of restored warehouses, derelict sites and modern buildings on the Benson St. and Green St. East frontages. The derelict hailing station structure would be included in this development site. The quay walls on South Bank Quay and on Britain Quay are faced with large granite blocks. There are steps down to the water on the north-facing and west-facing quay walls on South Bank Quay. There are also steps on the corner of Sir John Rogersons Quay and Britain Quay. There is a slip on the north end of South Bank Quay.



Plate 7.3: Hailing Station – referred to as ‘Ferry’ structure in cartographic evidence



Plate 7:4: Junction of York Road and South Bank Quay, looking westwards to Britain Quay.

Site and Monuments Record

7.3.11 The river wall along Sir John Rogerson's Quay and its extension eastwards known as the South Wall are listed as:

- DU018-020201 ('Quay'),
- DU018-066 (York Road, Pigeon House Road, 'Sea Wall') and
- DU19-02901 (Pigeon House Road, Great South Wall, 'Sea Wall').

7.3.12 The latter two features are outside the scope of the development site.

Previous Investigations

7.3.13 Reference is made in the Environmental Impact Statement carried out in February 2001 (Mc Hugh Consultants) (5.9.3.1.4, p.157) to the examination of material from geotechnical boreholes and trial pits. No archaeologically significant material was recorded in the material

7.3.14 The river bed at the site of the proposed bridge link between Sir John Rogerson's Quay and York Road, Ringsend was archaeologically dived in 2003². A 70-metre wide strip was

² Underwater Archaeological Assessment: South Link Bridge, Grand Canal Basin, Ringsend, Co. Dublin. Carried out by Archaeological Diving Company Ltd.

examined, 35 wide metres on either side of the centre line of the bridge; the survey was concentrated in the central channel as this was where it was proposed to put a single bridge pier. The south-eastern sector of the survey site appeared not to have been dredged and a 3-metre deep build-up of modern rubbish in a silt matrix was exposed. The north-western sector has been continuously dredged to allow access to the Grand Canal Dock but there was still evidence for the dumping of modern rubbish here. Archaeological features were not observed during the survey and no artefacts were recovered. Dredging would have removed archaeological material on the river bed, had such survived. The diving survey report noted that it is possible that archaeological material may have survived in those portions of the river bed that have not been dredged. A metal-detection survey did not produce evidence for material, although it should be pointed out that the results of the latter survey might have been biased due to the amount of metal rubbish in the river bed.

- 7.3.15 In 2002, two test trenches were excavated on a site on Sir John Rogerson's Quay. The reclamation layers were exposed at 1.9 and 1.7 metres below the present ground level. The reclamation layers were 400-500mms deep and comprised clay with fragments of mortar and red brick (Bennett 2004, 155), confirming the historical 18th century date for the reclamation. Natural gravels lay underneath.
- 7.3.16 In 2000, a site in Ringsend fronting on to the Liffey/Dodder confluence and bounded on the east side by Thorncastle St. was test trenched. Evidence was exposed for 18th-20th century reclamation (Bennett 2002,118).

Wrecks

- 7.3.17 The Environmental Impact Statement, carried out in 2003 for the proposed bridge link between Sir John Rogerson's Quay and York Road, Ringsend, listed the known ship wrecks sites in the Liffey/Dodder estuary. They range in date from 1798 – 1908 (p.9) and obviously all relate to the channel of the Liffey, the mouth of the Dodder or to moorings at the quay walls.

Architectural and Industrial Heritage Survey

- 7.3.18 This survey was carried out in 1996 by the School of Architecture in UCD. Part 4 of the survey comprised a paper survey of OS maps relating specifically to industrial archaeological heritage; a list was compiled by Mary McMahan showing the different structures that existed in the docklands area and the various uses to which they were put.

- 7.3.19 Corn stores, lime kiln and chemical works are variously listed for the subject site.
- 7.3.20 The survey pointed out that the quayside was dominated in the 19th century by commercial buildings. Coal was landed on the quayside and was delivered by a narrow gauge railway to the nearby gas works. The eastern end of the quayside was re-built in 1869-1871 to allow foreign vessels discharge their cargoes (p.426). The hailing station, at the south end of Britain Quay, was dated by the Survey to 1820-1845 (p.42).

Dublin Docklands Master Plan 2003

- 7.3.21 The Dublin Docklands Master Plan 2003 refers to two Protected Structures within the Sir John Rogerson's Quay area. These are also listed in the current Dublin City Development Plan 2005 – 2011. One of these is the Hailing Station. The other protected structure is the walls, setts and bollards on the Sir John Rogerson's and Britain quaysides. There are also a number of other protected structures in the vicinity of the site. A more detailed discussion of protected structures in the vicinity of the site is contained in Section 8 of this EIS.



Plate 7.5: View westwards along Sir John Rogerson's Quay

7.4 PREDICTED IMPACTS OF THE DEVELOPMENT

- 7.4.1 As there are no recorded monuments within the limits of the proposed development site and as it is known to consist of reclaimed land dating to the early 18th century, it is unlikely that there will be a negative impact on archaeological material as a result of the development of the subject lands. The cartographic evidence suggests that there were no structures on Sir John Rogerson's Quay until the second half of the 18th century and no 18th century structures survive there to this day.
- 7.4.2 It is unlikely that there should be a negative impact on DU018-020201 'Quay' as a result of the construction of the residential and commercial buildings. However, care and attention should be taken during the construction phase of the project so that the quay walls and associated street furniture will not be damaged, particularly during construction of the bridge. It is not possible to gauge accurately the impact of the construction of the bridge on the walls of Sir John Rogersons Quay and South Bank Quay until more detailed engineering details have been made available. It is not known at this stage how many piers will be used in the construction of the bridge but it is clear that there will be an impact on the river bed during the construction of the bridge. If they are placed in a portion of the river bed that has not been dredged there is a possibility that surviving archaeological material may be disturbed.

7.5 MITIGATION MEASURES

- 7.5.1 It would be advisable to carry out archaeological monitoring during pile driving and during ground reduction in order to record any archaeological features or deposits that may be exposed during construction.
- 7.5.2 Archaeological monitoring of construction of the proposed bridge was recommended by the authors of the report on the Underwater Assessment. They also recommend the establishment of a finds retrieval process, in particular to examine the excavated material from the deeper excavations/un-dredged areas.

Caution

- 7.5.3 The possibility of the discovery of stray finds or archaeological remains during construction cannot be ruled out. It is important to point out, in the event of the discovery of archaeological remains or significant archaeological finds during **any** stage of the development, that the National Museum and the National Monuments Section, The Heritage Service, Dept. of Environment, Heritage and Local Government must be notified. In the event of such an occurrence, the developer may be asked to carry out a

limited archaeological excavation under the supervision of a qualified archaeologist.

7.6 REFERENCES

Bennett, I. 2002. *Excavations 2000*

Bennett, I. 2004. *Excavations 2002*

Cox, R.C & Gould, M.H. 1998. *Civil Engineering Heritage Ireland*.

School of Architecture, U.C.D. 1996. *Dublin Docklands Area Master Plan: Inventory of the Architectural and Industrial Archaeological Heritage*.

St John Joyce, W. 1977 *The Neighbourhood of Dublin*

8.0 CULTURAL HERITAGE (ARCHITECTURAL HERITAGE)
