<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Introduction</td>
<td>3</td>
</tr>
<tr>
<td>2.0 Maritime Heritage</td>
<td>7</td>
</tr>
<tr>
<td>3.0 Constraints</td>
<td>9</td>
</tr>
<tr>
<td>4.0 Strategic Opportunities and Concepts</td>
<td>11</td>
</tr>
<tr>
<td>5.0 Urban Design Strategy</td>
<td>13</td>
</tr>
</tbody>
</table>
1.1 The Brief
This report has been prepared to outline a sustainable urban development framework for the Titanic Quarter of Belfast City which responds to the character of the quarter and its relationship to the urban area of Belfast City. The framework is set within the policy context of current planning initiatives at strategic, regional and city scales.

The key elements of the study should address:

- Maritime Heritage
- The role of the Titanic Quarter as a key employment zone
- Location, extent, scale and massing of development
- Civic spaces and linkages between them
- Treatment of the waterfront area
- Transport linkages
- Structural landscape
- The appropriateness of high buildings

The brief requires that a significant area of the study area should be developed for employment uses. The schedule of uses in the brief includes for the following:

- Science Park (permission granted and under construction)
- Light/General Industrial (part of which is approved)
- Residential (maximum of 3,000 units)
- Museum/Heritage uses
- Recreation/Leisure
- Local retail/convenience to serve local needs
- Office development in a single building not exceeding 5000 m²
1.2 Background

Context
Located to the east of Belfast City Centre, the Titanic Quarter occupies over 200 acres of land on former Harland and Wolff Shipyard lands on Queens Island. The area is bounded to the west by the Victoria Channel, to the east by the Musgrave Channel and is bounded to the south by Sydenham Bypass. The former Harland and Wolff Shipyard defines the south eastern edge of the Quarter. The Goliath Cranes of the former shipyard form major landmarks in the urban landscape, and are visible from much of the city centre.

The predominant land uses in the area are industrial and port related, with limited amounts of commercial and recreation. There is a metal processing plant on the north eastern edge of the peninsula. The Odyssey Centre is a major leisure attraction, occupying a key location along the waterfront edge.

The area is strategically located to exploit local, national and international movement connections. To the south, Sydendham Bypass and Newfowrds Road form key arterial routes connecting the suburbs with the city centre. Queen Elizabeth Bridge and Queens Bridge connect into the city core. The Ferry terminals connecting Belfast to Scotland are located to the west in the York Dock/Spenser Dock area. Belfast City Airport is situated less than 3km to the north east. Although there are two rail stations in close proximity, at Bridge End and Central Station, access to these facilities is constrained by the severance effect of road infrastructure. There is a proposal to develop a light rail system in the city centre which will connect key transport destinations, and run through the Titanic Quarter area.

- Regional Development Framework for Northern Ireland

The regional development framework for Northern Ireland identifies the Titanic Quarter as a major employment development opportunity in the Belfast Metropolitan Area. In this context, there should be a general preference for employment generating uses in the land use mix for the study area.

- Review of Turley Associates Development Framework

Robert Turley and Associates prepared a ‘Draft Development Principles and Development Framework’ Document for Titanic Quarter Ltd. and Belfast Harbour Commissioners in Autumn 2002. The purpose of this document was to establish long term guiding principles to establish a framework for ongoing mixed use development of a new city centre quarter over a 15-20 year period. The Draft Document was reviewed by Urban Initiatives on behalf of the Planning Service, DDEN. This appraisal addressed the coherence of the Draft Development Framework as a masterplanning document and the validity of its conclusions. The review concluded that although the Draft Framework considered some of the site development opportunities, a more comprehensive urban design strategy was required which responds more fully to the site context and aims to link the quarter into the existing city core.
Study Objectives
On the basis of the review of previous studies for the Development Lands and the brief from Planning Service, a clear set of objectives have been set for this study. In this context, the proposed Development Framework should:

- Integrate the heritage features of the site, particularly the historic slipways as generators of the site structure and character
- Define the Titanic Quarter edge as a key element of the east of the city with a clear identity based on its heritage, strategic location and character, including new elements of character such as the Odyssey Centre
- Provide a responsive and adaptable structure which will allow for a variety of employment uses, and changes to the nature and scale of these uses over time
- Promote urban development based on a legible structure of streets, blocks and plots
- Exploit key linkages to the city centre and transport network, existing and proposed, particularly in terms of pedestrian movement, cycling and public transport
- Explore options to reduce car based development in the Quarter
- Define a high quality public realm with a hierarchy of street types
- Utilise existing infrastructure, and explore the opportunities for the enhancement of key routes, particularly Syndenham Road
- Address the severance effect of existing road transport infrastructure, particularly in terms of accessing public transport facilities

1.3 Vision
The overriding aim of this document is to set out a robust, flexible and deliverable framework for the development of an extensive area of brownfield land on the edge of Belfast city which can support a new sustainable community with its own distinctive sense of place. The vision guiding this framework is for a mixed-use development designed to the highest architectural and engineering standards and integrated with efficient public transport facilities and surrounding communities.

To achieve these aims, the study has been developed according to recognised urban design qualities, embodied in the DETR Publication ‘By Design’:

- Character and identity:
  Development should enhance the distinctive character and identity of the area including its historical associations and legacy of shipbuilding heritage.
- Continuity and enclosure of public and private spaces:
  Buildings should define a continuous edge to streets and public space and provide a clear definition between public and private spaces.
- High quality public realm:
  Public spaces should be invested with high quality street furniture, lighting, signage and materials. Public spaces should be safe, accessible and easy to maintain. Public spaces should be overlooked by buildings to provide passive surveillance.
- Ease of movement:
  There should be a choice of routes forming a network and providing accessible connections regardless of disabilities.
- Ease of understanding (legibility):
  Development should form a clear hierarchy of routes. Primary routes should be recognisable by width and height of buildings, landmark buildings should signal key intersections and points of entry.
- Adaptability:
  A fine grain of development plots will facilitate incremental change, buildings should be designed with higher floor to ceiling dimensions on ground floors allowing a variety of appropriate uses and construction systems should allow future adaptions.
- Diversity:
  Development should provide for a variety of uses, unit sizes and types of tenure, as well as a variety of architectural and landscape design and detailing.
- Integration and efficiency:
  Density and land use should relate closely to proximity to public transport access. Movement patterns should facilitate access to public transport and surrounding areas and promote walking and cycling. Building design should promote energy efficient construction and recycling.
Section 2.0
Maritime Heritage

The Titanic Quarter contains several buildings and sites of national and international importance that symbolise the area's rich shipbuilding heritage, including the Thompson Graving Dock, slipways and buildings associated with the construction of numerous ships including the ill-fated Titanic.

This maritime heritage is a key element of the character of the area and must be integrated into future development proposals.

Key Elements
The Thompson and Alexandra Graving Docks are designated Scheduled Monuments and together with the listed Thompson Pumphouse, the Titanic and Olympic slipways, Hamilton Graving Dock and the former headquarters of Harland and Wolff shipbuilders define the Titanic Quarter. Other important maritime features include the Samson and Goliath Cranes that dominate the City's skyline, forming imposing landmarks that are visible across the city. The Goliath and Samson cranes constructed in 1969 and 1974 respectively are each capable of lifting up to 840 tonnes. The cranes have recently been designated scheduled monuments.

The Titanic quarter is located on Queens Island, a peninsular of reclaimed land formed in the nineteenth century when a channel was dug to bypass the shallow winding curves of the River Lagan to the north east of the city centre at the mouth of the river. The reclaimed land was named Queens Island and the channel was named the Victoria channel in honour of Queen Victoria's visit in 1849. Founded in 1862 Harland and Wolff shipyard continues to operate from modern facilities on Queens Island, the companies former headquarters are now listed buildings. These buildings together
with those at the Abercorn Basin and Hamilton Graving Dock which is also a Scheduled Monument may provide a focal point for regeneration of the Titanic Quarter.

The Thompson Graving Dock was built from 1902 and completed in time for the launch of the Olympic class of ships which included the illustrious Titanic and her sister ships, the Olympic and Gigantic (later Britannia). At 900ft long and 371ft deep the Thompson Graving Dock is 80ft longer than the adjacent Alexandra Dock and was the largest dry dock of its time.

The Thompson Dock Pumphouse is a listed building which contained the enormous steam powered pumps that emptied and filled the dry dock with almost 23 million gallons of water. Very little remains of the Titanic and Olympic slipways and Arrol Gantry which served as a cradle for the Olympic class ships. The slipways and gantry were filled and demolished during the 1970s, although a number of derricks of the types employed to handle construction materials still exist.

**Heritage Objectives in this study**

A key objective for this study is to generate an integrated development framework for the Titanic Quarter based on the areas existing maritime heritage. The existing scheduled monuments and listed buildings will be integrated into the proposed urban design and provide the key drivers for the layout of the urban structure, the arrangement and hierarchy of open spaces and the configuration of the urban grain i.e. streets blocks and plots, as outlined in Section 5 of this document.
The study area has a number of constraints that will influence the new layout of the area. The Turley Study identified a number of the key issues. However, some subsequent planning decisions and construction works present some additional matters for consideration. The key constraints in the area are summarised as follows:

### Existing and Proposed Development

Very little of the existing building stock is regarded as worthy of conservation. The Odyssey Centre is a new landmark in the area and the former Harland and Wolff Headquarters is a listed building. The Northern Ireland Science Park, located around the Thompson Dry Dock is under construction.

### Physical Constraints

There are a number of features of Industrial Heritage on the Development Lands including:

- Graving Docks, pendanthouse and maritime heritage elements in the vicinity of Thompson Dry Dock
- Harland and Wolff former HQ
- Titanic and Olympic Slipways
- Alexandra Graving Dock
- Hamilton Graving Dock

The Goliath Cranes in Harland and Wolff are key city landmarks.

The Turley Study contains a review of the existing condition of the Dock edges on the western side of the Titanic Quarter. Although there are some dock walls, much of the edge is characterised by revetment, rock armour and rubble fill. The quality of this edge varies.

Syndenham Road, Queens Road, Hamilton Road and Musgrave Channel Road form an adaptable, existing development structure.

Although there are no public open spaces in the Titanic Quarter, there are some significant amenity areas in close proximity at Victoria Park, and to the rear of the former IFI Richardson’s to the north west. These areas are valuable ecological areas and carry ASSI/SPA/RAMSAR status.

### Policy Constraints

- **COMAH Regulations**

  The COMAH Regulations implement the Seveso II Directive. The aim of the Regulations is to take all measures necessary to prevent major accidents and limit their consequences to people and the environment. In this context, the Health and Safety Executive has set a consultation distance (CD) around major hazard sites after assessing the risks and likely effects of major accidents at the installation. The CD is expressed in terms of zones: Inner (IZ), Middle (MZ) and Outer (OZ). A range of acceptable forms of development and land use are specified for each zone.

  The Turley Study identified two COMAH CD areas impacting on the Titanic Quarter: The IFI COMAH Zone and the Calor Gas COMAH Zone. Following consultation with the Health and Safety Executive of Northern Ireland, only the Calor Gas zone now applies. Within this area, all three CD zones impact on the Titanic Quarter. The HSE guidance suggests that some development is possible in these areas although there are greater restrictions on development in the Inner Zone. Typically, low density development, including residential is proposed.
Belfast City Airport Safeguarding Zone

The Civil Aviation Authority are currently reviewing the safeguarding zones in the vicinity of Belfast City Airport. In developing detailed proposals for the Titanic Quarter, the civil aviation will need to be consulted in detail.

Environmental Constraints

It is likely that there are areas of contamination on the site arising from the port and industrial land uses characteristic of the area.

Movement Issues

The City Airport Rapid Transit Scheme or CITI Route proposes a rapid transit connection between the City core and the airport. Current proposals indicate an alignment which serves both the Odyssey Centre and the Titanic Quarter.

BMAP are developing a number of important transport proposals for the Titanic Quarter area, including the following:

- City Airport Rapid Transit Scheme (CITI) which will connect the airport and City Centre. This scheme will serve the Odyssey Centre and Titanic Quarter
- Retention of a direct access between the M3 and Sydenham Road in the vicinity of Queens Quay
- Closure of Dee street junction with Sydenham By-pass and development of a new link near the Oval/Connswater River
- Removal of Dee Street bridge and development of a new link between Sydenham By-pass and Holywood Arches

Urban Capacity Constraints

The scale and character of the Titanic Quarter, combined with its strategic city edge location and access to public transport suggest that there is significant capacity for high quality, high density residential development on these lands. However, The Regional Development Framework for Northern Ireland sets guidance on residential capacity in the BMAP area. Current analysis by Planning Service suggests that Belfast is reaching these figures.

BMAP have carried out an appropriate assessment of the contributions that the Titanic Quarter could make to housing provision which is 3000 units. Analysis also indicates that employment uses should occupy in the order of 2/3 of the study area, and that retail and commercial uses should be contained to reduce potential conflicts and competition with the city centre.

Other Issues

There are a number of as yet unknown factors that will be of critical importance to the delivery of the Titanic Quarter including:

- The future of the Metal Processing Industry at the headland of the Titanic Quarter peninsula. Continued deliveries via Queens Road to the tip will be in conflict with proposed development and the existing use is bound to have a negative impact on adjacent land values
- The phasing and availability of sites currently in use as part of the Harland and Wolff shipyard including the proposed industrial area service road
- The future of the Harland and Wolff shipyard generally
- Infrastructure capacity and location

These elements will require more study.

Below: The Goliath cranes are well known landmarks in the city
At strategic level, there are a number of opportunities emerging which should inform the urban development of the Titanic Quarter. In particular, the guidance of the Urban Design study of the BMAP Plan sets clear principles for the orderly development of Belfast city as a whole. In terms of the Titanic Quarter, the specific opportunities arise out of the following:

- Potential eastward expansion of the city core based around transport nodes at Central Station and Bridge End Station
- The potential expansion of the City Centre Ring or boulevard as a means of defining the edge of the city centre
- The strengthening of the identity of the Titanic Quarter as a key element of the character of the city

The key elements of guidance relating to these opportunities emerging from the BMAP Urban Design Study are outlined below:

Consolidation of growth in areas of high accessibility

A key principle of the BMAP Study is that sustainable growth and expansion of the city centre is based on a close relationship between accessibility and land use. The study identifies that major new transport initiatives will be required to increase accessibility to new development. In this context, three potential high accessibility zones are identified:

- Transport interchange and rail terminus in the vicinity of the existing Great Victoria Station
- Development of a new bus station interchange at Gamble Street
- Retention of Central Station as a key suburban terminus. National Rail would terminate at the proposed Great Victoria Street node. A high quality bus link will link Central Station and the proposed Great Victoria Street Interchange. The Central Station node provides a significant growth opportunity, and an opportunity to redefine the eastern edge of the city

To strengthen the development potential of these zones, the BMAP study proposes that the CITI Route links to the airport. It is proposed that this route serve the Titanic Quarter.

The City Centre Ring

It is proposed to define the edge of the city centre with a grand boulevard which follows the line of the inner box. The city ring is conceived in two parts. The first part will contain the existing city centre. The second part, indicated in red in the drawing overleaf, may form a part of a future expansion.

Character Areas

Guidance is given for the appropriate urban development and consolidation of these areas in terms of urban structure density and mix, scale and massing, and public realm. The key objective of this guidance is to promote and enhance the diversity of the city core. The Titanic Quarter will form a significant new mixed use character area on the edge of the city, with a range of distinct urban characteristics.

Linking the Titanic Quarter to the City

‘Laganside East’ is identified as a key growth area in the BMAP Urban Design Study. The new structure of this area will form an extension of the city grid, with a high density of development and mix of uses. The key elements of the proposals contained in the BMAP Urban Design Strategy for this area contain the following:

- Reconfigure Short Strand as a boulevard which connects the Odyssey Centre with Albert Bridge
- Middlepath Road and Bridge End Street to convert to two way traffic
- Bridge End Road to develop as a high street, connecting with the existing high street along Newtownards Road
- New bridge crossing the Lagan and connecting the ferry terminal area to the Odyssey and carrying the CITI Route from the city centre to the airport
- Bridge End Railway station to be moved to a more suitable and accessible location

The ‘Laganside East’ proposals would provide opportunities to link the major pieces of transport infrastructure in the city. In this context, the Titanic Quarter sits in a very strategic position and provides an opportunity to capitalise on many of these concepts.
- Above Proposed BMAP Growth Zones

- Above City Centre Ring Potential. A potential eastward expansion would extend the City Centre Boulevard concept.

- Above Laganside East Proposal (BMAP)

- Above Proposed BMAP Character Areas. Part of the Titanic Quarter is covered in Area 9

- Note: Titanic Quarter is outlined in orange fill.
Section 5.0

Urban Design Strategy

**Urban Structure**

To achieve the objective of making a distinctive place, development should pay regard to those unique elements that distinguish the area including:

- The site’s waterside location
- The history of the shipyards
- The distinctive ‘serrated’ dock edge along the north-west side of the peninsula and the geometry of dock alignments pointing out to the river mouth
- The established leisure focus at the Odyssey Centre
- Integrating the new Science Park

Having considered the key elements of the character of the Titanic Quarter, its opportunities and constraints at city scale and site scale, the following elements of urban structure are proposed:

- Re-alignment of Short Strand and the extension of the city grid into the area. This outline concept is proposed in the BMAP Urban Design Strategy. Detailed study exploring the delivery requirements of this concept would need to be undertaken with the BMAP Transport Team and Road Service
- An urban Boulevard based on the existing spine Queens Road providing the main north-south structural spine
- A new linear park traversing the site aligned with Thompson Dry Dock and cutting through one of Harland and Wolff Goliath cranes
- The development of a grid of streets and spaces aligned with the historic slipways, and an extension of the city grid
• A new ‘Main Street’ based on the existing Sydenham Road and providing improved linkages to and under the M3 Motorway (Sydenham By Pass). The proposed Main Street serves to physically connect the Odyssey Centre and potential for a proposed bridge in the south west of the Quarter to a new public space and interchange associated with Bridge End Station, the new linear park, and the new ‘Titanic Square’ at the eastern edge of the Quarter.

• The adaptation of Hamilton Road, an existing shipyard service road, to create a new east/west linkage. This street will be designed to accommodate the potential route of the proposed Rapid Transit Service

• The development of Musgrave Channel Road as a route servicing the light industrial area to the east of the development lands, minimising traffic and use conflicts with residential and mixed use development on the western side of the Quarter

• Potential bridge connecting the Titanic Quarter to the city. This bridge could develop as a pedestrian and bus/taxi only link, strengthening public access to the city centre and complimenting the proposed Rapid Transit Service

Queens Road Boulevard
Queens Road provides a broad main infrastructure spine along the length of the peninsula. This should be retained as an urban boulevard with street trees lining the route. A series of connections orientated to the existing docks provide glimpses to the Lagan from the boulevard and a constant reminder of the area’s shipping heritage. This street will be the key corridor containing the proposed CITI Route.

Abercorn Basin
The Abercorn basin provides an opportunity to develop a tall landmark building along the Waterside. This building could act as a key point in the city marking the location of the Titanic Quarter and adding to the presence of the existing landmarks or the Goliath Cranes. Specialty shopping including cafes, restaurants and art related retail should locate around the edges of the basin to capitalise on the waterside amenity.

Celebrating the Heritage
As a general principle, the historic slipways are retained as urban spaces and edges; the geometry of these elements set up the key urban structure of the proposal. A new public space is proposed along the alignment of the Titanic Slipway. There are a number of opportunities to express this space; it could be an external plaza or covered link, connecting the riverside to a proposed museum at the former Harland and Wolff HQ. The key consideration is that the alignment and significance of the slipway be appropriately expressed in the proposed urban form.
Linear Park
A key objective of the development framework is to integrate the areas existing maritime heritage into the new Titanic Quarter. In this context, a new linear park based on the alignment of the Thompson Dry Dock, which connects the dockside to Bridge End Station will be a key element of the proposed urban structure. The Linear park provides a strong physical and visual link between the historic dockside and the Samson & Goliath Cranes and the adjacent development parcels. It is proposed that the park will pass between the uprights of one of the cranes, celebrating this structure and the heritage of the area. This intervention will provide a strong ‘image’ or the future Titanic Quarter. The park will also strengthen the relationship of the area with the river Lagan by:
- Creating a long vista to the Lagan (one of a series of glimpses through to the Lagan from the Queens Road boulevard)
- Creating a direct, legible linkage to the station for pedestrians and cyclists
- Providing attractive open space amenity
- Integrating the landmark of the Goliath crane as a key feature of the area
- Contributing to the overall character and legibility of the Titanic Quarter
The Linear Park effectively divides the Titanic Quarter into two precincts. The eastern side is related to the city in terms of use and character. The western side is more related to the requirements of the port and light industry.

Business Park
The existing Business Park situated around the Thompson and Alexandra Graving Docks forms the northern edge of the linear park. New and existing buildings may be integrated within the park. The arrangement of new development within the Business Park may provide an opportunity to create a series of open spaces which are more enclosed and urban in character. New development within the business park should be of contemporary design and of sufficient quality to complement the areas historic past.

The Main Street
The Main Street provides an opportunity to develop an edge to the existing M3 motorway and Sydenham Bypass. The character of this street should be focused on promoting a mix of starter units, sales and work units, leisure and appropriate local retail. Opportunity for residential development over non residential ground floor units on both sides of the street should be explored. This form of development will create a mixed, active, well-overlooked key element of the urban structure of the Titanic Quarter. Retail and leisure uses should focus around the Odyssey and Abercorn Basin area, creating the appropriate synergy of uses which will consolidate this area as a leisure and visitor destination.

Dock Roads
Hamilton Road will connect from a new public square adjoining the relocated Bridge End Rail station through to the Queens Road Boulevard at the existing listed Harland and Wolff Headquarters Building. Musgrave Channel Road would develop as a dedicated service road to serve proposed light industrial development along the east side of the peninsula allowing commercial vehicles to access from the south east.

Adaptability and Expansion in the Titanic Quarter
The Urban Design Framework for the Titanic Quarter indicates a main street which extends into land not currently available. The purpose of this proposal is to illustrate how these lands could develop as an extension of the core urban design principles laid out in this document.
The proposed grid structure is a highly adaptable form which can accommodate a range of uses and can easily convert to accommodate new uses over time. New uses, where identified as being appropriate to the area in any future reviews of the BMAP plan and Regional Development Framework for Northern Ireland, should be considered in terms of their grain and character, and how they can adapt to the existing block structure.
**Urban Grain**

The proposed urban grain of streets blocks and plots is largely based on good practice in urban design, ensuring maximum permeability whilst creating a rich and varied urban form. The proposed urban grain of new streets, blocks and plots relates to the pattern of land ownership within the area, enabling the Plan to be implemented on a phased basis. The following key principles have been applied in developing the urban grain within the newly planned areas:

**Streets**

A clear hierarchy of streets is proposed for the Titanic Quarter. (Details of the street network are discussed under Public Realm).

**Blocks**

A new block structure, clearly defined by the hierarchy of routes and spaces, is proposed for the masterplan area. This is illustrated in the plan opposite and is based on the following principles:

- The new block structure, which derives from the key constraints and pattern of connections to the surrounding areas to facilitate a variety of different development conditions.
- The block structure is adaptable and can accommodate a wide range of uses. This adaptability allows for changes of use.
- The blocks to be regular in shape to facilitate ease of development, subdivision into smaller parcels and containment of internal private open space.
- In all instances development should follow the perimeter of the block along a common building line, without major setbacks to foster a strong sense of enclosure to the urban block.

**Plots**

The success in creating a mixed use urban quarter lies in breaking down large development parcels into smaller units of development, thus promoting the ‘city of 1000 designers’, approach, based on the following principles:

- The promotion of a fine grain development along the main pedestrian dominated routes. This involves proposals for plots with a maximum width of 18 metres along these routes. This sets up a pattern of mixed use and a rhythm of different façades that provide a friendlier urban environment.
- Where façades are wider than 6 metres they should be vertically articulated into bays to further break down the scale of development. This could be achieved by changes in colour or texture; minor horizontal shifts in elevation; use of bay windows, balconies and other projections; and, variations in roofscape.
- Where proposals emerge for larger floorplate developments along these routes, the designer must show how these façades are broken down to achieve a fine grain frontage of development, using the principles outlined above or, by introducing narrower frontage buildings to line the larger floorplates. This could apply particularly to the light industrial area.
- A coarser grain of development is permissible in the light industrial precinct where longer views of the development are experienced. The onus still remains on the designer to show how the façades is sub-divided to avoid long, monotonous developments.
- In other areas an 6 metre wide subdivision is promoted as a guide for development.

Clearly, the above rules provide guidance in developing more detailed development briefs for the area.

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*Below* The Core Development of the Proposed Titanic Quarter in context of emerging BMAP proposals.
Movement
The proposed movement network aims to connect the new quarter to Belfast city centre to the west and the Laganside Quarter to the south through a series of strategic transport linkages across the M3 motorway which currently severs the Titanic Quarter from its immediate surroundings.

The following section outlines the key linkages that are considered critical to the successful integration of the Titanic Quarter to the city core and Laganside East.

Street Network
It is proposed to build the transport network on the following existing elements of infrastructure:

• Sydenham Road, which forms the main east-west route running parallel to the M3 becomes a Main street
• Queens Road, the main dock road running along the western side of the peninsula, will form the main boulevard and structural spine in the area. This street will accommodate the proposed CITI Route
• Musgrave Channel Road, which runs parallel to Queens road along eastern edge of the peninsula will serve as the main service link to the light industrial area
• Hamilton Road runs perpendicular to Musgrave Channel Road/Queens Road and would provide a main route from the south east of the new quarter to the western waterfront

These routes will be capable of facilitating pedestrian and cyclist movement. Detail of how these streets could be developed is contained in the public realm section of this report.

Short Strand
The BMAP Urban Design Strategy proposes that the Laganside East Quarter should be regenerated as an extension to the city grid. The new Short Strand road would run on a perpendicular alignment to East Bridge Street and provide a strong linear connection between the Laganside East and Titanic Quarters beneath the M3 motorway. The proposed retained access between the M3 and Sydenham Road will act as the key entry point into the Titanic Quarter from the City. The proposed Short Strand realignment can work with this junction proposal to connect the Titanic Quarter to adjacent districts. The development of two Short Strand proposals will require detailed feasibility and consultation with the BMAP Transport Team.

Relocated Bridge End Station
The existing Bridge End Station should be relocated to a position which is connected to the proposed linear park and the proposed High Street. The proposed CITI should link with this station to enhance interchange opportunities.

Rapid Transit
The CITI Rapid Transit Route is proposed for the City Centre. This route will connect with the Titanic Quarter. A review of existing and proposed movement in the Titanic Quarter suggests that opportunity to link nodes of public transport should be explored. In this context, three CITI Route stops are proposed along Sydenham High Street. The stops are linked to the wider movement network and are proposed for the following locations:

• Odyssey
• Bridge End Station Square
• Titanic Square

Pedestrian Bridge
A new bridge across the River Lagan is proposed to provide a new strategic link to the city centre.

The new bridge will provide safe access for cyclist and pedestrians to encourage sustainable movement from the city centre to the Titanic Quarter. The bridge could also accommodate public transport to maximise penetration into and links with the Titanic Quarter.
Density and Mix of Uses

The approach to the distribution of land uses is based on creating new and sustainable community with sufficient density to support a range of amenities and public transport provision. This approach requires a mix of uses that should include expanding the existing leisure focus based on the Odyssey complex including new bars and restaurants and a new small marina area with festival shopping and providing new local convenience shopping based on the evolution of Sydenham Road into a new ‘High Street’ for the area. The Titanic Quarter provides significant employment opportunity for the Belfast area.

Key land uses should include:

- Residential: High density residential development maximising the waterfront aspect. Mix of unit sizes and tenures including apartments and some family homes with gardens. LiveWork units located to mediate between predominantly residential areas and proposed/existing industrial uses.
- A strip of light and industrial work units will create an edge to the M3 motorway. This edge creates the opportunity to redefine Sydenham Road as a main street. This street could support a range of services which have a front counter and work unit to the rear. These services could include repair shops and tool sales, as well as supporting a range of community services which could include healthcare/dentist, crèche and other education subject to assessment of existing provisions. This type of development will create opportunities for small retail including sandwich bars, corner shops and newsagents.
- Hotel next to Odyssey. Abercorn Basin could develop as a marina with residential development and specialty shopping at ground floor enclosing its edges.
- Conversion of former Harland and Wolff HQ into museum.
- Light Industrial units next to the remaining shipyard accessed from a dedicated service road.
- Some limited small scale commercial in a zone around the relocated Bridge End Station. A single user building of 5,000m² as office space should be provided in this zone.
- Concentration of specialist leisure uses around the Odyssey Centre and Abercorn Basin.
- Provision of complimentary land uses complimentary to maritime heritage around Titanic Slipways.

In addition to the above, we consider that viable development of the headland will require some use to provide an anchor destination to create sufficient activity and make use of a potentially spectacular location surrounded by water at the top of the peninsula. The impact of the CDMAH Regulations will place some restrictions on the potential appropriate uses in the area. In addition, there is likely to be a requirement for soil remediation works to address the impact of ground and soil contamination. In this context, it is considered that some form of park facility, based on ecological principles might be appropriate in this area, particularly in the inner CDMAH zone.

The development of the park would require only limited remediation and would form part of a chain of ecological spaces crossing the harbour area, connecting Victoria Park to the ecological sites adjoining the former IFI site. The development of the park would provide opportunities for the development of a visitor attraction or an educational establishment (possibly related to the nearby Science Park or the ecology of the area).

In the middle and outer zones, consideration should be given to the potential for additional light industrial and storage development.
Site Capacity

Fundamental to the vision of a vital, urban quarter is the provision of mixed-use development that creates sufficient density to make a vibrant and sustainable place.

Density Principles

To enable a seamless integration with the city edge context, it is proposed to apply a sliding scale of plot ratios. On the basis of the BMAP Urban Design Strategy, a review of plot ratios in the city centre, and the accessibility proposals for Titanic Quarter, a sliding scale of plot ratios from 1.0:1 to 2.0:1 are proposed. Plot ratio expresses the relationship between floorspace and site area. In this context, plot ratio is an indicator of development form and density. For the purposes of this plan, we have used the gross site area of the development parcels to calculate density. This takes roads and local open spaces into account.

In order to promote a sufficient intensity of use and to promote a diverse, mixed and animated environment, we have specified minimum acceptable plot ratios. Plot ratios have been related to accessibility for the purpose of this study. Areas of greatest accessibility can support a greater intensity and mix of uses. In this regard the higher range of plot ratios is proposed in these areas. Lower plot ratios are proposed for development parcels which are located further from areas of urban accessibility.

In all instances, urban design considerations could be used to make a case for increased densities. These considerations could include the effective enclosure of public spaces (the scale of the buildings relative to the size of the space), community gain (such as the provision of community infrastructure or open space) and quality of the architectural design.

Any increase in plot ratio which has an impact on the height of buildings will need to be discussed with the aviation authorities regarding the potential impact on the safeguarding zone around Belfast City Airport.

Plot Ratios

Taking Bridge End Station as the area of greatest accessibility, a plot ratio of 1.5:1 to 2.0:1 has been applied within a 400m radius off this point. This radius is based on the principle of a walkable area in approximately five minutes. This plot ratio should extend to the Abercorn Basin to take account of the riverside context and proximity to the proposed CITI route. This plan should be read in conjunction with the schedule overleaf.

For all other areas within the study boundary, a plot ratio of between 1.0:1 and 1.5:1 should be applied, with the potential for greater densities occurring in the vicinity of the proposed CITI route. For the purpose of the capacity study, a minimum plot ratio of 1.0 to 1 has been assured for the majority of these areas.
## Titanic Quarter Development Schedule

<table>
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<th>Site</th>
<th>Site Gross Area (ha)*</th>
<th>Plot Ratio**</th>
<th>Gross floor area (m²)</th>
<th>Landuse Mix (%)</th>
<th>Gross Residential floor area (m²)</th>
<th>Number of Homes****</th>
<th>Gross Non-residential floor area (m²)</th>
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Notes:
* Site Area measurements are based on best available data
** Plot Ratio based on Gross Site Area
*** Sites C3 and C6 are shown to indicate long term development aspirations and are not included within this schedule
**** Maximum number of residential dwellings
Scale: Height and Massing

Principles
Building Heights in the Titanic Quarter should have been defined through consideration of the following:

- The prevailing character of Belfast City Centre as viewed across the Lagan
- Retention of the Harland and Wolff Cranes as dominant landmarks for the area, using the height of this structure as a datum for tall buildings in the area
- Guidance for the East Laganside Character Area proposed in the BMAP Urban Design Study. This guidance suggests a minimum building height of 3 stores, with optimum heights of 5 stores, or up to 6 stores where setback stores are promoted
- Relating the height and massing of buildings to (a) the hierarchy of public realm that they face onto, and (b) to the particular character of the the area in terms of physical character and land use
- Establishing local landmarks at key locations: gateways into the area; key intersections; and for views across the Lagan from the City Centre

Recommendations

Height
In general, building heights along the proposed high street should be a maximum 4 stores with a maximum of 5 stores for development parcels between the main street and the Abercorn Basin. Building height in the Abercorn Basin should relate to the scale of the basin, and be a maximum of 6 stores.
The proposed landmark buildings should be at least 8 stores high with 10 storey maximum.

In the light industrial zone, building height should generally range between 2-3 stores.
Building heights along the Waterfront should be 6 stores high.

Massing
The sketch perspective overleaf indicates the potential impact for the proposed building heights and massing.
Above Sketch perspective of Titanic proposals showing proposed massing
Public Realm
The urban design strategy considers a range of public spaces and street types within the Titanic Quarter including:
- urban squares,
- a linear park,
- an ecological park, and
- streets.

The linear park located along an axial line between the Thompson Dry Dock and the proposed new space from New Bridge End Station. This arrangement provides a direct link from the heart of the new quarter to the historic docks. The formal park is designed to pass beneath the massive Goliath crane which will in turn frame the views. The legs of the crane will provide an opportunity for two small piazzas either side of the linear park which will be defined on three sides by the proposed development blocks. The Linear park provides a green buffer which separates the predominantly residential development to the west from the more industrial development to the east of the peninsula. The park will be bounded in either side by city street and be intersected by the principle avenues of Queens and Hamilton Road.

Urban Squares
A number of new urban squares are proposed for the Quarter. These are generally associated with the new high street and are located around local transport interchanges. It is envisaged that these spaces will be enclosed by retail frontage and take the form of a traditional city squares, providing robust flexible spaces capable of being adapted for a wide variety of uses and activities. A square is also proposed to provide a focal point and visual stop to the northern end of the linear park around the Thompson Dry Dock. This space should be designed with reference to the areas coveted industrial heritage.

Ecological Park
The metal processing site located at the tip of the peninsula is considered suitable for a limited range of land uses. We have suggested that an Ecological Park may be appropriate here, although the site may accommodate a new sporting venue which would provide the impetus for a further development in the north of the peninsula and potential extension of the way along Queens Road.

The proposed redevelopment of the western docks and Abercorn Marina will provide significant opportunities for the provision of innovative new public realm along the waterfront. Key streets are considered in detail later in this document.

Hierarchy of Streets
The Titanic Quarter is conceived as a well connected piece of city with a well defined hierarchy of streets and spaces. These provide the key structuring elements for the overall plan. On the following pages are illustrated the spatial standards for these various roads and streets in the Titanic Quarter:
- Boulevard
- Avenue
- High Street
- City streets
- Musgrave Channel
- Linear Park edge streets
- Dock Edge streets

![Examples of public open spaces: Urban Square, Park, Piazza]
The Boulevard: Queen’s Road

B32.1

- Top Boulevard Section
- Above Location of Boulevard type
- Left Boulevard Plan
The Avenue: Hamilton Road

S.21.1

- Top Avenue Section
- Above Location of Avenue type
- Left Avenue Plan
The High Street: Sydenham Road

10.5m
1.5m
3.0m
Parallel carriageway

1.5m
5.5m
1.5m
privacy path
car parking
path
privacy strip

1.5
5.5m
2.5
2.25
5.5
2.25
2.5

15m Highway Line

Top High Street Section
Above Location of High Street type
Left High Street Plan

S.15.4
City Streets

S.12.2

Top City Street Section
Above Location of City Street type
Left City Street Plan
Musgrave Channel

1.5m privacy strip
3.0m boundary
1.8m Parallel parking
7.5m carriageway
1.8m
4.0m
Parallel footway
Musgrave Channel

1.5m
14.6m Highway
3.0m
1.8m
7.5m
1.8m
4.0m
S15.10

- Top Musgrave Channel Section
- Above Location of Musgrave Channel
- Left Musgrave Channel Street Plan

S15.10
Dock Edge

12.4m
4m pier
1.8m
1.8m
5.2m carriageway
1.8m
1.8m
1.5m
footway
Parallel
Parallel
footway
privacy
parking
parking
strip

13m Highway Line
1.5m
5.0m
5.0m
3.0m

S.13.11

Top Dock Edge Section
Above Location of Dock Edge
Left Dock Edge Plan
Linear Park

Above: Linear Street Section
Right: Location of Linear Street type
Below: Linear Street Plan