

## THE CONTEMPORARY WATERFRONT, FROM CITY TO PARK

**MATTHEW BRADBURY**

*Address: Department of Landscape Architecture, Faculty of Creative Industries and Business.  
UNITEC. PB 92025 Auckland New Zealand.  
e-mail: mbradbury@unitec.ac.nz*

### **ABSTRACT**

*The transformation of the 19th century mercantile port infrastructure into a new urban waterfront dedicated to the service economy and personal consumption has developed into a global model of urban development. The intention of this paper is to examine a recent tendency for the current model of waterfront development to change from one based on a traditional European urban planning model to one based loosely on that of the park. To highlight the move between the two modes of design production, the author uses six waterfront cases studies and focuses on how the provision of public space and problems of waterfront contamination are addressed.*

*The paper begins by looking at three dockland redevelopment projects from the mid 1980's to the present day. The development of public space within these three case studies is examined and the trajectory of a greater engagement with the public realm is discussed. The lack of commitment for the problem of environmental remediation is also considered. Three waterfront projects from the 2000's are then examined, the idea of the park as an alternative design trope is proposed, a new definition of the park is suggested to include infrastructural concerns. The author argues that by rethinking the waterfront as a landscape, the development of a fully public and environmentally engaged waterfront city is possible.*

### **LONDON DOCKLANDS**

The first major waterfront redevelopment in Europe was the London Docklands. For a hundred years the greatest port in the world, and the living proof of the power and reach of the British Empire, the docklands occupied 21 km square kilometres in the East End of London (London Dockland). Abandoned in the early 1960s for a new port located at Tilbury, the Docklands lay derelict for over twenty years. By 1981 the then conservative government set up the London Docklands Development Corporation (LDDC) to redevelop the area. The creation of a specific body funded by the government and outside of the normal regulatory process was allied with the designation of the former docks as an 'enterprise zone' an area where any business that established in this zone could be exempt from property rates and subject to a simplified planning regime. These devices, a central organisational body and a liberal planning and tax regime in effect establish a country within a country, a Danzig zone. This concept would go on to become an extremely successful model for economic regeneration zones in many countries (Meyer, Han, 1999).

The best-known part of the Docklands redevelopment is Canary Wharf. The Canadian developers, Olympia and York initiated this project in 1985; the site was the old West India Docks on the Isle of Dogs (Canary Wharf). This development came to symbolise the radical change of London industry. With banking deregulation in 1986, London completed the change from a mercantile port for the empire to the financial service capital of Europe. The economic premise of Canary Wharf was to accommodate this new industry. Its location next to the City, and with the provision of a PT connection, the Dockland light railway, to make the

connection concrete, connecting the City to the Docklands, generated an economic rationale for the location (Williams, Stephanie. 1993).

The master plan by SOM proposed a neo Beaux Arts parti, a strong perpendicular axis from the river along the line of the old wharf to a new building, a central tower, One Canada Wharf. Designed by Cesar Pelli, this tower was the largest in Europe, and came to dominate the development and become a central reference point. The axis was occupied by a long green public space that was consciously modelled on the traditional London Square. The building programme was set out to line the central axis with two lines of flanking building.

To the Thames, the axis was subdivided into two large public spaces, Cabot Square, defined by twenty storey buildings and Westferry Circus, closer to the river, surrounded with ten storey buildings. The public spaces were comprehensively detailed and an extensive landscape programme was instigated. Other public space in the development were located in smaller 'pocket parks' positioned on the cross axis. Between the new building and the surrounded docklands were placed a number of urban promenades.

While the central park axis was successful in terms of design thinking and detailing, the pervasive commercial nature of the surrounding building, there is no public building programme; library, or art gallery, within the project, has led to a critique of the 'publicness' of the public space. This quality is made all the more evasive by the panoply of private security and surveillance that encompasses the development. And a closer examination of the design qualities of the space itself reveal, perhaps with the distance of 30 years, a particular 1980's generic North American Post Modern frisson. It also would be churlish to complain of the absence of an environmental agenda in a development this old. However it does seem curious, particularly in the light of subsequent dockland projects, that while the development is surrounded by water, the dockland waterways on three sides, the Thames on the fourth, the Canary Wharf building programme largely turns its back on the water and instead concentrates its attention on the central park space.

## MELBOURNE DOCKLANDS

The Melbourne Docklands redevelopment begun in the mid 90's is in many ways a comparable project to the London Dockland development and a useful case study to see how that development model has changed over ten years. The site, the old Melbourne docks, is to the west of the Melbourne CBD and defined by Spencer Street, Wurundjeri Way and Charles Grimes bridge to the east, CityLink to the west and Lorimer Street across the Yarra to the south. The impetus behind the development was driven by many of the same factors that drove the London Docklands development, the abandonment of the docklands in the 1960's with the advent of containerisation and its location near the commercial heart of Melbourne (Melbourne Docklands).

The Dockland development was initiated by the Liberal (Conservative) government of Jeff Kennet in the early 1990s (Dovey, Kim. 2005). The first major development in the area was the building of the Docklands Football Stadium located next to the Spencer Street Station (now the Southern Cross Station) The location of the stadium, at the edge of the CBD, was a conscious decision intended to attract the public to the docklands. Ashton Ragett McDougal was appointed as master planners for the entire district. The Docklands was broken into a number of zones, Central City Studio, a film production hub, Waterfront City, New Quay, Yarra Edge, Digital Harbour, Victoria Harbour, and Bateman's Hill. The development of each zone was then tendered to private developers who put together a building and public space programme.

The best know design case study within the Melbourne Docklands is Victoria Harbour. It occupies 28 hectares and is surrounded by 3.7 km of waterfront (ETNCOM. 2005). The zone forms a peninsula bounded by Collins and Bourke streets that have been extended west into the Docklands and famously, meet at an apex. Running north/south behind the apex, is the Harbour Esplanade, a 2.1 km, 12 ha, road link from the northern gateway, the City Link, to the Charles Grimes bridge at

the Yarra river. The Docklands Park, 2.5 ha. broadens the Harbour Esplanade near the Collins Street extension. The park encompasses a broad programme of social activities; picnic areas, BBQ facilities, playgrounds, and sculpture.

The Harbour Esplanade and Docklands Park form a north /south backbone to Victoria Harbour, they link the stadium, waterside promenade, parks, footpaths, roads and tramlines. The original design by Richard Weller and ARM drew these disparate functions together with a layered plan of common planting, public space, common materials and a graphic layer of painted lines and letters laid promiscuously over promenade, path and road, imposing a commonality across the disparate spaces (ARM). Landscape architects, Rush Wright, developed this initial design by pushing the landscape qualities of the Dockland Park with a looping connecting path linked to topographic transformations; mounding up to 6 m high, and the planting of native trees especially araucarias. The path also traverses stormwater-cleaning ponds that will take contaminated water from the surrounding roads (Rush Wright).

In contrast to the innovative design thinking about how infrastructural space, roads paths, PT, parks, can be used and transformed along the Harbour Esplanade, the actual public areas on the waters edges are treated as more generic space. An architectural configuration of a two-storey base of restaurants and

shopping and 10 storey plus towers of office or residential apartments forms the urban edge. An extensive public sculpture programme animates the actual promenade space. Environmental remediation of the pollutants on the site is acknowledged but limited to the dealing with the contaminated run off from the new roads, the traditional problem of port pollution, contaminated seabeds and polluted stormwater run of from surrounding urban areas are elided.

### HAFENCITY

The HafenCity, Hamburg, docklands redevelopment project started at the beginning of the 2000's and planned to finish in the 2020's shows how the dockland redevelopment model has become refined over twenty years. The master plan for the development of the docklands was subject of an urban design competition in 1999, the winners were a joint Dutch/ German team, Kees Christiaanse /ASTOC (HafenCity Master plan). The development, when completed, will link the traditional city centre of Hamburg with the river Elbe. The total size of the development is 155 hectares, of which the land area is approximately 100 ha. The site is demarcated by the Kaiserhöft to the west and by the Elbe bridges to the east. The land is mostly owned by the city of Hamburg with the Deutsche Bank owning an area to the northeast of the development.

The aim of the project was to build a new waterfront city on the north Elbe with a mix of apartments, offices, retail, an overseas passenger terminal and cultural buildings including a science museum and a new concert hall. The net building area is 60 ha and when fully built out, the gross floor area is expected to be 1.5 million to 2 million square metres. The area will be developed into a number of different quarters. Each quarter will have a particular character, made up of a mix of public space, residential and office buildings and cultural facilities. In the western part of the development, mainly occupying the old wharfs, are the Am Sandtorkai, Brooktorkai, Dalmannkai, Kaiserkai, and Strandkai quarters. The central part of the development will be around the Magdeburger Hafen. To the east are the Oberhafen and Baakenhafen quarters (Stiftung, Montag. Raume, Urban. 2008). The development timetable is strategically timed to start at the south-western end and proceed to the east to try and avoid piecemeal development. Existing buildings especially historical warehouses in the Sandtorhafen harbour are preserved. The new city is outside of the city dyke; the flood protection for the old centre of Hamburg, so care has been taken to ensure the lower parts of the new building programme are protected from flooding. The flood levels are expected to be 4.4 and 7.2 m above the MSL. The new building programme of HafenCity is expected to resist floods of 7.3 m above the MSL, all construction sites are raised to 7. 5 m

above the MSL. The public space provision for the new city is approx. 6 ha. The main public spaces will be promenades along the waters edge. There are also a variety of public squares and parks proposed through out the site. The first areas to be completed are the Sandtorkai and Dalmannkai. Two new cultural building are located in this area. The first is an international maritime museum located in a renovated building at the Kaispeicher, the second a new concert hall for the Elbe Philharmonic Concert Hall placed on the rooftop of the Kaispeicher, a building on the Kaiserhöft. The building, designed by Herzog and De Meuron, is 106 m high and provides a 2200 seat auditorium.

The major built public spaces are the Magellan Terrassen in the Traditonsschiffhafen and the Marco Polo Terrassen in Grasbrookhafen, designed by the late Enric Miralles of EMBT. The public space takes the form of a series of terraces that lead down from the Grosser Grasbrook to the water and then extending the public space out into the harbour with series of floating concrete pontoons (EMBT).

HafenCity is an ongoing project that demonstrates a number of similarities with previous dockland redevelopments. The building of new urban layout based on a grid pattern, the use of a building programme to define urban space, and the treatment of waterfront promenade as a generic public space clearly demonstrative the linking of other dockland developments.

From other waterfront projects we can also see the links in the restoration of existing wharf/warehouse structures and the insertion of a new cultural building programme, concert hall and museum, into the existing building fabric. One important development of that theme is the proposed science museum, a heroic 70 m high 'O' shaped building by OMA near the end of the Strandkai on the Elbe. This purpose of this building is clearly indebted to the Bilbao Guggenheim (and before that to the Sydney Opera House) the iconic building on the waterfront signalling 'progress' (OMA).

What is perhaps unique about this project is a growing awareness of the larger landscape and especially landscapes conditions. This is demonstrated by the new public space created by EMBT. The Magellan Terrassen and the Marco Polo Terrassen actually engage with the specific landscape conditions of the site,

both the location of the space by the water and the specific landscape condition of site flooding. Rather than treating the water simply as a spectacle for passerby's, Miralles's use of floating pontoons extends the public space into the littoral, extending the public usage and making explicit both tidal movement and the possibility of flooding.

These three dockland redevelopment show how the original model of waterfront redevelopment has been modified in many ways to engage more fully in the public realm through the addition of cultural buildings and a more connected use of public space. These moves all point toward a more nuanced understanding of the public realm. However the place of public space, in this model of waterfront development, is still vestigial, it's role is to service the real estate demands of the building development, the surrounding flats and offices. The other major critique of this model of waterfront development is how well known waterfront environmental issues; such as of stormwater pollution seabed contamination continue to be ignored.

## NEW WATERFRONTS

Turning from these conventional models of waterfront development, we see a new generation of projects from the mid 2000's that are engaging both in the provision of public space with environmental remediation through a connection with a fundamentally different organisational trope of waterfront development. Instead of the traditional European city type, waterfront designers are turning towards the landscape and in particular the park as a way of coordinating the site, allowing for a freer engagement with the public realm and generating a real engagement with the necessity of public infrastructure to cope with environmental problem around

waterfront developments. Of course these suggested functions of the park are not new, F.L. Olmsted's design for the Emerald Necklace in Boston addressed many of these issues. Designed in the late 19<sup>th</sup> century as a new park for the citizens of Boston the project was also a real estate speculation opening up a new area of the city for private development and a huge landscape mechanism to clean the highly polluted stormwater from the old city by cleaning the water through wetlands and reed beds along a restored river. (Emerald Necklace)

Three waterfront developments from the 2000's; the Brooklyn Bridge Park, the Barcelona Forum and the Jeddah master plan, demonstrate how an engagement with the landscape, can produce a new waterfront urbanism by connecting to the public realm and environmental infrastructures. *'Here, the term landscape no longer refers to prospects of pastoral innocence but rather invokes the functioning matrix of connective tissue that organises not only objects and spaces but also the dynamic processes and events that move through them. This is landscape as an active surface, structuring the conditions for new relationships and interaction among the things it supports'* (Wall Alex. 1999)

## BROOKLYN BRIDGE PARK

The Brooklyn Bridge Park is a 34 ha. site located on the Brooklyn waterfront, New York. Brooklyn Bridge, Furman Street, and Atlantic Avenue form the boundaries to the main site. The docklands were a typical 19<sup>th</sup> century industrial waterfront, made up of 6 piers, one on reclamation the others built on piles, that was backed by warehouses, accessed from Furman Street (Brooklyn Bridge Park).

The project to transform the old industrial waterfront into a park has been driven by a concerted community effort (Gastil, Raymond W. 2002). The financial configuration of the project is explicitly constructed to make the site financially self sustaining, that is the design, construction, and maintenance of the park are not paid for by City Hall but are rather backed by commercial development of parts of the site. Provision has been made for two residential towers that will be located in two blocks adjacent to Furman Street at the Brooklyn Bridge and Atlantic Avenue ends of the site. These sites will occupy about 10 % of the total site area. The designer of the master plan, landscape architect Michael van Valkenburgh, started the project in 1998. Van Valkenburgh parti is an interesting combination of the traditional and pragmatic. Van Valkenburgh treats the Furman street edge as a kind of green buffer, using earth mounding and planting to channel visitors to the new waterfront. The six existing piers are each treated as different landscapes. The park user can choose what sort of landscape/social/cultural/sports experience they want, ranging from a recreation of a native salt marsh on Pier 6 to a multi sports

programme on an artificial turf lawn on the neighbouring Pier. Pier 3 offers a tradition park experience of lawn and playgrounds while Pier 2 offered another programmed sport surface. Overall the design uses the traditional park typology, grass, trees, and a rolling topography to signal the public nature of the transformed site (Michael van Valkenburgh).

What makes the Brooklyn Bridge Park so interesting is that it presents the dockland restoration not as an overwhelming real-estate development opportunity but as a serious, large-scale public space that starts to approach the size and effect of the 19<sup>th</sup> century Park. The new landscape structure offers the traditional pleasures of the park, sports, picnics, promenades, and playgrounds, in effect the succour of the park that Olmsted invented. The Brooklyn Bridge Park also responds to the larger landscape through the recreation of native wetland and salt marshes alerting the visitors to the long disappeared local biota and providing new habitats for native fauna. The project also acknowledges localised landscape effects especially the movement of stormwater across the site. Stormwater is collected and stored in a horizontal buried tubes, the water is then gradually released in an irrigation programme.

While Van Valkenburgh uses the tradition park type to provide public space in the city, other project attenuate the idea of the park to expand the possibilities of the

traditional structure to include the new challenges and possibilities of the early 21<sup>st</sup> century city.

## THE BARCELONA FORUM

The Barcelona waterfront has a number of splendid case studies that might be in microcosm a history of late 20<sup>th</sup> century waterfront development. From the Sola Morales waterfront redevelopment at the start of the Ramblas, to the Barcelona Forum, opened in 2004, the Barcelona foreshore is a physical demonstration of innovative urban thinking into how waterfront regeneration can contribute to the development of new public space for the city.

The last of the projects, The Barcelona Forum, is at 214 ha, the largest. In urban terms it forms the long anticipated link of the Diagonal, the long cut across the Cerda grid, to the Mediterranean. Utilising the concept of the 'event' to generate the impetus for a public works programme, (something they had learnt with the running of the Olympics in 1996). The notion of another event, this time a forum of ideas, a kind of cultural Olympics, helped to generate the construction of the latest waterfront project. The project also represented an opportunity to rethink the integration of a cities waste infrastructure with the urban fabric. Rather than the traditional approach, where this infrastructure is to be hidden away, the designers of the Forum took the occasion offered by a major refurbishment of Barcelona's sewerage plant as an opportunity to integrate the plant both spatially and formally with the city.

The Forum also had a more traditional building programme of public buildings and parks. A new convention centre designed by the Swiss architects Herzog and de Meuron and holding 3200 people was located at the intersection of the Diagonal and the Forum. Along the newly reclaimed sea edge are placed a number of specific public spaces, a waterfront park, designed by FOA, a beach / esplanade designed by Beth Galli, and a stair/plaza covered by a vast solar panel/ pergola.

If we took a section through this vast project, say from the end of the Diagonal to the Mediterranean, we can see how the usual waterfront urban typology of a building defining the edge of a public space which in turn forms a littoral, has been subverted through a process of urban stretching and thickening. The building edge of the conference centre refuses its traditional civic role as a boundary to the public space through the use of a particular form, a huge triangle, and its particular colouring and materiality. The building instead embraces the inward, closed nature of the typical conference centre. The public space between the conference centre and the sea is 'thickened' becoming a topography/ roof for the renovated sewerage works underneath. The sea edge seems more traditional, a grand stair leading to the sea; a vast gateway / pergola marking this moment. Yet the 'archway' is also a huge solar panel array that supplies enough energy to power the whole of the Forum site. The urban space is moulded like a new topography that is 'deep' with infrastructural components, the vast solar array and the renovated sewerage plant.

The project attempts to make a new kind of public space through an engagement with the immediate infrastructural requirements of the site, the ability of the site to supply power for its own needs and the renovation of a sewage work that produces water clean enough to swim in, to produce an infrastructural landscape new public space for the inhabitants of Barcelona.

## JEDDAH MASTER PLAN

The last project I will examine is the Jeddah Master plan developed by Wilkenson Eyre and Arup's in 2007 (Jeddah Masterplan). It is a waterfront development project that uses the remediation of a serious environmental problem, the existing pollution of Jeddah Bay, as driver for the design of a new waterfront. Engaging with a fundamental environmental problem of the site, how to flush polluted water out of the bay and introduce clean water, the designers have developed a solution of almost diagrammatic purity. An atoll is built at the mouth of the bay, seawater is treated within the atoll, then tidal forces are used to both introduce the cleaned water into the bay whilst taking the polluted water out. This radical rethinking of an environmental problem within a coastal landscape has really only been made possible by the newest form of 20th century waterfront development, the reclamation and formation of offshore islands as new land as seen in the Dubai reclamations, the Palm and the World.

The urban consequences of this new landscape are two fold, the old city and waterfront of Jeddah can be restored, while the building of the island atoll outside the bay provides new real estate opportunities.

Here we start to see how a remediation landscape that connects to 'natural forces', and forms; tidal flows, the atoll, and water remediation techniques, can be used to form a new kind of waterfront, and answers contemporary real estates concerns, the restoration of the old city, the provision of luxury villas. The project addresses environmental concerns by recognising the larger landscape, harnessing those conditions to form a new landscape, one simultaneously of consumption and remediation.

## CONCLUSION

By refocusing our view of the contemporary waterfront through the lens of the landscape we are able to address many of the issues that other models of waterfront development find structurally difficult to encompass. The landscape, an open field upon which larger forces; social, cultural, economic, and environmental play out, offers a way for the contemporary designer to fold these larger issues into the pragmatics of waterfront development.

## REFERENCES

ARM. Retrieved from

[http://www.a-r-m.com.au/projects\\_MelbDocklands.html](http://www.a-r-m.com.au/projects_MelbDocklands.html)

Brooklyn Bridge Park. Retrieved from

<http://www.brooklynbridgepark.org/>

Canary Wharf. Retrieved from

[http://www.som.com/content.cfm/canary\\_wharf](http://www.som.com/content.cfm/canary_wharf)

Dovey, Kim. (2005). Fluid City: Transforming Melbourne's Urban Waterfront. Routledge, London, UK.

EMBT. Retrieved from

[http://www.mirallestagliabue.com/project\\_video.asp?id=67&idv=680](http://www.mirallestagliabue.com/project_video.asp?id=67&idv=680)

Emerald Necklace. Retrieved from

<http://www.cityofboston.gov/parks/emerald/>

ETNCOM. (2005). Waterfront spectacular: creating Melbourne Docklands: the people's waterfront.

Roseville, NSW. Australia.

Gastil, Raymond W. (2002). Beyond the Edge: New York's New Waterfront. Princeton Architectural Press, NY NY, USA.

HafenCity Master plan. Retrieved from

<http://www.hafencity.com/en/glossary-i-m/masterplan.html>

Jeddah master plan. Retrieved from

<http://www.metacafe.com/watch/bg-131985/jeddah/>

London Dockland. Retrieved from

<http://www.lddc-history.org.uk/>

Michael van Valkenburgh. Retrieved from

<http://www.mvvainc.com/>

Melbourne Docklands. Retrieved from

<http://www.docklands.com/cs/Satellite?c=VPage&cid=1179455173298&pagename=Docklands%2FLayout>

Meyer, Han, (1999). City and Port: urban planning as a cultural venture in London, Barcelona,

New York and Rotterdam : changing relations between public urban space and large-scale infrastructure. International Books, Utrecht, The Netherlands.

OMA. Retrieved from

[http://www.oma.eu/index.php?option=com\\_projects&view=project&id=763&Itemid=10](http://www.oma.eu/index.php?option=com_projects&view=project&id=763&Itemid=10)

Rush Wright. Retrieved from

<http://www.rushwright.com/rwa/rwa.html>



URBAN TRANSFORMATION: CONTROVERSIES, CONTRASTS and CHALLENGES

Stiftung, Montag. and Raume, Urban. (2008) Riverscapes: Designing Urban Embankments. Birkhäuser

Architecture, Munich, FRG.

Wall Alex. (1999). 'Programming the Urban Surface'. Recovering Landscapes. Princeton Architectural

Press, NY,NY, USA.

Williams, Stephanie. (1993). Docklands. Phaidon Press, London, UK.