

This chapter details the process the design underwent in order to achieve design excellence.

Introduction

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In order to achieve the highest standard of architectural, urban and landscape design the development of the proposed Block 1 has undergone an extensive, collaborative design process involving the whole Design Team and the Client. This chapter highlights the various design stages and iterations the project underwent prior to seeking permission and explains the thinking behind the concept and why we believe design excellence has been achieved. Furthermore it provides an insight into the design processes of Foster+Partners.

**Foster + Partners**

Foster + Partners is an international studio for architecture, planning, engineering and design led by its founder and chairman, Lord Foster, and two heads of design, Spencer de Grey and David Nelson. The practice's work ranges in scale from the largest single building on the planet, Beijing International airport, to its smallest commission, a range of door furniture. The scope of its work includes master plans for cities, the design of buildings, interior and product design. There is also a strong interest in city planning and the infrastructure of communication. Projects can be found on six continents throughout the world: Europe, North and South America, Africa, Asia and Australasia.

The studio has established an international reputation with buildings such as Swiss Re's London Headquarters, Hearst Headquarters in New York, Deutsche Bank Place and Regent Place in Sydney, Millau Viaduct in France, the new German Parliament in the Reichstag, Berlin, The Great Court for the British Museum, Headquarters' for HSBC in Hong Kong and London, Commerzbank Headquarters in Frankfurt and the Metro Bilbao. Current work includes the Zayed National Museum in Abu Dhabi; the Hermitage Plaza community development in Paris; Queen Alia International Airport in Jordan and Al

Haramain High Speed railway stations in Saudi Arabia.

The central concern of the practice is design excellence and a belief that the quality of our surroundings has a direct influence on the quality of our lives. Achieved through active collaboration with clients and specialists, this is allied to an acknowledgement that architecture is generated by the needs of people - both material and spiritual. Management of cost and time is an important discipline and many of the practice's award-winning projects have resulted from demanding commercial circumstances. A wide range of supporting skills underpins the work of the practice allowing seamless creative integrated solutions.

**Practice Philosophy**

Foster + Partners has always been guided by a belief that the quality of our surroundings has a direct influence on the quality of our lives, whether that is in the workplace, at home or in the public realm. Allied to that is an acknowledgement that architecture is generated by the needs of people - both material and spiritual - and a concern for the physical context and the culture and climate of place. Excellence of design and its successful execution are central to our approach.

We believe the best architecture comes from a synthesis of all the elements that separately comprise and inform the character of a building; the structure that holds it up; the services that allow it to function; its ecology; the quality of natural light; the symbolism of the form; the relationship of the building to the skyline or the streetscape; the way one moves through or around it; and ultimately its ability to lift the spirits.

This holistic approach is coupled with a strong commitment to those who commission and use our buildings. A high degree of personal service, together with respect for the precious resources of cost and time, characterises our client relationships.

The scale, diversity and global reach of our projects was unimaginable 40 years ago, yet many of the issues that excited us in the early days continue to inform what we do today. Environmental awareness has always been integral to the practice's culture. We have consistently sought to devise design solutions that use renewable energy sources and reduce carbon emissions. We work in a spirit of enquiry, challenging preconceptions and testing conventions. The process of 'reinvention' distinguishes much of our work - past and present - and rests on a duty to design well and to design responsibly, whether that is at the scale of an airport or a door handle.



1. Swiss Re Headquarters at 30 St Mary Axe, London, UK
2. The New German Parliament at the Reichstag, Berlin, Germany
3. Hearst Headquarters Tower, New York, USA
4. Hongkong Shanghai Bank, Hong Kong.
5. Beijing Airport, China.

# Design Excellence

## Introduction



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### The Way We Work

To undertake some of the largest and most complex projects in the world needs depth of resources. However, creativity and personal service are best nurtured by the compact group where 'small is beautiful'. The resolution of these apparently conflicting ideals is mirrored in the practice's structure.

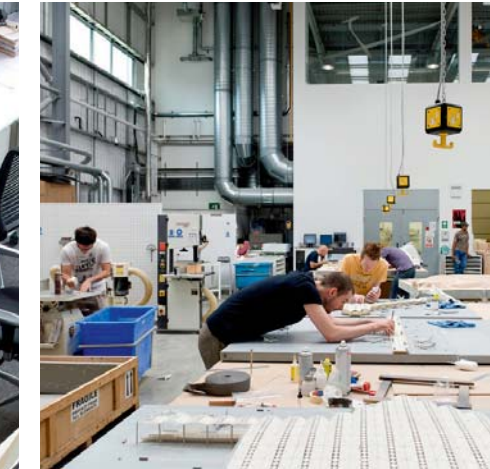
The practice is organised into eight design groups. Each is led by a design director, supported by a deputy group leader. The design groups are not restricted by building type or geographical location, each group has a diverse cross-section of projects – large and small – around the world.

We have a strong creative team, in which structural and environmental engineers work alongside the architects from the beginning of the design process. We believe that they can learn from one another and combine their knowledge to devise fully integrated design solutions. Alongside the architects and engineers are the many specialist teams whose expertise underpins our approach. These are; project management, urban planning, industrial design, interior design and workplace consultancy.

The design of each project is reviewed regularly, both formally and informally. This process takes place under the direction of the design board, who review the design output in relation to the original brief and any changes agreed during the course of its development.

### Awards and Citations

Since its inception the practice has worked in over 75 countries, has received more than 600 awards and citations for design excellence and has won over 100 national and international competitions.



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6-10. Foster + Partners design studio, London, UK  
11. Regent Place, Sydney, Australia  
12. Deutsche Bank Place, Sydney, Australia

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### Design Process

The redesign of Block 1 as a residential block from the originally approved commercial scheme has evolved through several iterations, which this section seeks to document.

Starting with the Client Brief, Foster + Partners began to investigate how the required number of apartments could be accommodated within the approved Concept Plan envelope for Block 1, whilst addressing the constraints of the plot. Together with the wider Design Team a collaborative process was initiated to develop the optimum outcome for the program and plot requirements. Regular coordination meetings with the cross-disciplinary team were conducted by VC, interspersed with peer reviews in the F+P studio..

A series of models were produced to explore the massing and its effect upon the surrounding buildings and is illustrated on the page overleaf.

In parallel with this exercise, several plan options to explore apartment configurations and the space planning of typical floors and apartments were undertaken to respond to the client brief. Solar studies were prepared to assess daylight access to apartments and overshadowing of the public realms.

### Constraints and Opportunities

The initial exercise was to establish the constraints and opportunities of the plot. These include:

- Adhere to Concept Plan Guidelines, including heights and set Solar Planes
- Avoid further overshadowing of the Park than already approved by the Concept Plan
- Comply with SEPP-65 and its associated separation requirements from adjacent buildings
- Improve and add to the quality and amenity of the public domain
- Minimise impact on view corridors
- Achieve target of 25,000m<sup>2</sup> GFA as set out in the Concept Plan for Block 1
- Be mindful of already approved mix of uses for the central Park Precinct in the overall Concept Plan
- Ensure the bulk, massing and modulation of the tower architecturally responds to the neighbouring towers
- Ensure the streetscape at Broadway is maintained and developed
- Respond sympathetically to the heritage buildings on the site

Constraints for the proposed building included:

- Provide high quality accommodation with a high standard of architectural design
- Ensure interfaces at Ground Level between the building and public areas add to the quality of the public realm by providing an integrated urban design solution that accommodates pedestrians, cyclists and vehicles
- Address environmental constraints such as solar access, noise, wind, privacy, reflectivity
- Employ ESD thinking in the design process

### Options

A number of design options have been explored for Block 1 as a residential scheme.

Pros and Cons of each scheme were weighed against each other in order to arrive at the preferred option. The photos and images to the right and on the following pages give an overview of these iterations and the thinking process behind this evolution.

The key drivers for the massing options were:

- Respect the concept plan established envelope and minimise additional overshadowing of the park
- SEPP65 separation distances to One Central Park and Block 4N
- Maintain the street frontage as described in the Concept Plan, which requires Block B1 to remain aligned with the surrounding blocks along Broadway and not to be set back
- Consider views onto and from surrounding blocks
- Maximum workable floorplan depth for apartments- see also plan studies
- Respond to the heritage buildings on the site
- Maintain the approved podium footprint and datum lines of approved Concept Masterplan.



Photos showing design processes at F+P

## Design Excellence

### The Design Process: Options

#### Development of the massing

With the aid of a 1:500 site model a number of different massing options have been explored for Block 1.

The photos to the right show the succession of massing options viewed from South East with One Central Park on the right and the Brewery and park in the foreground.

Images 1 and 2 show the original Concept Plan massing in blue and the revised concept Plan MOD 8 in yellow.

The principal change to the approved massing is the removal of the link bridges between 4N and 1. This results in two standalone blocks of accommodation.

It was established that the current footprint of Block 1 above the Podium, which was based on commercial uses, required to be reduced in order to accommodate apartments due to its deep plan footprint and required separation distances to adjacent blocks.

The model has also explored the overshadowing impacts on the park by Block 1, as well as the overall impact of the massing on the surrounding buildings and environs.

Apart from the reduction in depth of the footprint, the main development on these options occurs on the upper levels, where the stepping of floors is influenced by the Concept Plan envelope and solar access planes.

Different radiused corners were explored as part of responding to the language of the heritage building on the corner of Broadway/ Abercrombie Street.



01. Original Concept Plan



02. Concept Plan MOD 8



03. Block 1: Revised massing version 01



04. Block 1: Revised massing version 02



05. Block 1: Revised massing version 03



06. Block 1: Revised massing version 04



07. Block 1: Revised massing version 05



08. Block 1: Revised massing version 06



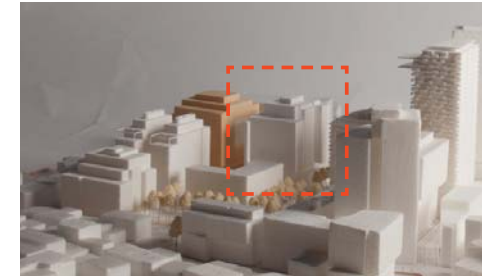
09. Block 1: Revised massing version 07



10. Block 1: Revised massing version 08



11. Block 1: Revised massing version 09



12. Block 1: Revised massing version 10

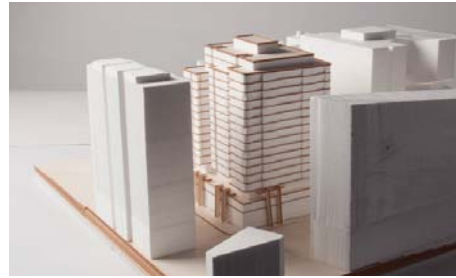
**Development of the massing**

After deciding upon the preferred 1:500 block model massing with the Client, a 1:250 model was developed to explore the language of the building in more detail. These larger scale models also aided with the development of the Podium external fins and the stepping of the upper levels of the block.

In order to draw light into the building and provide natural ventilation to the corridors, parts of the facade were carved to create "light shafts", which further articulates the frontage of the tower and modulates the facade.



View from North east corner, option A



View from North east corner, Option B



View from South east corner, option A



View from South east corner, option B

**1:250 model options**

**Development of the plan**

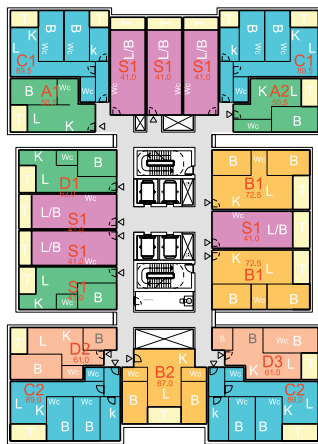
In parallel with the massing options, several residential options were explored in plan.

These ranged from H-shapes, L-shapes or linear towers oriented either North/South or East/West.

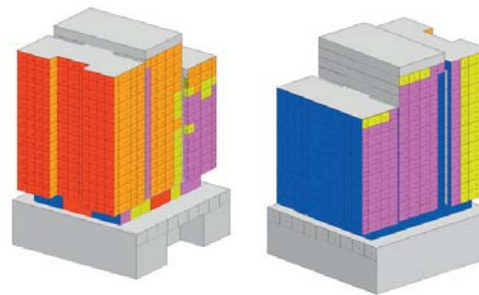
The team concluded that a full frontage should be maintained along Broadway to reinforce the street edge.

Solar access studies have been undertaken to benchmark solar access outcomes against SEPP65 metrics.

The diagrams overleaf describe different plan configurations that have been explored.



Example of initial space planning exercise for typical apartment floor



SEPP 65 Daylight access: Living rooms and private open spaces for at least 70 percent of apartments should receive minimum three hours of direct sunlight in mid winter between 9 am and 3 pm. In dense urban areas a minimum of two hours may be acceptable.

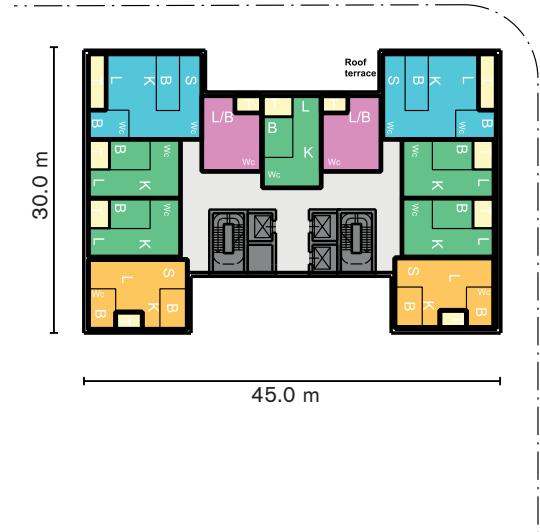
Direct sun in June 21st between 9am-3pm:

0h	2h	>3.5h
1h	2.5-3h	

Example of sunlight studies for direct sun onto living rooms.

**Design Excellence**

The Design Process: Options



**Option 1: H-Shape**  
October 2012



**Option 2: Thin Block North/ South**  
October 2012



**Option 3: L-Shape**  
October 2012



**Option 4: L-Shape**  
October 2012



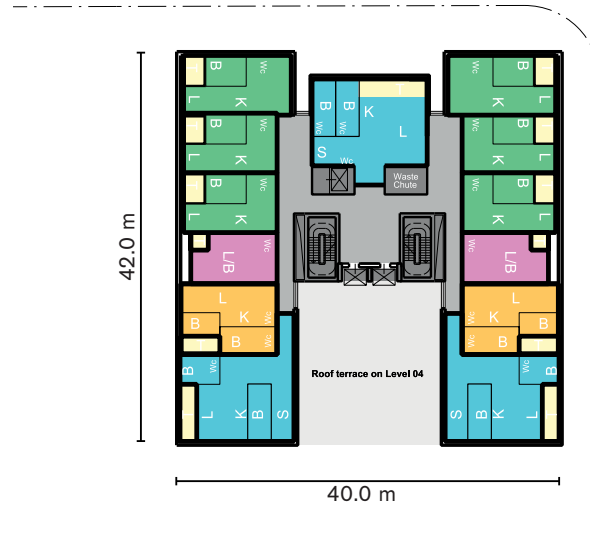
**Option 5: H-Shape**  
October 2012



**Option 6: Long Block**  
October 2012



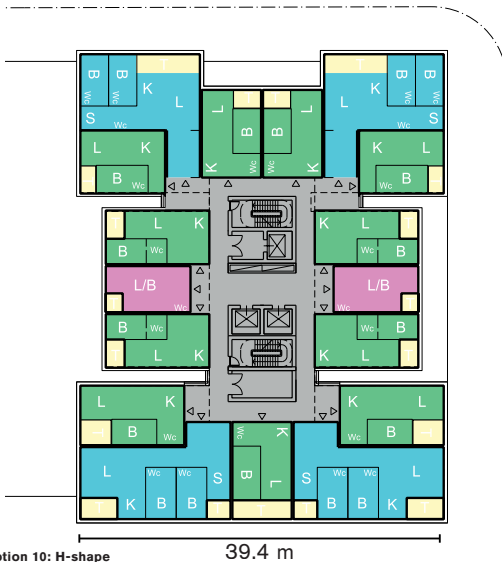
Option 7: Large H-shape  
October 2012



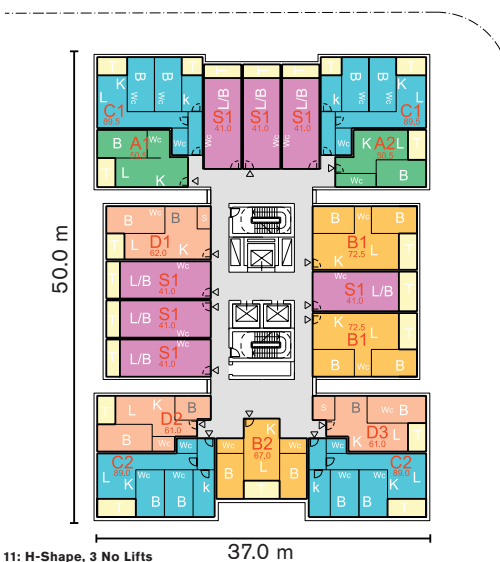
Option 8: H-shape with viewing lifts  
October 2012



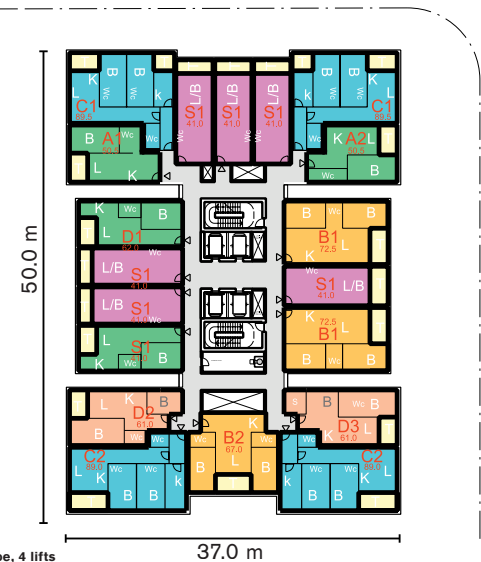
Option 9: H-shape, slimmer block  
October 2012



Option 10: H-shape  
March 2013



Option 11: H-Shape, 3 No Lifts  
March 2013



Option 12: H-shape, 4 lifts  
April 2013

**Design Excellence**

The Design Process: Options



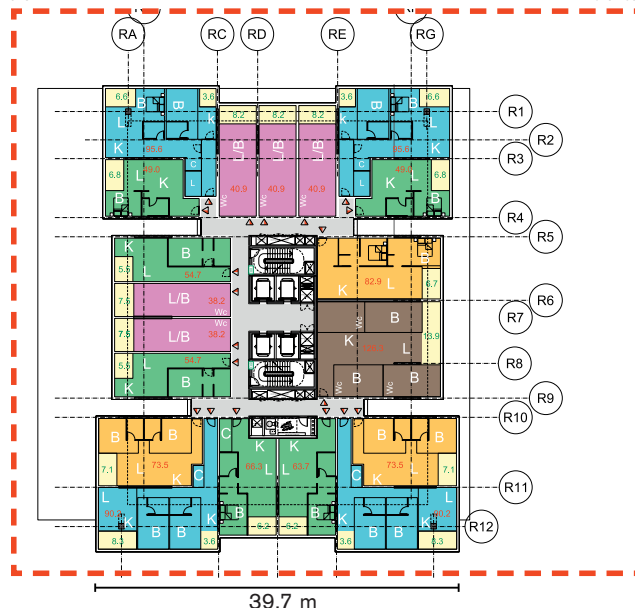
**Option 13: H-shape, bank of lifts**  
November 2013



**Option 14: H-shape, 4 lifts East facing**  
November 2013



**Option 15: H-shape, 4 lifts West facing**  
November 2013



**Option 16: H-shape, 4 lifts off-centre**  
December 2013

**Preferred Option, selected by Client and Design Team to be developed further**

**Development of the massing**

The Concept Plan stipulates guidelines to be adhered to for the streetscape along Broadway.

The language of the proposed massing for block 1 responds to the Concept Plan's set horizontal datums and set-back neck of the podium, as well as height and envelope restrictions. The curved corners for Block 1 derive from the curved language of the Australian Hotel and its horizontal emphasis is continued across the façade.

The approved Block 4N already responds to the rounded corners of the Australian Hotel on the junction of Broadway and Abercrombie Street, following the guidelines of the Concept Masterplan. The remaining corners of Block 4N however are straight and the building reads as a more rectilinear block. In the light of the proposed changes to Block 1, F+P explored several options for Block 4N in order to see which massing responds best to Block 1 and continues the streetscape along Broadway.



Block 2

Block 1

Block 8

Block 4S

**4N approved Concept Plan massing**

**Photo of Concept Plan + Latest Block 1 from pervious pages**

Massing model showing Block 4N as approved concept plan massing with linking bridges removed. Curved corner above Australian Hotel and horizontal Datums.

**Option Seen from corner of Broadway + Abercrombie St (North-West)**



**Option Seen from Abercrombie St (South-West)**



**01. Block 4N: Version 1**  
One Block, rounded corners, one massing.

**02. Block 4N: Version 2**  
One Block, no vertical articulation along Broadway, but vertical articulation along Abercrombie Street

**03. Block 4N: Version 3**  
One Block with stepped back centre part to create strong vertical emphasis on Broadway with flat facade on Abercrombie Street.

**04. Block 4N: Version 4**  
Proposed massing: curved corners link 4N to Australian Hotel and massing of proposed Block 1, with horizontality of facade continued across both blocks.

**Design Excellence**

Design Excellence: The Design Process: Block 4N

By removing the linking bridges and physically separating blocks 1 and 4N, the vertical language of Block 2 is continued along Broadway: Blocks 1 and 4N are now stand-alone blocks with a pedestrian link between them. It was found that the curved corners of Block 1 are an important element, which, if applied to Block 4N, will tie the blocks together and link back to the Australian Hotel with a common architectural language.

The streetscape will read as vertical blocks with a unifying horizontal language across the blocks, as already established by the set datum. It was found that vertically dividing Block 4N into two elements, thus the verticality of Block 2 is picked up in Block 4N as well as the rounded corners of Block 1



Australian Hotel, Broadway

