Introduction

After a century in which Chicago and New York remained unchallenged as home to the world’s tallest and best known modern towers, many cities around the world are fiercely competing for the title – nowhere more so than in Asia Pacific, where the crown has already been snatched from America by Kuala Lumpur’s twin Petronas Towers.

If this contest were simply a matter of size and ego, the criticism often aimed at skyscrapers would be well deserved. Yet the race for the clouds obscures the more profound changes taking place in the design and construction of tall buildings involving the creation of whole new genres, and the important issues underlying those changes. Where all large towers were once designed and built more or less the same way, with standard plans and parts, many of the structures built during recent years differ radically both from each other and from anything that went before them. Some are not shaped like towers at all and, like the new genres of skyscraper, are better described more broadly as vertical architecture. Where once they were built solely to provide more downtown office space, many now house numerous different activities, including public functions and spaces, and may not even be sited in urban areas.

Significantly, where skyscrapers once consumed enormous amounts of the fossil fuels that produce greenhouse gases, they are now increasingly designed to minimize energy consumption and will in future also generate a growing share of their own power from renewable sources. Many architects and urbanists now regard tall buildings not so much as forms created in opposition to nature, as they were once perceived, but as essential elements in a sustainable or ecologically friendly strategy for urban design. In particular, they are seen as an important part of the solution to out-of-control urban growth in both the developed and developing world, where the combination of vast megacities with populations numbering tens of millions and a chronic shortage of open land is critical.

(extract from the preface to, Abel, C. Sky High. Royal Academy of Arts, 2003.)

Main objectives

The principal objective of this project will be to explore alternative approaches to vertical architecture that question conventional solutions to form, function, structure, and energy use. Epitomized by the mono-functional ‘kebab’ of
apartment or office floors assembled around a central circulation core, the standard solution to high-rise building imposes a uniformity of urban design as well as architectural form and use. The most creative designers have sought to alleviate the problem by intensifying the level of social and commercial activity around the base of tall buildings. However, this has not affected the quality of life in the towers themselves, which mostly remain entirely separate, spatially, functionally and socially, from the level of the street and all the activities associated with it. Typically, the design of the taller structures, which invariably rely upon air-conditioning, also imposes a heavy environmental burden in terms of energy use and the production of greenhouse gases, which is no longer considered sustainable.

This project will encourage students to question the building type itself, and to explore and develop new design approaches which overcome the conventional divisions of space, form and function which normally separate tall buildings and their users from the street, and from each other. They will be asked to consider vertical architecture as an aspect of what Ken Yeang calls ‘vertical urban design’, and to examine design solutions and new morphologies, which, literally and metaphorically, raise the level of urban activity.

The site

Frequently voted as one of the most attractive cities in the world in which to live, Sydney also boasts many fine tall office buildings, most of which were formerly built in the CBD in the northern peninsula close to the Harbour Bridge. Recently, however, the city government, hoping to encourage more people to live in the centre of the city near to the main centres of employment and so reduce pressures on transportation and land, has encouraged mixed use development, including residential buildings, resulting in a major increase in the number of apartments in the central area.

This project falls within this general strategy. The site itself is one of the most important to be developed in this area in recent years. Bounded by George Street and Kent Street on the east and west and by Bathurst Street on the north, it is situated next to a heritage area covering some of the city’s most treasured buildings, including St Andrews Cathedral, Sydney Town Hall and the Queen Victoria Building. Strategically placed between the entertainment centres south along George Street and around Darling Harbour in the west, and the commercial and business centres to the north, the site lies immediately adjacent to the Town Hall Railway Station and is accessible by other major public transport facilities.

The boundaries of the site, which covers the former Regent Theatre, after which the development is named, extend to the edge of all three main streets, allowing access from three sides and pedestrian movement across the whole block. From the upper levels the new buildings will also command impressive views across
Darling Harbour and the rest of the city. Scheduled for mixed residential and commercial use, it is expected that the new development will become a vital part of the urban fabric, attracting people to live as well as work and shop in the central city.

The brief

The brief is based on the official brief issued by the clients, Greencliff (CPL) Developments, to the competitors in a limited competition for the development, which was won by Foster and Partners. Copies of the full brief together with supplementary information, including site plans and other drawings, are included on a CD, which will be given to each group of students (see Supporting Materials below).

Students should carefully study the brief, which is highly detailed and contains much useful information on design objectives and planning requirements, as well as the functional and spatial programme. Ross Palmer of Foster and Partners will also be explaining their design approach and winning scheme and will conduct a guided tour of the site in the second week of the project (see Timetable below).

However, for the purpose of this project the official brief is mainly intended as a convenient starting point and reference for students’ investigations and provides a realistic benchmark against which they may compare their own proposals. Accordingly, where appropriate, students are encouraged to depart from or adapt the brief in fulfilment of the main design goals outlined above. Thus, for example, while the brief stipulates two residential towers of unequal height but similar purpose, it would be permissible to propose a more complex vertical zoning of functions, which might encompass other, more varied uses, whether public or private. The possibility of linking the towers together or examining other more radical vertical configurations of form and function should also be actively considered.

Any and all such deviations or adaptations should be clearly set out in the early stages of the project (see Timetable below) in the form of a Summary of the Brief and accompanied by any appropriate data. However, while a flexible and innovative approach is generally encouraged, the following basic requirements and/or constraints will remain:

- The outer boundaries of the site will remain unchanged
- A minimum floor-to-ceiling height of 2.7 m is required
- A maximum building height of 150 m is required
- The number of underground parking spaces should be the same or close to the number provided in the brief
- A viable strategy for minimizing the use of non-renewable sources of energy is required
Method

All students will work together from stage one until completion in small teams, the membership of which they will decide upon during the separate preliminary project in the first three weeks of the session.

The purpose of working in teams in this fashion will be to simulate the real-life working conditions and collaborative methods that students will encounter in later practice. As a team, they will also be better equipped to tackle the complex problems and issues raised in a project of this kind, and not least, to produce the large amount of work required in a relatively short space of time – a common situation in practice, especially in architectural competitions.

In the later stages of the project, when students have refined their design concepts sufficiently, they may each focus on a specific aspect or part of the scheme in more detail. In this way, the final schemes will comprise both group and individual contributions.

Submission requirements

The drawings and reports to be submitted follow those required in the original competition, which covered a similar period of time as the project:

- Site plan at 1:500
- Contextual site study
- Summary of the Brief containing any amendments and/or additions to the original competition brief
- Conceptual analysis of the proposal
- 1:200 typical floor plans of the towers
- 1:200 key floor plans of the podium/lower floors
- 1:200 key building sections and elevations
- Representation of the overall form, colour, materials and finishes
- Perspectives and/or photomontages of the proposal incorporated into the images of the site and surroundings issued with the CD
- A block model of the proposal, which can be inserted into a site model of the same scale to be built by the class at the start of the project

All drawings, images and written sections should be documented in both digital and hard copy formats (i.e., as a printed report) suitable for study by the client and any other external parties to the project.

In addition, each team should include at least one relevant case study per student, i.e., three case studies for a three-member team. All case studies, which may be located anywhere in the world, should be selected for their designers’ innovations in the evolution of highrise architecture and their relevant features analysed.
USYD OPEN STUDIO 2006: TUTOR CHRIS ABEL

Timetable

Week 4  28 March  Brief and supporting information
Week 5  4 April  Guest speakers and site visit
Week 6  11 April  Tutorials
Mid Semester break
Week 7  27 April  Case studies and sketch proposals (with guests)
Week 8  2 May  Tutorials
Week 9  9 May  Tutorials
Week 10  16 May  Tutorials
Week 11  23 May  Final presentation and assessment (with guests)

Supporting materials

A CD will be issued to each team containing a full copy of the competition brief, together with supporting information such as site plans and other drawings, as well as key images of the site and surrounding areas. The latter may be used in composing suitable perspectives and photomontages of the design in context, as required above. Copies of several papers and articles selected from the reading list as indicated below are also included on the CD.

Recommended reading


CA/27/03/06