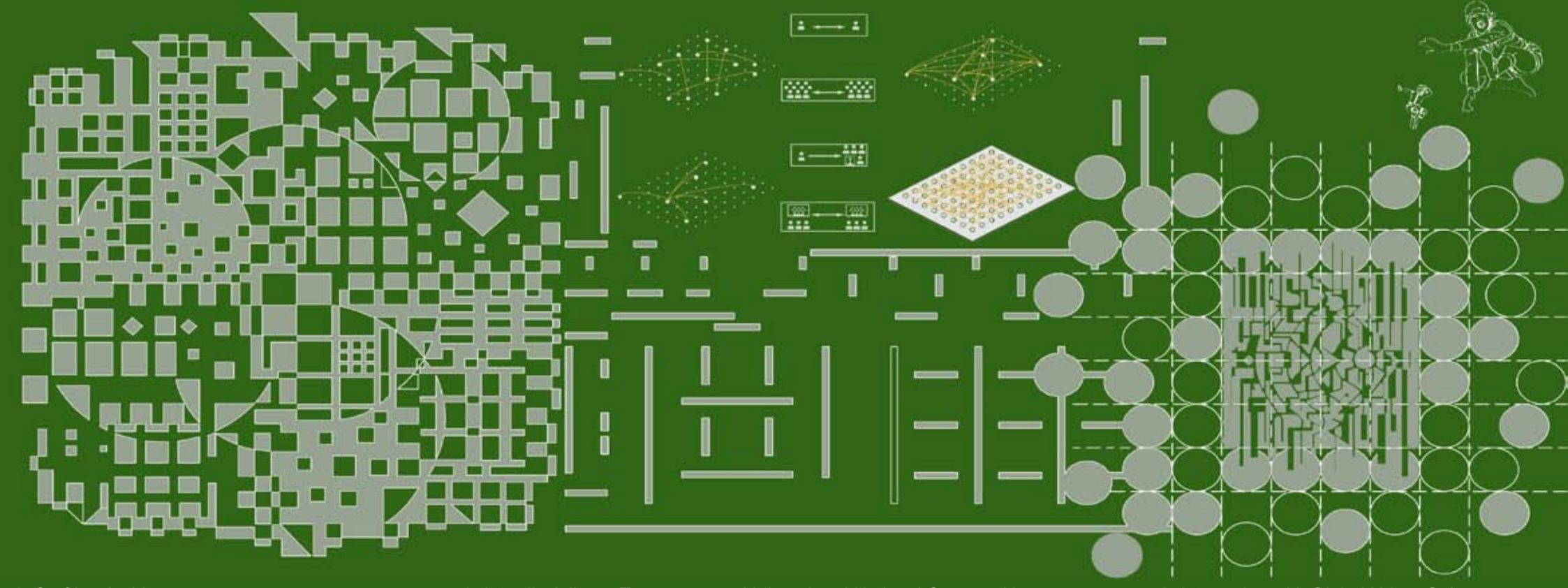


*1. Crafting Architecture*

*2. Interdisciplinary Engagement with Local and National Communities*

*3. Interaction with Global Urban Cultures.*

**BUILT PEDAGOGY FOR THE 21ST CENTURY**

**Context**: We see the architects of the coming century donning the gloves of imagination and creating solutions beyond the orthodoxies of the 20th century. We are in the Age of Transition between orthodoxies.

**Pedagogy**: Perceptions about the pedagogy of architecture differ wildly. In this climate of differing perceptions lie the opportunities for greater visions to emerge for a new design school. A new pedagogical environment would enable unorthodox linkages between Production, Interaction and Design.

**Activities and the Built Form**: The shifting boundaries of knowledge in the coming Age of Transition would therefore need recognition in the built pedagogy. Teaching, research and knowledge transfer would be facilitated by the three activities each of which require varying design and performance specifications:

1. Crafting Architecture.
2. Interdisciplinary Engagement with Local and National Communities.
3. Interaction with Global Urban Cultures.

**The crafting of architecture** and its formally teaching it are inseparable. The work spaces with digital tools, multi- material workshops and technology access nodes are to be fused visually and functionally with spaces for teaching and designing. Exploring the frontiers of crafting architecture can be stretched and explored when design and craft have a seamless boundary and solutions emerge from a range of hands-on workshops supported by digital capacities.

**Engaging with interdisciplinary local and national communities** requires opening jury events to the public within the school and outside it. We see the design school having urban interactive show windows for school activities in the city. Accommodations require the design school to engage with the surrounding community. Thus the provided spaces will facilitate intercommunications, collective gatherings, public lectures as well as dedicated spaces for individual and group research based activities. The entire Public Programme of lectures and events will be run out of this activity.

**Interaction with global urban cultures** will mean that the activities of The Melbourne School of Design will be extended beyond national boundaries. Planned accommodation is seen enabling staff and students accessing core service facilities providing for enabling distance learning, summer schools, video-conferencing and exchange staff and student programmes. These nodal facilities will require spaces for individual, group as well as research facilities to be interconnected to global networks. The geographical location of Australia with its young cosmopolitan culture makes it a natural location for a pan-Asian-Pacific design hub. No longer a country dominated by post-colonial values, Australia is a young nation capable of providing unique initiatives to guide the momentous energies of transition that the Asia –Pacific region will experience in the coming century.

architecture

**Centre for Dental Studies**
Jamia Milia Islamia, New Delhi
*North and South Building Views*
*romi khosla design studios*

architecture

**Dharamsala**
Guru Tegh Bahadur Hospital, Delhi
*Corridor View and Rear View*
*romi khosla design studios*

architecture

**Castro Cafe**
Jamia Milia Islamia, New Delhi
*Evening View*
*romi khosla design studios*

architecture

**United Breweries Headquarters**
Bangalore
*View*
*romi khosla design studios*

**M E L B O U R N E  S C H O O L  O F  D E S I G N**
R o m i  K h o s l a  D e s i g n  S t u d i o s

E X P R E S S I O N  O F  I N T E R E S T
S i n c l a i r  K n i g h t  M e r z

## THE ACADEMIC ENVIRONMENT

We see the Melbourne School of Design achieving the highest standards of teaching and research within the parameters of the well-established academic culture of the University. The overarching University culture of the campus that has historical roots would provide the parameters within which the pedagogy of architecture would be transmitted. While we see this established culture providing the discipline and standards for the pedagogy, we also see the need for new styles of work and academic outputs emerging out of the new school of design. The accommodation required to foster outputs that address the Age of Transition will need to provide a flexible space allocation system that will enable personalization of work environments as well as spaces for post-graduate teaching in small and large groups.

These flexible space allocation systems will have a network of service nodes in the floor plates and ceilings. Thus a high density of connectivity to the environmental networks can continue while subdividing spaces for tailor made situations and needs.

Our collaborators Sinclair Knight Merz (SKM) have a broad range of experience in engineering projects designed to be flexible and easily modified to meet changing demands. To maximise this potential, SKM recognise the need to integrate designs early on in order that the architecture, structure and services engineering design are developed to allow maximum flexibility in the design.

Good examples of this include the New Terminal Building at Barajas Airport in Madrid where the entire concourse has been designed with a free roof space that allows a maximum amount of flexibility and growth as the demands of the airport change over the years. Another good example is the Sackler Gallery at the Royal Academy in London where SKM worked with Norman Foster Architects to create a gallery space that was free and open and allowed a range of exhibitions including paintings and sculptures to be hosted there.

We recognise that university campuses are ever-changing environments and there is a need for new modern buildings to sit alongside existing

RKDS and SKM, both have experience in the design of modern research, teaching and exhibition facilities within an existing historic building. Two recent project examples are the National Gallery of Modern Art set witthin a 19th century colonial theatre building in Mumbai, a new Learning Resource Centre at the University of Surrey at Guildford where the demands of the old 'library' have moved on. The space required to provide book storage space has diminished and this building, currently in design phase, is being examined in terms of achieving maximum flexibility through the engineering design so that in time, areas could be switched from lecture theatres to language laboratories. Space was also a major challenge as the building has been designed to slot in between two existing buildings.

Another SKM example is the completed infill building at the London School of Hygiene and Tropical Medicine. The building has a modern lecture theatre and research facilities that were inserted into the courtyard of a building constructed in the 1920's.

**Semi-Conductor Facilities**
Chandigarh
*Large, flexible and usable spaces*
*romi khosla design studios*
*architecture*

**Children's Playground**
Deepalaya School, Haryana
*Moulding spaces*
*romi khosla design studios*
*architecture*

**Barajas Airport**
Madrid
*Column free spaces*
*sinclair knight merz*
*engineering*

**Sackler Gallery**
Royal Academy, London
*Flexible learning environments*
*sinclair knight merz*
*engineering*

## THE DESIGN STUDIO

The accommodation required for the design studio is most critical to enable the best-known opportunities for the design and crafting of architecture. The location of the studio needs proximity to the service nodes providing digital, mechanical and multi-material workshops where modeling and testing can be carried out. The larger studio space will be capable of fractal subdivisions for short project-to-project durations. These sub-divisions are seen to provide for individual and group work spaces as well as presentation, jury and small exhibition space. The support services that will act as nodes to the studio spaces will have dedicated and spaces each with its own hardware to be accessed by the staff and students in their permanent locations. The overall studio space will accommodate timetabled teaching spaces and non-teaching support spaces for access to the serviced nodes as well as display, exhibition and jury events.

RKDS and SKM have a range of experience in the design of college and university buildings. In some, the intended space needs to be altered in both the short term in order to deal with different uses on a day to day basis whilst at the same time recognising that over the life of a building the requirements and demands will alter. Libraries are a very good example of this.

Examples of where SKM have used this skill was in the design of the Music Building at the University of Kent. Designed as a naturally ventilated space there was a requirement that the internal spaces had to serve a variety of functions at any one time ranging from music rooms where students could practice through to teaching space and finally open plan offices.

Similar challenges faced SKM in the design of the College of Music in Manchester. Again a variety of space were required to be generated that would allow for a small concert venue and rehearsal rooms.

At Westminster Kingsway College in London, SKM were asked to produce a very flexible building that could alter with time and actually cope with change of use between faculties and departments in line with the phasing of the expansion of the University. Set in a very tight urban environment the building needed to be naturally ventilated. The building replaced an existing building and SKM were creative in that they were able to reuse a large number of the existing foundations.

The Aylesbury College brief demanded a variety of very different spaces generated in the one building ranging from double height workshops, a learning resource centre, a sports hall refectory and teaching facilities. All these were required to be built on an existing confined campus.

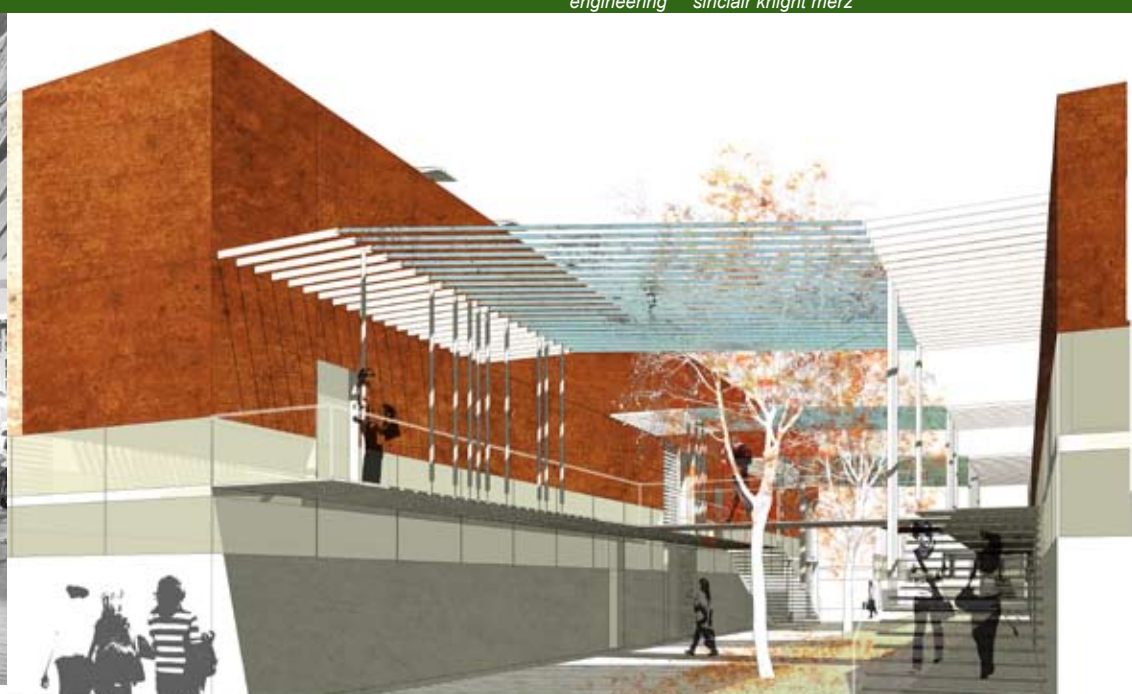
A final example, that is currently on site, is the design of a sports hall and swimming pool. Both have needed to have clear spans, but the former is required to be quickly divisible into smaller sections where the use changes from indoor football to badminton.

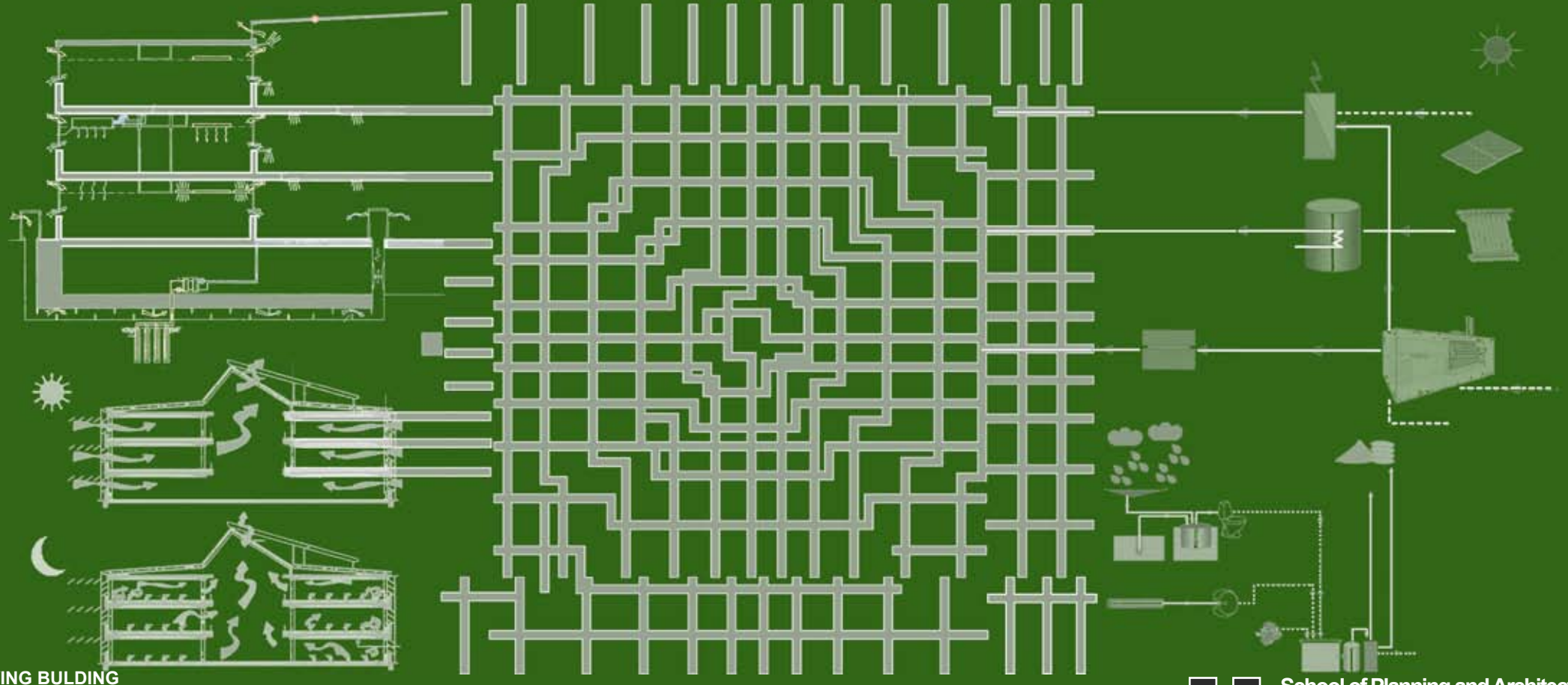
**Learning Module**
Prototype built in New Delhi
*View*
*romi khosla design studios*
*architecture*

**School of Planning and Architecture**
New Delhi
*Design Studios with roof lights*
*romi khosla design studios*
*architecture*

**Music School**
University of Kent, UK
*Exterior View*
*sinclair knight merz*
*engineering*

**Aylesbury College**
?
*Interior View*
*sinclair knight merz*
*engineering*





**THE LIVING BULDING**

The living building will be created out of the interaction between multi-disciplinary consultant and user wisdom working in tandem. Each discipline will initially formulate design specifications in which the architectural, service and vendor performance specifications will overlap. The living building is seen to be the product of the right choice of performance specifications, which will guide the entire design and faculty collaboration process.

Along with a Living Building is the concept of a Healthy Building. There are a vast number of options that RKDS and SKM would look at in terms of the development of the design. These range from the way you would look at the movement of air through the building, to managing water and light as well as looking at the idea of introducing plants into and around the building.

RKDS and SKM would examine the use of natural ventilation in the building in a very creative way. Fresh air could be used as far as possible along with the use of natural daylight for the studios areas in particular. The application of ground source heating and cooling may also be explored.

The use of water in the building will also be paramount. As well as examining the feasibility of grey water, we would also look to the extensive use of water harvesting from rain water run-off.

SKM are currently working on projects where plants are being introduced into the building design by way of reducing the impact of cooling and as a means of reducing air pollution. Plants could be grown on the elevations to absorb pollutants whilst being irrigated by means of grey water.

As this is a building where the architects of the future are to be trained, we feel it is important that the environment that they are exposed to in the initial stages of their career should highlight how a building comes together. We would see the building having exposed structure as far as is reasonable. The same would apply to the servicing strategy where again as much of this would be as open as possible and would give the occupants a very clear idea of how it works.

SKM would design the engineering to ensure the 6 star rating system with which they are very famiiar. A number of members of their staff in Australia were instrumental in producing significant parts of the document.

**School of Planning and Architecture**
New Delhi
*Design Studies*
*romi khosla design studios*
*architecture*

**School of Planning and Architecture**
New Delhi
*Design Studies*
*romi khosla design studios*
*architecture*

**The Eden Project**
Cornwall
*Regeneration*
*sinclair knight merz*
*engineering*

**Docklands Light Railway**
Langdon Park Station, London
*Evening View*
*sinclair knight merz*
*engineering*


**MELBOURNE SCHOOL OF DESIGN** EXPRESSION OF INTEREST
Romi Khosla Design Studios Sinclair Knight Merz

| Stage | Process Phase | Design Consultant's Role | Faculty and University's Role |
|---|---|---|---|
| 1 | Performance Brief | Draft volumes describing : architectural performance specifications services performance specifications vendor performance specifications | |
| | *Seminar Presentation* | | Convene seminar to evaluate performance specifications |
| 2 | Sketch Design | Based on the final volume defining performance specifications, prepare conceptual schemes | |
| | *Jury Evaluation* | | Convene a jury of experts to evaluate sketch design and modify |
| 3 | Scheme Design | modify sketch design and propose basis for scheme working drawings | |
| | *Jury Evaluation* | | Convene a smaller jury of experts to evaluate scheme and all parameters |
| 4 | Working Drawings | Convert scheme design into production drawings and tender documents | |
| | *Project management Evaluation* | | Identify project managers to evaluate production drawings, buildability, vendors and contractors. |
| 5 | Construction | Conduct site visits | |

**PROCESS AND CAPABILITY**

**Process**

The dedicated multi-disciplinary design team of architects and engineers from Romi Khosla Design studios Delhi and SKM Melbourne will process the project in five stages in collaboration with the University and Faculty of Architecture shown above.

The jury and seminar events will punctuate each of the first three phases and will establish a secure and transparent exchange of information and ideas between the design team, the Faculty and the University. We visualize these as open events with broad participation from students, teachers, professional, administrators and teachers in the first three phases. The entire process and documentation will become a pedagogical project.

**Joint Capability**

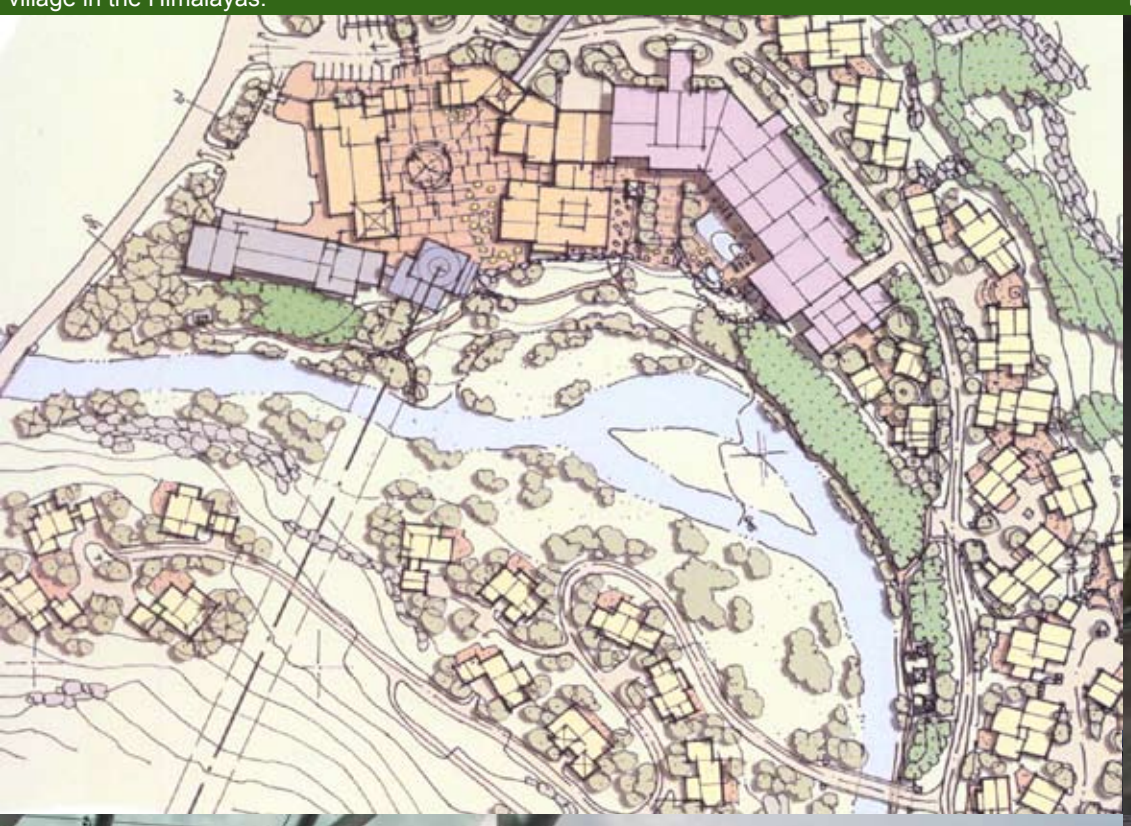
Both Romi Khosla Design Studios as well as SKM global have extensive experience of delivering large-scale projects in the educational sector. They have collaborated together on a large-scale tourism related project proposal for a ski village in the Himalayas.

**Capability of Romi Khosla Design Studios (RKDS)** The extensive design experience of RKDS is available on their web site <www.rk-ds.com>.The partnership firm has extensive architectural as well as urban planning experience. It has regularly collaborated with international partners and institutions. Their dedicated commitment to deliver projects at international locations is witnessed by their frequent re-location to project areas around the world. Romi Khosla has implemented large-scale urban renewal projects in the Balkans with the UNDP by re-locating in Bulgaria and establishing numerous design offices to simultaneously deliver projects in up to 12 Bulgarian cities. He also re-located to Palestine on a UNESCO mission to formulate standards for future schools in the region with the Education Ministry of the PLA and set up the local office to deliver the project. For the Melbourne School of Architecture Project, RKDS will follow the same practiceof re-location for project delivery. process.

For the Melbourne School of Architecture Project, RKDS will follow the same practiceof re-location for project delivery. One partner from Romi Khosla design Studios will re-locate to Melbourne and establish a local office with the support staff during the first three stages of the process. Romi Khosla is registered with the Council of Architecture in India as well as a member of the Indian Institute of architects. The Royal Institute of British Architects recognizes his qualification from the Architectural Association U.K.

**Capability of Sinclair Knight Merz (SKM)** is a leading engineering, sciences and project delivery firm. Its purpose is to deliver a positive and enduring impact on the world. In support of this goal, we now employ 6500 people in 48 offices across Australia, New Zealand, Europe, the Middle East, South America and Asia.

We work in close partnership with key clients in the public and private sectors, providing independent technical, strategic and commercial advice to deliver a wide range of projects in the communities in which we live. Wholly employee-owned, SKM is an organisation with a proud history and we embrace shared values and an open culture. We have a commitment to service and quality, with high standards of safety and business ethics, along with a leading edge approach to delivering a sustainable future. As a group of engineering designers we are familiar in working as part of teams in the delivery of projects of this size and scope. We can supply references from various clients who can support this statement. We would support the Architect's office in Delhi through our teams in India and London. At the same time our Engineering and Architectural team in Melbourne would be able to provide local support. SKM is familiar with delivering projects that are remote as we regularly work on projects with other teams across our global network of offices. This mode of working also provides additional benefits of being able to provide a 24-hour design service on projects where design time is of the essence.



**MERIT**

Romi Khosla Design Studios is headed by two Architectural Association graduate partners whose graduation is separated by 30 years. It is one of the leading design companies working out of South Asia. Romi Khosla is well known internationally and has been a member of the jury for the Aga Khan Award for Architecture based in Geneva. He has been a key participant in the Any conferences in Istanbul and New York. He has authored two books on architecture. His writings and design work have been featured in international journals including A+U, Phaidon, Architecture-Aktuell, Arch+, Wallpaper, Moncelli Press, Architectural Review, Lotus International, Anything, Anytime, AA Quarterly, Geographical magazine, Mimar and several Indian publications.

As senior partner of RKDS, apart from his extensive design experience, he has been Principal Consultant to UNDP for urban and architectural renewal projects which he formulated and implemented in Bulgaria, Romania, Egypt, and Cyprus,. He has been a Tourism Planning Consultant team member to WTO for the preparation of the Tourism Master Plans for Tibet and Hainan, China. As a special emissary to the Prime Minister for India he prepared the Urban Development Strategy for the Island territories of Andaman and Lakhswadeep.

Romi Khosla is a leading educational specialist and has worked as a building Design Consultant to UNESCO in the Middle East. He was also architect to the British Government (DFID) education buildings project in India, Romi delivered the keynote address to the School Building Association at the CEFPI Brisbane Conference in 2003 where he talked about "Deepening the role of Design in Educational Infrastructure"

Romi Khosla Design Studios has designed and completed large number of schools, colleges and university buildings in India. As architectural consultants, they prepared the design programme and architectural proposal for the Aga Khan Academies programme in Africa. Their work has been recently featured in Phaidon's "Atlas of 21st century Architecture", Two of their designed buildings have won the World Architecture Community Awards in 2008-9. Together with SKM UK/Australia, they prepared the scheme design for the first large ski resort facility in the Himalayas valued at over $500 million.

Their work can be accessed at www.rk-ds.com

Romi Khosla Design Studios, is presently involved as the lead architects for some of the most prestigious buildings in Asia of which some have won awards and critical acclaim in the International press. These projects are:

*Castro Cafeteria, Jamia Milia islamia:*
This project was a semi-open air student's café made out of steel and off cuts of waste marble. This project has been featured in Phaidons 21st Century World Architecture Atlas and on the cover of Random House publication on the modern architecture of New Delhi, as well as in several international journals including Architektur-Aktuell, Arch+, Wallpaper etc.

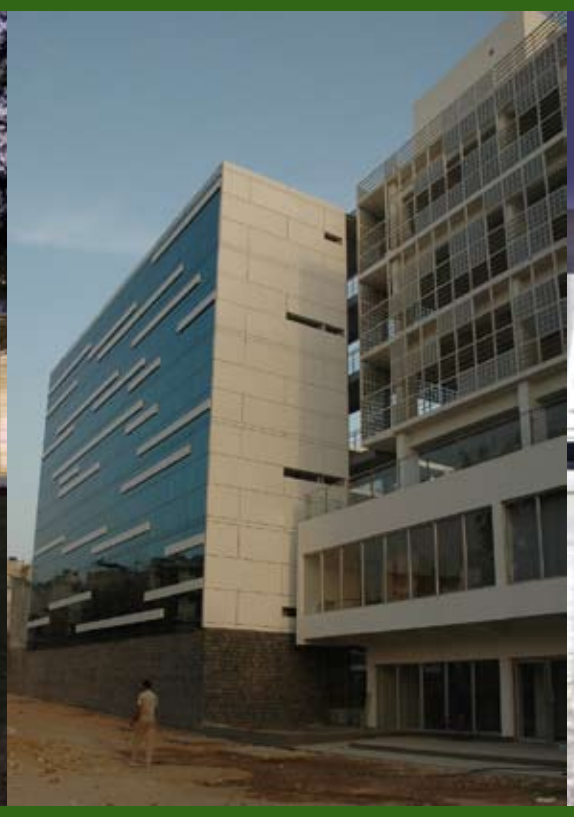
*Hospice, Guru Tegh Bahadur Hospital :*
This project was a low cost facility build as a hostel for the families of extremely poor patients coming to the city for treatment. This building is a simple modernist building with residential facilities with dormitories and family rooms. This project won the World Architecture Community award in 2008.

*Eicher-Volvo Headquarters, Gurgaon:*
This building to be built on the outskirts of New Delhi for the transport company giant Volvo Indian Arm. This building is designed as an exposed structure stabilized cube with large column free spans to allow for tremendous internal flexibility. The external louvers are designed to be responsive to the tropical climate of India. This building won the world Architecture Community award in 2009.

*Indian Embassy – Tashkent, Uzbekistan:*
Romi Khosla Design Studios is the architect for the extremely prestigious embassy project in Central Asia.

*Special Economic Zone for Suzlon Industries:*
Romi Khosla Design Studios is presently completing a 600 Acre production facility for one of the largest wind turbine manufacturers in the World. The studio designed 50,000 sq mtr of office space for this project, as well as all the master planning work.

*Assam Valley School:*
RKDS has designed and delivered a 200 acre campus for a boarding School of 2000 students.

**MERIT**

Sinclair Knight Merz (SKM) has a very strong record in the creation of iconic architectural buildings. Many of our projects go on to win major architectural prizes in the UK.

Some of the projects that have won major awards are:

*The Eden Project, Cornwall.*

This project involved the construction of a series of 'greenhouses' in excess of 100 metres in diameter that form a botanic garden and education centre in Cornwall. The building is sited on a former clay quarry and has had a huge impact in terms of regenerating land whilst creating a botanical reserve and a new tourist centre creating many new jobs in the area.

The project has won many awards including Project of the Decade and Excellence in Collaborative Engineering, as well as the 'Best New Building' in the United Kingdom as voted for by the public.

*New Terminal Building, Barajas Airport, Madrid, Spain.*

For this iconic building, SKM teamed up with the Richard Rogers Partnership to produce a high quality building that is capable of handling 35 million passengers per year. With the linear arrangement of its geometry it has the capacity to expand to accommodate more passengers as Madrid grows to become an important transport hub. The roof profile also allows a maximum of natural light to penetrate the building.

The project was awarded the prestigious RIBA Stirling Prize in 2007.

*Docklands Light Railway, Langdon Park Station, London*

The recently completed station at Langdon Park near Canary Wharf in London was both an important creation of a transport hub as well as a major regeneration project for an area experiencing low employment, lack of transport links and crime. The Client was seeking a design that created a landmark for the area and offered a barrier free access to the London transport network.

The project was awarded the 2008 British Construction Industry's Regeneration Award.

*ANZ Stadium, Sydney, Australia*

This stadium structure hosted the Sydney Olympics in 2000 and has since been used for the hosting of other major sporting events including the Rugby World Cup Final in 2003. SKM was the design engineer responsible for the project and since has had a major involvement with many other stadiums in Australia (Gold Coast Stadium), Southern Africa and Europe.

ANZ Stadium was awarded the British Construction Industry's International Award in 1999.

*Brighton and Hove Library, Brighton*

The new Public Library in Brighton was generated by a need to regenerate a run-down area. The building achieved an excellent BREEAM rating which equates to achieving 5/6 under the Australian Green Star assessment.

In 2005, the project was awarded the Prime Minister's Better Public Building Award and the British Construction Industry's Building Award.

*Maggie's Cancer Caring Centre, Inverness, Scotland*

The centre is a place for people who have cancer, their families and friends. With an emphasis on relaxation, the design concept focuses on creating an organic form. Despite many structural design challenges SKM opted for a timber building as the most appropriate solution for both aesthetics and ease of construction. The project was awarded the RIAS Andrew Doolan Award, commonly known as the Best Building in Scotland Award in 2007.

*Pier Arts Centre, Stromness, Scotland*

This project involved the refurbishment of two existing 18th Century stone buildings along with the design of a new link building to create a centre that houses an important collection of modern British Art. There were numerous engineering challenges that arose in getting the three buildings to link together effectively in order for the buildings to work as a gallery space.

In 2008 the project was awarded the RIAS Andrew Doolan Best Building in Scotland Award and more recently the 2009 European Union Prize for Cultural Heritage / Europa Nostra Award.