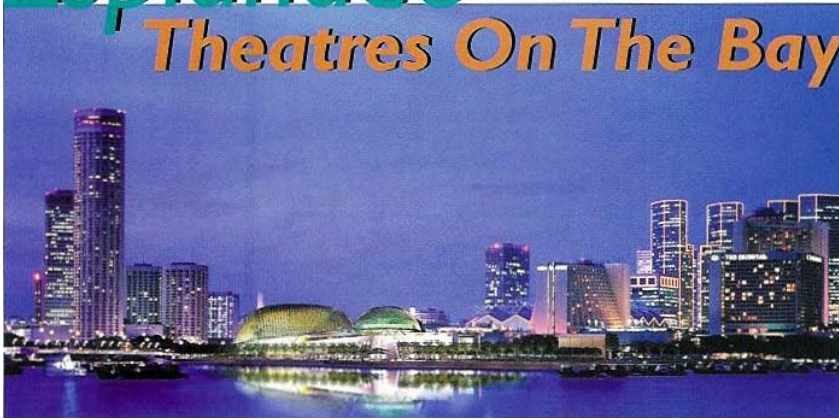


# Esplanade Theatres On The Bay



## About Esplanade

Esplanade is strategically located by Marina Bay, near the mouth of the historic Singapore River. Built on a six hectare site that reflects the harmonic balance between man and nature, it comprises the latest technological equipment and the finest acoustics within its halls. These would make Esplanade comparable to the world's top performing arts centre, thus bringing Singapore to the forefront of the international arts scene.

The Concert Hall and the Lyric Theatre are the major focal points of Esplanade. Both have a unique shape, which enhances the acoustics in the performance halls. They are constructed like a building within a building. Each

large hall is built as an inner shell. The two buildings are separated from the rest of the building, which ensures that performance is not marred by any external noise.

The Concert Hall is the premier performing venue for music. Highlights of the Hall include reverberation chambers and an acoustic canopy. These slate-of-the-ail mechanisms allow the Hall to highlight different types of music. Another noteworthy feature is a Klais pipe organ with 4,889 pipes and 61 stops. The Concert Hall can seat up to 1,600 people with an additional 200 seats in the choir stalls. The stage can accommodate an orchestra of up to 170 musicians.

The 1,950 capacity Lyric Theatre has followed the traditional horseshoe form of Italian opera houses, and is designed for the presentation of traditional Asian and Western performing arts as well as the most advanced

multimedia presentations like variety shows and 'live' televised performances.

An integral part of Esplanade, Recital Studio, Theatre Studio and Rehearsal Studio provide flexible venues for small-scale music, dance and drama performances or rehearsal

The four storey arts-themed Esplanade Mall will provide 8,000 m<sup>2</sup> in commercial area, offering thematic F&B, art-related shops and services all under one roof.

## About DP Architects

In its history of 34 years, DP Group of companies, in which DP Architects is the main component, has established a significant presence in Singapore as a premier architectural firm providing a range of services from architecture, urban planning, interior design, and project management.

The firm is founded on a deep concern for a conscious effort towards creating architecture of excellence where the enrichment of the human experience and human spirit are reflected both in the planning and the architecture of the firm. The priority for today and the way to the future is in specialisation of projects of international standard in concept, design quality and appropriate application of technology. In this way, DP Architects aspires to make a significant contribution to the region and in particular to Singapore as a city of excellence in the 21st Century.

DP Architects has undertaken and completed numerous large projects such as Suntec City, Pontiac Marina, Bugis Junction and is currently handling the Esplanade.

## At A Glance

### Project Manager

PWD Consultants Pte Ltd (Singapore)

### Architect

DP Architects (Singapore)  
Michael Wilford & Partners (UK)

### Acoustic Consultant

Artec Consultants Inc (USA)

### Theatre Planners / Consultants

Theatre Project Consultants (UK)

### Cladding Consultant

Atelier Group of Companies (Germany)

### Cladding Contractor

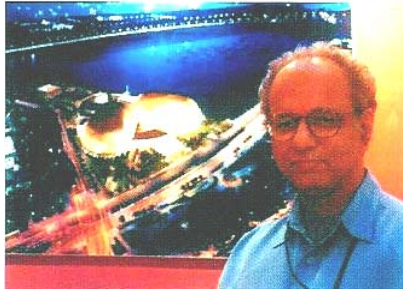
Mero Raumstruktur GmbH & Co  
(Germany)

### Main Contractor

Penta-Ocean Construction Co Ltd



Twelve Directors from DP Architects



Vikas Gore is the project director for the Esplanade, Theatres on the Bay project.

## **Esplanade Integrates Modern and Asian Elements - Interview with Vikas M. Gore**

“To design the exterior sunshade screen, we drew inspiration from properties of the structural geometry itself as well as elements from nature such as sunflowers, fish scales, the patterns of a bird's feathers etc.... Traditional Asian buildings also inspired us, ranging from ‘jali’ screens in medieval South Asian architecture to the woven mat walls in Southeast Asian buildings.”

- Vikas M. Gore  
The project director for the Esplanade

*Vikas M. Gore is a Director of DP Architects Pte Ltd and the project director for the Esplanade, Theatres on the Bay project. This interview explores the design concept of DP Architects in designing the Esplanade, which will be completed in October 2002.*

**ABC: When did you start working on the designing of the Esplanade?** Gore: In late 1993 DP Architects won the competition together with Michael Wilford & Partners (MWP). We worked together in designing this project until May 1995. After that MWP left the project while continued to evolve the design.

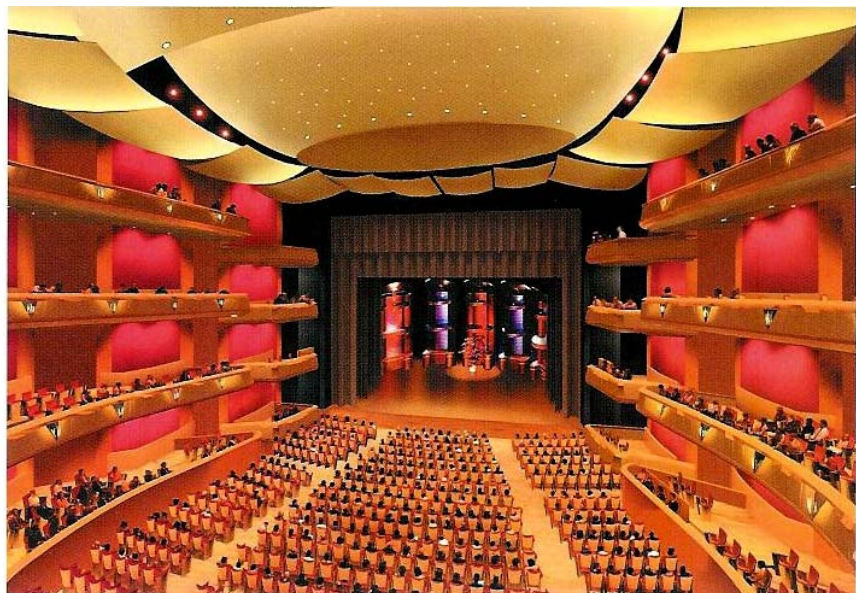
**ABC: What did the original design of the Esplanade look like when it was shown to the public in 1994?**

Gore: We always intended to use some kind of shading over the building. However, when we showed the Esplanade design to the public in 1994, the exact type of shading hadn't been designed. Therefore, it was just with the enclosures over the two main theatres as glass cases. There was some resulting criticism from the public that there was too much glass and that the design was too Western. We kept these comments in mind as we continued design on the project. Particularly after MWP left the project in 1995, we made quite a few changes, especially in the cladding which emerged in collaboration with

our engineers Atelier One, and subsequently it was detailed with Mero, the contractor responsible for building the cladding. In its present form it is a curved steel space frame with glass over it. And over the glass, there are aluminium sunshades.

**ABC: Can you talk about your designing of the cladding and sunshade system after MWP left and where you drew your inspiration?** Gore: After MWP left, we worked with an engineering firm called Atelier One in designing the cladding system. The distribution of the sunshades we designed follow slowly changing pattern. To design the exterior sunshade screen, we drew inspiration from properties of the

structural geometry itself as well as elements from nature such as sunflowers, fish scales, the patterns of a bird's feathers etc. Such elements in nature also feature geometry that appears repetitive but changes slowly over the subject. Traditional Asian buildings also inspired us, ranging from “jali” screens in medieval South Asian architecture to the woven mat walls in Southeast Asian buildings. If you look at the exterior cladding from above, the sunshades appear closed to protect the interior of the building from the sun. If you look at it from the side of the building, the sunshades are open to varying degrees depending on the angle of view such that theatregoers will be able to enjoy the beautiful setting of the Esplanade



Lyric Theatre





Entrance of the Lyric Theatre

- with views of the waterfront, the Padang (field) and the major buildings of the civic district. This changing distribution of the sunshade screens offers an unobstructed view from inside, but also blocks out much of the sun. Realising that the orientation of the sunlight is different in relation to both auditoriums, we oriented the sunshades over the two auditoriums differently. The grid on the Lyric Theatre runs at 45 to the axis; whereas the Concert Hall's grids run in a straight line to its axis.

We are able to achieve all this with intensive use of our computer system. The design for the form of the roof as well as the structure was driven with the help of computers. MWP, who had just started using CAD software, had withdrawn from the project and DP Architects had been using CAD from the mid 1980s. Fortunately it turned out that, Atelier One and DP Architects both used the same software, MicroStation. We were therefore free to explore the potential of computer aided design to the maximum extent in designing the cladding and sunshade system. Without computers it would have been impossible to design the system we see today.

**ABC: How has the design of the Esplanade evolved since it was shown in 1994?**

**Gore:** The structure and the form of the design we showed in 1994 were more geometric and angular. The main structure of the cladding was supposed to run vertically up and down. Over the months however we intentionally shaped the structure into its present softer form, presenting a more organic looking building. The curves of each of the shells offset the rich texture of the external aluminium sunshade layer. On the other hand, as I've written elsewhere, I feel that the shapes help lend the project a sense of tranquillity and typical of some traditional Asian architecture.



The floor at the ground level entrance and concourse is paved with stones in warm colours to create a welcoming atmosphere.

**ABC: How do you incorporate Asian elements in your design?**

**Gore:** We tried to design a building that is Asian, without being traditional. One doesn't need to have a Chinese roof or a Minangkabau roof to be Asian. It is possible to be modern, yet still very Asian. Besides the exterior sunshade screens, the inspirations for which I mentioned before, the whole design concept of the building is philosophically close to traditional Asian architectures. If one looks at the traditional architecture in Asia, a lot of them, with some exceptions, have a strong base or floor with a roof design that aspires to be light. The roof is made of fairly light materials and is almost decorative in form. The two shells of the Esplanade, made from light material, are actually sitting on columns which will be 2.5 metre in width, merging into a visually solid base. The achieving of a balance between solid and delicate elements is a common thread in much of Asian architecture.

Moreover, we wanted the Esplanade cladding to look like two very light shells, representing the Lyric Theatre and the Concert Hall, sitting on a solid base, which is formed by the commercial wing of the building behind the two auditoriums. To reflect its closeness to the ground, the four-





The grid on the Lyric Theatre runs at 45° to the axis, whereas the Concert Hall's grids run in a straight line to its axis.

storey base will be clad in natural and earth coloured granite in a matt finish. Unlike other types of ordinary granite in which the grain looks very neat and mechanical, the granite we chose for the base has a flowing grain, somewhat like marble. It has black and brown and black grain flowing across it.

**ABC: What do you want people to think when they look at this building?**

**Gore:** We want people to like it. We want people to feel that it is an exciting place. It is the kind of architecture that Singapore deserves at this point. But ultimately The Esplanade is more about the performing arts and than architecture. And eventually it is the performers that will make or break the project.

**ABC: What is the challenge of this project?**

**Gore:** The site is actually a pretty tight site in considering that we have a lot of things to accommodate. A building like this needs a lot of backup areas, like rehearsal and artists' rooms, loading docks and so on. And we also needed to air-condition large interior spaces. This sound trivial but because we can't afford to have sound coming

from the air-conditioners we have to deliver large volumes of air at very slow speeds. This translates into exceptionally large ducts. Therefore, the challenge of the

design apart, figuring out how can we make sure that we accommodate all these needs and yet fit everything in this tight site was a major issue.

**ABC: Do you have a theme running through your mind in designing the interior of the buildings?**

**Gore:** Yes. In many areas, we have tried to use very natural materials, like timber and stone. Most of the floor at the ground level entrance, and concourse is paved with stones

in warm colours, like brown or tan. And the internal wall sandstone cladding we use is not highly polished and sleek looking, but uses stones with matte surfaces. We don't want people to feel that this is a classy shining show-case that they are alienated from. We want them to feel welcome.

**ABC: If you were to redesign it again would you change any motive or structure?**

**Gore:** Designers are never satisfied. When people ask us "which is your favourite building, we always say "the next one." We all try to learn from mistakes. To some extent, we might try to readjust where the money was spent, but if we were to redesign it, I think we would come up with something that is very close to what we have now.



The distribution of the sunshades follow slowly changing pattern. (View from the foyer of Lyric Theatre)