Building Surveyors Conference

Future Development in Hong Kong – Foresight, Innovation & Sustainability

DATE | 29 September 2007 (Saturday)
VENUE | Auditorium, Hong Kong Science and Technology Parks

ORGANIZER : Building Surveying Division, The Hong Kong Institute of Surveyors

CO-ORGANIZER : The Hong Kong Science and Technology Parks Corporation

Hong Kong 香港科技園 Science & Technology Parks

Conference Objective

Hong Kong is a world-class city; therefore, many people in the world keep an eye on the future development of Hong Kong. Similar to other developed cities, both public and private sectors in the territory have made a great effort in recent years to work for a better and sustainable future, taking into account of economic, environmental and social aspects in every dimension. The theme of the BS Conference this year is "Future Development in Hong Kong – Foresight, Innovation & Sustainability". Over the years, our society and our members have contributed a lot to the property market and construction industry for the future benefit of Hong Kong. In order to share their outputs and achievements on environmental protection and sustainable development of Hong Kong, it is necessary to have a platform for in-depth sharing and discussion. This conference serves this purpose and provides a great opportunity for our members to look at the issues including intelligent buildings, environmental initiatives, advanced construction technology, innovative building design, etc. It is believed that all participants will find the conference valuable and interesting. Speakers for this conference are senior members of different professions from public and private sectors. As building surveying professionals, we have to make reference to and learn from their experiences and expertise in order to equip ourselves to face different challenges in relation to future development of Hong Kong.

Program

Time	Topics of Speech	Speakers
0830 – 0900	Registration	
0900 – 0905	**Welcome Speech**	**Mr. Raymond Chan** President The Hong Kong Institute of Surveyors (HKIS)
0905 – 0925	**Keynote Remarks** - The Role of Innovation and Technology in Delivering Sustainable Development	**Mr. Nicholas Brooke, BBS, JP** Chairman, Hong Kong Science & Technology Parks Corporation
0925 – 1000	Sustainable Design - Ideas Illustrated by the New EMSD Headquarters Building	**Mr. Stephen Tang** Chief Architect, Architectural Services Department, HKSAR
1000 – 1030	Break	
1030 – 1105	Sustainable Buildings in a High-density City: Strategies for Market Transformation Towards a Livable Future of Hong Kong	**Mr. K. S. Wong** Vice Chairman, Professional Green Building Council & Associate Director, Ronald Lu & Partners (Hong Kong) Ltd.
1105 - 1140	Moving Towards Sustainability	**Ir Cary Chan** Head of Technical Services, Swire Properties Management Limited
1140 - 1325	Lunch	
1325 – 1400	Precasting in Public Housing – From Innovation to Sustainable Construction	**Ir Lam Sze Chuen** Chief Structural Engineer, Housing Department, HKSAR
1400– 1445	Design of the Hong Kong Science & Technology Park Phase 2	**Mr. Sebastian Law** Principal Director, Leigh & Orange Ltd., **Ir Tong Man Wai** Technical Director, Meinhardt (M&E) Ltd. **And** **Ir Adam Choy** Technical Director, Meinhardt (C&S) Ltd.
1445 – 1455	**Closing Remarks**	**Mr. Alex Wong** Chairman, Building Surveying Division, HKIS
1455 – 1525	Break	
1525 - 1630	Technical Visit - District Cooling System - Building Integrated Photovoltaic Panels - Automatic Refuse Collection System	
1630	End of Conference	

Speakers

Mr. Nicholas Brooke, BBS, JP

Chairman, Hong Kong Science & Technology Parks Corporation

Mr. Nicholas Brooke, BBS, JP, is the Chairman of the Hong Kong Science and Technology Parks Corporation who are the hosts for and co-organizers of today's Conference. He is also the Chairman of Professional Property Services Limited which is a specialist real estate consultancy, based in Hong Kong, providing a selected range of advisory services across the Asia Pacific Region.

Having spent the last 25 years based in the region, he is a recognised authority and commentator on property related and planning matters and has provided advice in these areas to several Asian Governments as well as the US State Department.

Mr. Brooke is a past President of the Royal Institution of Chartered Surveyors and a former member of the Hong Kong Housing Authority and the Hong Kong Town Planning Board. In addition, he is a founder member of the HKIS. He is the current Chairman of the Hong Kong Coalition of Service Industries. He sits on the Board of the Hong Kong Cyberport Management Company Limited and is a member of the Hong Kong Harbour-front Enhancement Committee.

Mr. Brooke is a Non-Executive Director on the Board of MAF Properties, one of Middle East's leading shopping centre developers, of VinaLand Vietnam Real Estate Fund, the first Vietnam property fund to be listed on the AIM Board of the London Stock Exchange, of Shanghai Forte Land, one of the largest residential developer in Mainland China and of China Central Properties Limited which was recently listed on the London AIM Board.

The Role of Innovation and Technology in Delivering Sustainable Development

Hong Kong has a proud heritage as an entrepreneurial society. In this tradition, we are again transforming our economy by building on Hong Kong's unique advantages. In this connection, the future of Hong Kong and its economy is closely linked to the sustainable development of added value services and programmes which will continue to underpin Hong Kong's role as an international city. In turn, development of such services and programmes in a sustainable manner is contingent upon an environment which nurtures and indeed encourages innovation and technology.

Nicholas Brooke in his role as Chairman of Science Park will explore the role of HKSTP and other Government funded initiatives in fostering innovation and technology growth and encouraging knowledge based industries to locate their R&D activities in Hong Kong. Mr. Brooke will amplify on the mission of HKSTP which is to provide quality state of the art infrastructure and support facilities for innovation and technology development, a full service incubation programme for technology start-ups and to create a partnership with the universities through joint training and research programmes.

Mr. Brooke will also describe the ongoing development of the Park and its activities including the recent completion of Phase II and the development of customized buildings and facilities to respond to the unique characteristics of the four focused clusters namely information technology and telecommunications, electronics, precision engineering and biotechnology.

Mr. Brooke will also share with the participants his thoughts as to how Hong Kong's position as an innovative technology development hub might be further enhanced in the future in a sustainable manner.

Speakers

Mr. Stephen Tang

Chief Architect, Architectural Services Department, HKSAR

Mr. Stephen Tang holds the post of Chief Architect in the Architectural Services Department (ArchSD) of the Hong Kong SAR Government. He has been practicing as an architect for over 20 years. Along the direction of the ArchSD, Mr. Tang has been involved in developing buildings with sustainable design concepts and features, including the recently completed EMSD Headquarters Building, Hong Kong Wetland Park and Stanley Municipal Complex.

Sustainable Design - Ideas Illustrated by the New EMSD Headquarters Building

Since the relocation of the Hong Kong Kai Tak Airport in 1997, the former HACTL 2 (Hong Kong Air Cargo Terminal 2) building has lost its previous function. After detailed feasibility studies, the Hong Kong SAR Government decided to convert this 'city remain' into the New Headquarters for the Electrical and Mechanical Services Department. Converting the building will compare favorably to the cost of a new development, and will also minimize demolition and construction waste. The concrete structures, built in the early nineties, were recycled to save huge amount of energy and building materials in the construction process. By implementing this proposal, the HACTL2 building is 'reborn' to provide a more effective future use.

Many sustainable features have been incorporated in the building design, including the following:

(1) Photovoltaic (PV) Panels,
(2) Ice Maker & Tanks,
(3) Ammonia Chillers,
(4) Ventilated Double-Layered Glass Walls, Metal Sun Shades and Perforated Panels,
(5) Green Roofs,
(6) Sunpipes and Skylights,
(7) Motion & Daylight Sensors,
(8) Grey Water Recycling,
(9) Waste Management, and
(10) Infra-red Systems and Electric Heater Units for Paint Booths.

An Education Path has been incorporated into the building. The purpose is to introduce the public to Sustainable Design through interactive exhibits, and to showcase the innovative and advanced technology integrated into the building, and their wider and future applications in other buildings.

The project was awarded the Grand Award of the Green Building Award 2006, Certificate of Merit in the Quality Building Award 2006, Merit Award of the Hong Kong Institute of Architects 2004, and the Winner of the UK's Chartered Institute of Architectural Technologists 2005 .

Speakers

Mr. K. S. Wong

Vice Chairman, Professional Green Building Council & Associate Director, Ronald Lu & Partners (Hong Kong) Ltd.

Mr. K. S. Wong serves as the Vice-chairman of the Professional Green Building Council (PGBC) and chairs the Board of Sustainability. He is also currently council member of the Hong Kong Institute of Architects (HKIA) and chairs the Board of Local Affairs.

Mr. Wong is a practising architect, with speciality in sustainable design and research. Since joining Ronald Lu & Partners (Hong Kong) Limited as Associate Director, he has built on this expertise by introducing the concept to projects such as a master layout plan for Graham/Peel Street in Central for the Urban Renewal Authority; a nature conservation planning study for Mui Tsz Lam in Shatin; and various residential, institutional and commercial buildings.

Mr. Wong has carried out a regulation review of the lighting and ventilation requirements in buildings for the Buildings Department that has led to the adoption of a new performance-based approach to building design; as well as a feasibility study into air ventilation assessment (AVA) in the urban areas for the Planning Department. He currently leads a consultancy research on building design that supports sustainable urban living space in HK as commissioned by the Buildings Department.

As an adjunct professor in various local universities, Mr. Wong further contributes his knowledge to the nurture of a new generation of building professionals.

Sustainable Buildings in a High-density City: Strategies for Market Transformation Towards a Livable Future of Hong Kong

Hong Kong is at its turning point in which the "business as usual" approach for high-density development is increasingly challenged. Despite having been considered as a successful formula for recent decades, it is now criticized to be non-sustainable for the future of Hong Kong. Building professionals are urged to acquire the foresight to understand such challenge and act strategically in a collaborative and innovative way.

From the global perspective, the Stern Review on the Economics of Climate Change, released in 2006 by economist Nicholas Stern for the British government, points out that 1% of global gross domestic product (GDP) per annum is required to be invested in order to avoid the worst effects of climate change and that failure to do so could risk global GDP being up to 20% lower than it otherwise might be. The conclusion is that "doing nothing is not an option" and "we must act now". Hong Kong must share its part in the carbon emission cut. Global warming worsens our urban climate especially in summer, and the associated rising sea levels would further threaten the sustainability of our harbour city.

From the local perspective, as reckoned by Mr C Y Lam, Director of Hong Kong Observatory in PGBC Symposium 2006 on Urban Climate and Urban Greenery, we have seen in Hong Kong's meteorological records in the last two decades that buildings have collectively modified the urban climate in a way unfavourable to healthy living. The signature of high-density urbanization in the local temperature trend is also evidently more notable than that caused by global warming. It is high time for us to re-think the fundamentals about how urban living should look like in Hong Kong. Much is in the hands of building professionals.

For accelerating the practice of sustainable building in the mainstream market, the presentation will discuss a strategic concept for the transformation.

Speakers

Ir Cary Chan

Head of Technical Services, Swire Properties Management Limited

Ir Cary Chan is a professional engineer. He is currently the Head of Technical Services of Swire Properties Management Limited who is responsible for overseeing the operation and maintenance of Swire Properties' investment portfolio.

Ir Chan started his career in the field of Building Services Engineering in a consultant firm and has since participated in a number of prestige projects such as the construction of the Hong Kong Bank Headquarters.

His major interests are on energy and environment conservation. Over the years, he has carried out a lot of researches in-house and also jointly with universities. A lot of energy saving initiative have been successfully implemented with substantial improvements in energy performance of their buildings. Some of his work has won international awards.

Ir Chan has been playing an active role in the society. He is now the vice chairman of BEAM society and the environmental committee of the Hong Kong General Chamber of commerce.

In the past few years, Ir Chan has been sharing his experience through publications in professional journals and talks at technical seminars.

Moving Towards Sustainability

Throughout history, buildings have been playing a main role in the sustainability of human race. From providing shelters and protection against nature to the very complicated functions that we now carry out within buildings including business operations, entertainment, social gatherings, utilities, manufacturing, hospitals, etc.

We can hardly imagine what our world will be like without buildings, or buildings without its facilities like air-conditionings and escalators.

While buildings playing its role in providing an environment for all the above functions, the economic growth resulting from the construction of building, transfer of wealth, buildings also bring significant damages to our environment.

Take climate change as an example, it is now the key concerns around the world and also air pollution, a major issue affecting investment and tourism in Hong Kong.

Developers and professionals alike are under pressure through public demand, corporate governance requirements, etc to be more responsible for the environment. The industry needs to look forward and act proactively and act fast to build up their capability for a long term battle against the deterioration of our environment.

In moving towards sustainability, there can be more opportunities than threats to the professionals if we are forward looking enough.

The society needs professionals with better knowledge on environmental issues and solutions.

The BEAM is planning to open up it's assessor network to allow more professionals to be qualified to provide services to their clients for new and existing buildings.

There will be more renovation projects to enhance the environmental performance of buildings.

Surveyors have to be more sensitive on environmental issues during their practices and offer proposals for improvements.

In response to a surge of demand for environmentally friendly products, manufacturers need to work hand in hand with the professionals to deliver the products needed.

Buildings will be more intelligent and engineers must be better equipped with the state of art technology.

Professionals of the industry need to re-engineer the current process so that different professionals can work in an integrated manner in moving towards sustainability.

Speakers

Ir Lam Sze Chuen

Chief Structural Engineer, Housing Department, HKSAR

Ir Lam Sze Chuen is currently a chief structural engineer of Hong Kong Housing Department. He is now leading a team of over 100 staff members that comprise professionals, technical and site staff to provide structural engineering services in planning, design, tender and contract administration to meet the public housing development programme. In particular, he has great interest in precast and prefabrication technology. All along he has been actively involved in applying the technology to public housing projects for enhanced quality, improved site safety and better environmental performance. Recently he has taken a leading role in the development and implementation of new precast initiatives in a pilot project - precast structural walls and volumetric precast components such as bathrooms, bathroom-cum-kitchens, stair cores and lift cores.

Precasting in Public Housing – From Innovation to Sustainable Construction

Being a caring and big developer in Hong Kong, the Housing Authority has been committed to striving for better built quality, site safety and environmental performance in the delivery of public housing projects for her customers. To this effect, we have been continuously exploring innovations and creativity in the design, construction and procurement processes, each has a major role to play in the sustainable construction.

Our pursuit is evinced by our relentless efforts in pioneering various initiatives in precasting high-rise residential buildings over the past two decades. We have been drawing on overseas experience and collaborating with local academic institutes, consultants, precasters and contractors in the development of precasting technology through research, site trials, mock-ups, pilot projects and the application of Modified Guaranteed Maximum Price (MGMP) contracting system.

The series of innovative and creative precast products start with planar precast elements such as precast facades, semi-precast slabs and precast staircases in the early 1990s. There came contractor's site trials on precast bathrooms and precast bay windows. Innovative precast structural walls and volumetric precast construction were developed for a pilot project not long ago. The achievements from these precast products, basically of engineer's design, are very encouraging - better built quality, improved site safety and better environmental performance. The potential and benefits of contractor's precast design are also tapped by innovative use of MGMP contracting system in a project.

In sum, continuous innovations and creativity in the design, construction and procurement processes have been and will continue to be a prime mover for sustainable construction in the public housing developments.

Speakers

Mr. Sebastian Law

Principal Director, Leigh & Orange Ltd.

Mr. Law studied Architecture in the UK, resulting in the RIBA student dissertation prize. On completion of his studies Mr. Law embarked on his Architectural career working in the offices of various distinguished UK practices, where he developed his design abilities and technical knowledge.

Returning to Hong Kong in 1989, Mr. Law joined the long established Company of Leigh & Orange Ltd as a Senior Architect and became a Principal Director in 1996.

Mr. Law's experience covers a wide spectrum of project types including office buildings, commercial complexes, institutional buildings and master planning in both HK and overseas.

As co-Project Director, Mr. Law was involved in the design and development of the award winning HKU Kadoorie Biological Sciences Building and Integer HK Pavilion; both considered as leading environmental, green and intelligent buildings in Hong Kong.

Mr. Law is currently Project Team Leader of the Hong Kong Science Park Phase 2 and Project Director of a major multi – use complex of leisure, hotel and casino in Macau.

Ir Tong Man Wai

Technical Director, Meinhardt (M&E) Ltd.

Ir Tong is the Technical Director with 16 years of experience in Meinhardt (M&E) Limited. He has extensive design experience for office buildings, residential and commercial developments, institutional and education and hospital projects, all requiring intensive co-ordinate and integration of end user requirements.

Ir Tong's input to the projects will include leading the M&E discipline to produce innovative design, ensurance of compliance with local regulations and statutory requirements, co-ordination with the other discipline team members, planning and organising resources to meet project programme, incorporation of the client's requirements and other M&E interfaces and the production of the design output documents. He will see the project through to completion.

As the Technical Director, Ir Tong is responsible for Building Services/ Mechanical design, ensurance of compliance with regulations and requirements, co-ordination of the mechanical design with other M&E services and project co-ordination/management of the mechanical installation. He will direct the Building Services/ Mechanical Engineers on a day-to-day basis.

Ir Adam Choy

Technical Director, Meinhardt (C&S) Ltd.

Ir Choy is presently a Technical Director in Meinhardt (C & S) Ltd. Ir Adam Choy graduated from the Hong Kong Polytechnic in 1986 and obtained his MSc degree in Structural Engineering with distinction from The Hong Kong Polytechnic University as well. He is a member of HKIE, IStructE and IEAust and he is also a Registered Structural Engineer in Hong Kong. His major work in Hong Kong includes the MTRC Contract 501 (Hong Kong Station), Cheung Sha Wan Government Office, Galaxy Resort and Casino in Cotai Macau, Shanghai Peninsula Hotel and the Hong Kong Science & Technology Park Phase 2 Development.

His current research interests include fire engineering, prestressing steel, the dynamic pile testing and related research work.

Design of the Hong Kong Science & Technology Park Phase 2

The Hong Kong Science Park is a development commissioned by the Government of the Hong Kong Special Administrative Region in 1999. The science park is being developed in three phases spanning a period of 9 years and occupies a site area of 22 hectares with a total gross floor area of 330,000m2 upon completion. Phase 2 of the development is intended to be completed in 2007/2008. It provides accommodation for applied research and development of four strategic industries: Information Technology, Electronics, Precision Engineering and Biotechnology.

Leigh & Orange Ltd, (L&O), as the Lead Consultant and Architect, were required to develop the existing Master Layout Plan (MLP) and carry out the design and construction of Phase 2. The MLP represents an integrated design encompassing the already built Phase 1, the Phase 2 and the yet to be developed Phase 3. Phase 2 adopts a zone approach with clear divisions between the zones of Campus, Core and Corporate Buildings linked by a vehicular ring road which connects to Phase 1 and Phase 3. Orthogonal planning and careful placement and orientation of the building blocks throughout the development and particularly at the waterfront edge, enhances wide and open view corridors that add value to all buildings and capitalise on the seaside location, which is the site's principal asset. These view corridors also give presence to the interior sited buildings from the harbour and waterfront promenade area. The character established for each area defines the use and aesthetic of its sub spaces, which comprises specific and functional landscape areas such as architectural courtyards, plazas, roads, walkways, lake, amphitheatre and open park space.

The Phase 2 development consists of eleven hi-tech designed buildings using highly finished industrial materials - glass, steel, aluminium that are philosophically and naturally consistent with the nature of the science park. The buildings comprise two energy towers, two dedicated laboratory buildings, six R&D Office buildings with provisions for laboratory facilities and an Auditorium. Underground parking allows for greater freedom for connectivity between buildings above ground and also enables a much greater percentage of soft landscape to promote a park-like atmosphere. A central spine concept has been adopted providing a fully air-conditioned pedestrian "street" connecting with Phase 1 and the future Phase 3. Central clubhouse facilities, a business centre, a conference centre, retail shops and restaurant facilities are primarily located along the central spine to provide easy access and to create interaction. A major focal point at the centre of the development is the free standing, ovoidal shaped Auditorium located along the central spine and connecting to the lake via timber decked areas to provide for al fresco dining on one side and with its gentle contours, open grassy areas and a soft reed bed fringe on the opposite side.

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