



THE HONG KONG INSTITUTE OF
SURVEYORS

香港測量師學會

The Hong Kong Institute of Surveyors Annual Conference **2010**

“Building Adaptation and Revitalization”

4th September, 2010

Grand Ballroom, Conrad Hong Kong,
Pacific Place, 88 Queensway, Hong Kong



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Message from Guest-of-Honour

香港特別行政區政府
發展局局長



SECRETARY FOR DEVELOPMENT
Government of the Hong Kong Special
Administrative Region



**The Hong Kong Institute of Surveyors
Annual Conference 2010
“Building Adaptation & Revitalisation”
Congratulatory Message by Mrs. Carrie Lam,
Secretary for Development**

The theme of the Hong Kong Institute of Surveyors' Annual Conference 2010, 'Building Adaptation & Revitalisation', is timely chosen to address the challenges of urban renewal and district revitalisation and meet public aspiration for a quality and sustainable living environment.

The Chief Executive announced in his 2009-10 Policy Address new measures to promote revitalisation of old industrial buildings through encouraging re-development and wholesale conversion of vacant or under-utilised industrial buildings. These measures aim at expediting urban regeneration in older industrial areas and releasing the potential of old industrial buildings to provide suitable land and premises to support various social and economic activities. The promotion of wholesale conversion of existing industrial buildings is particularly relevant to the theme of this year's conference. Compared with redevelopment, adapting existing under-utilised industrial buildings for new and higher value-added uses is a much more sustainable and environmentally friendly way to revitalise some older urban areas in Hong Kong.

When re-developing or converting industrial buildings for other uses, the Government encourages owners to take the opportunity to embrace the latest developments in green building technologies. I am sure this added purpose has the full support of the Hong Kong Institute of Surveyors and that its members will provide the needed advisory services to their clients taking reference from the Green Guide on Revitalisation of Industrial Buildings issued by the Hong Kong Green Building Council.

This Annual Conference provides an important platform for both local and overseas experts to exchange views and opinions, with useful case studies to share experiences on building adaptation and revitalisation. I wish this Annual Conference a great success.

A handwritten signature in black ink that reads 'Carrie Lam'.

Mrs. Carrie Lam
Secretary for Development

Message from the President



The Hong Kong Institute of Surveyors Annual Conference 2010

On behalf of the Hong Kong Institute of Surveyors, I would like to extend my warmest welcome to all practitioners, government officials, and academics to the 2010 HKIS Annual Conference. Following in the well-established tradition of organizing a conference for experts with different backgrounds to exchange their views and knowledge on important issue, we have brought together a group of renowned speakers to share their experience knowledge of building adaptation and revitalization, which is the theme of this year's conference.

Hong Kong has been greatly affected by the open door policy of China since the late 1970s. The evolution of its urban fabric, in particular its building and land use patterns, have not adjusted quickly to these changes, which were brought about by what should be considered rare events in Chinese History. Some economists may argue that existing uses of land and buildings are always optimal when all constraints are taken into account, as if optimality can be reached easily. In reality, optimality can only be achieved with the efforts of experts, including surveyors in the private and public sectors. These experts can also alter existing constraints to achieve pareto improvement. A good example of such is the government's recent initiative of revitalizing industrial buildings in Hong Kong. An important issue of how different stakeholders can contribute to, and at the same time benefit, from materializing this initiative is of interest to all parties involved. The aim of this year's conference is to provide a platform that facilitates the sharing of knowledge, experiences, and ideas on issues related to building adaptation and revitalization.

Same as the previous years, we have invited many distinguished local and overseas speakers, including Mrs. Carrie LAM CHENG Yuet Ngor, GBS, JP, Secretary for Development of the HKSAR Government, and Mr. Jimmy LEUNG Cheuk Fai, JP, Director of Planning, Planning Department of the HKSAR Government, to share their experiences and views on building adaptation and revitalization. The conference covers a wide range of topics on the social, economic, policy, and technical aspects of building adaptation and revitalization. It also provides an excellent forum for our members to learn and exchange views with senior government officials, practitioners, and academics on this very important topic that will have a major impact on the future development of Hong Kong. I would like to take this opportunity to thank all speakers, moderators, sponsors, and the Organizing Committee led by Vice President Serena Lau.

A handwritten signature in black ink, appearing to read 'Chau Kwong Wing', with a long horizontal stroke extending to the right.

Prof. CHAU Kwong Wing

President, Hong Kong Institute of Surveyors (2009-2010)

Conference Programme

Time	Program / Topic
08:30 – 08:55	Registration
09:00 – 09:10	Welcome Speech Prof. CHAU Kwong Wing President, The Hong Kong Institute of Surveyors
09:10 – 09:30	Opening Keynote Speech Mrs. Carrie LAM CHENG Yuet Ngor, GBS, JP Secretary for Development, HKSAR Government
09:30 – 09:35	Souvenir Presentation to Guest-of-Honour by HKIS President
09:35 – 10:05	Planning Framework for Building Adaptation and Revitalization Mr. Jimmy LEUNG Cheuk Fai, JP Director of Planning, Planning Department, HKSAR Government
10:05 – 10:20	Coffee Break
10:20 – 10:50	Surveyors' role on Building Adaptation and Revitalization Prof. CHAU Kwong Wing President, The Hong Kong Institute of Surveyors
10:50 – 11:20	Revitalization of Historical Buildings - Principles and Cases Prof. Bernard Vincent LIM Wan Fung Professor (Fractional Appointment), School of Architecture, The Chinese University of Hong Kong
11:20 – 11:50	Restoration of the Bethanie — The Journey to UNESCO Heritage Award Mr. Nelson HO Siu Leung Senior Manager, Facilities Management of the Hong Kong Science & Technology Parks Corporation
11:50 – 12:00	Q & A Moderator Mr. Simon KWOK Chi Wo Chairman, Land Surveying Division, The Hong Kong Institute of Surveyors
12:00 – 12:10	Souvenir Presentation to Speakers, Moderator and Sponsors
12:10 – 13:10	Lunch
13:10 – 13:40	Case Study on Building Revitalization – Industrial Buildings Mr. Raymond CHAN Yuk Ming Past President, The Hong Kong Institute of Surveyors
13:40 – 14:10	The Influence of Lifestyle, Heritage and Culture in the Regeneration of UK Cities: Leeds A Case Study Dr. Andrew PLATTEN Associate Dean, School of the Built Environment, Leeds Metropolitan University
14:10 – 14:40	Case Study on Building Revitalization Mr. Ivan HO Chi Ching Director, The Team Consultant
14:40 – 14:50	Q & A Moderator Mr. Tony WAN Wai Ming Honorary Secretary, General Practice Division, The Hong Kong Institute of Surveyors
14:50 – 14:55	Souvenir Presentation to Speakers and Moderator
14:55 – 15:10	Coffee Break
15:10 – 15:40	Urban Renewal through Building Revitalization: The Revitalization of Wo Cheong Pawnshop Building Clusters – Make or Break? Mr. William WAN Shiu Wah Director, Property and Land, Urban Renewal Authority
15:40 – 16:10	Building Adaptation and Revitalization – An Essential to the Preservation of Value Mr. William HAMES Fellow, The Australian Property Institute Executive Chairman, Hames Sharley
16:10 – 16:40	Impacts on Property Market under Adaptation and Revitalization Policies Mr. LAU Chun Kong International Director, Jones Lang LaSalle Limited
16:40 – 16:50	Q & A Moderator Mr. Gary YEUNG Man Kai Chairman, Property and Facility Management Division, The Hong Kong Institute of Surveyors
16:50 – 16:55	Souvenir Presentation to Speakers and Moderator
16:55 – 17:00	Closing Remarks Ms. Serena LAU Sze Wan Chairperson, Organizing Committee
17:00	End of Conference

Speakers and Papers



Mr. Jimmy LEUNG Cheuk Fai, JP

Director of Planning, Planning Department, HKSAR Government

Mr. Jimmy LEUNG is the Director of the Planning Department of the Hong Kong Special Administrative Region Government. Mr. Leung holds a Bachelor of Social Science degree in Geography from the United College, the Chinese University of Hong Kong and a Master's degree in Philosophy (Town Planning) from the Bartlett School of Architecture and Planning, University College London. He is a Registered Professional Planner in Hong Kong, a Fellow of the Hong Kong Institute of Planners and a Member of the Royal Town Planning Institute in the United Kingdom. Mr. Leung served as the President of the Hong Kong Institute of Planners from 2003 to 2005.

Planning Framework for Building Adaptation and Revitalisation

Under the Hong Kong 2030 - Planning Vision and Strategy, one of the recommendations on Hong Kong's future development is to do more with less. What this means is that we should try to leverage on the existing land and infrastructure to satisfy our needs and avoid opening up too many greenfield sites for development such that the needs of future generations will be compromised. The concept of re-cycling obsolete land and building was examined and supporting studies were carried out to establish the feasibility of converting industrial buildings for uses such as loft apartments and elderly housing. By the same token, heritage buildings, which help define our cultural identity and add variety to our cityscape, are recommended to be preserved and where appropriate put into adaptive re-use to enhance their social, cultural and economic benefits.

To facilitate adaptation and revitalization of industrial buildings, the OU (Business) "OU(B)" zoning has been introduced since 2000 which allows a mix of office, commercial and non-polluting industrial uses. Since 2001, the uses permissible under the "Industrial" zone have been broadened to further facilitate the development of information technology and telecommunications industries. In the last 10 years, the Town Planning Board (the Board) has rezoned about 254 hectares of industrial land for non-industrial uses, including about 196 hectares to OU(B) use. Concurrently, the Board has revised relevant guidelines to permit offices related to industrial use, trading firms, and ancillary showroom uses within existing industrial buildings as of right; and to permit office and commercial uses in industrial buildings subject to planning permission. The Chief Executive announced in his 2009-10 Policy Address new measures to promote revitalization of old industrial buildings through encouraging redevelopment and conversion. This has provided further impetus for recycling obsolete and underutilized industrial buildings.

Where re-uses of historic buildings are to take place in a comprehensive manner, the role of Planning Department is to prepare planning briefs which set out broad development and design concepts and basic planning parameters to facilitate preparation of proposals. The former Marine Police Headquarters and the Mallory Street/Burrows Street project are such examples.

Speakers and Papers

Land is a scarce resources. With growing population and rising living standards, making land available to meet social and economic needs is indeed an uneviable task. Apart from leveling hills and reclaiming land from the sea which are costly and often limited in scope, urbanization at the expense of the countryside and agricultural land is the dominant mode in most cities and countries. In the process of rapid urbanization, not only the green rural landscape is transformed but land for food production will be diminished, biodiversity affected and flood risk increased. On the other hand, land particularly agricultural land, forestry and natural habitat is considered to have potential in mitigating the effect of climate change. Reduction of such land and natural habitat will aggravate the impact of climate change.

With 1,100 km² of land of which some 44% have been earmarked for country parks and conservation purpose, development in Hong Kong has to rely on reclamation as well as opening up virgin land. The enactment of the Protection of the Harbour Ordinance in 1997 has virtually put an end to reclamation within the Victoria Harbour. Development opportunities now depend on redevelopment, and in-fill sites in the urban areas as well as rural land in the New Territories.

According to the Hong Kong Observatory, because of urbanisation in Hong Kong “urban temperature has risen faster than the countryside, winds have gone slow, visibility has deteriorated, less solar radiation is reaching the ground, evaporation rate had gone down”.¹ According to the Environmental Protection Department’s Waste Statistics, 23% (or 3,121 tonnes) of all solid waste produced daily is construction waste.² This calls for the wise and prudent use of land and for that matter, buildings.

This Paper attempts to briefly explain that at the strategic planning level, emphasis is put on the development of ‘brownfield’ sites and a prudent approach is adopted in opening up ‘greenfield’ sites for development in Hong Kong. At the district planning level, various measures are adopted to provide flexibility on the use of buildings such that they can be put to other beneficial uses when

their original uses become obsolete. The discussion will mainly focus on how a planning framework has facilitated conversion of industrial premises and heritage buildings to other gainful uses.

Hong Kong 2030 Planning Vision and Strategy

When the Study on Hong Kong 2030 Planning Vision and Strategy (HK2030 Study) was carried out, the Planning Department was tasked to recommend how Hong Kong’s spatial environment should respond to various social, economic and environmental needs in the next 20 to 30 years. The Study was completed in 2007 and under the over-arching goal of sustainable development, one of the key recommendations on Hong Kong’s future development is ‘do more with less’. What this means is that we should try to leverage on the existing land and infrastructure to satisfy our needs and avoid opening up too many greenfield sites for development such that the needs of future generations will not be compromised.

Hong Kong has experienced major economic transformations – from a fishing village to an entrepot in the 1950s and 1960s, then to a light industrial base in the 1970s and 1980s. In the past two to three decades, the opening up of the Mainland had seen the relocation of the production processes of Hong Kong’s manufacturing industries northwards. This had led to a drop in the demand of industrial floor space and high vacancy rate in industrial buildings in Hong Kong.

The urbanised areas have so far taken up about 23% of our land area, while over 40% is designated as country parks. Together with other measures, the Government plans to develop only about 2% more of our land area to cater for Hong Kong population growth by 2030. Encouraging recycling of land and buildings is one of the measures of the ‘do more with less’ approach. Coupled with the concern on the under-utilisation of large stock of industrial premises in the process of economic restructuring as mentioned above, some new ideas on adaptive re-use of obsolete industrial buildings had been explored under the HK2030 Study.

In pursuing the concept of re-cycling land and buildings,

¹ C.Y. Lam, *On Climate Changes Brought About by Urban Living*, Hong Kong Meteorological Society Bulletin, Volume 16, Number 1/2, 2006, P.18, Hong Kong Observatory.

² *Monitoring of Solid Waste in Hong Kong - Waste Statistic for 2009*, Environmental Protection Department, HKSARG.

Speakers and Papers

supporting studies were carried out to establish the feasibility of converting industrial buildings for uses such as loft apartments and elderly housing. The case studies indicated that conversion of industrial buildings into such uses were broadly feasible in technical terms. The concept was also generally well received by the community. However, individual cases may be subject to issues related to building regulations, industrial/residential interface, financial viability and identification of a suitable agency for the case of elderly housing. All these factors need to be properly addressed before taking forward the concept.

Being mostly located in urban areas³, under-utilised industrial buildings are important source of Hong Kong's scarce and valuable brownfield sites. There is also no need for heavy investment in new infrastructure before the vacated premises could be re-used, thereby greatly shortening both the development lead time and cost. Adaptive reuse of industrial buildings is an economical way of offering 'solution space' for Hong Kong to meet its future development needs while help preserve our rural areas and reduce construction wastes. The tenet of 'do more with less' and building adaptation in particular would continue to be one of the major guiding principles shaping the future development of Hong Kong.

Statutory Planning Initiatives to Facilitate Adaptation and Revitalisation of Industrial Buildings

Introduction of I-O Buildings

To respond to the economic restructuring of Hong Kong and relocation of production lines of manufacturing industries to the Pearl River Delta (PRD), the Government had, as early as in 1989, introduced the concept of 'industrial-office building' (I-O building), which allows each of the units of an I-O building be flexibly used for 'industrial' or 'industrial-office' purposes, subject to approval of the Town Planning Board (the Board).

Of the 175 I-O schemes approved by the Board since the introduction of I-O building concept, only 31 buildings (less than 18%) had been developed (up to August 2006). A survey by the Planning Department in 1999 had

revealed the reasons for the low take-up rate. While some thought that there was already abundant supply of I-O buildings in the market, some were of the view that the land premium was too high and the costs of developing an I-O building too expensive. Some also believed that the demand for I-O buildings was diminishing.

Rezoning of Suitable Industrial Land for "OU(B)" and Other Uses

Over the years, effort has also been made by the Government to rezone industrial land at suitable locations for non-industrial uses. Since 1991, a total of some 380 ha of industrial land in the Territory had been rezoned to such uses as commercial and residential.

Specifically, to facilitate adaptation and revitalisation of industrial buildings, the "Other Specified Uses" annotated "Business" ("OU(B)") zoning has been introduced since 2001 which allows a mix of office, commercial and non-polluting industrial uses. Within the "OU(B)" zone, the following uses are always permitted:

- new development or redevelopment/conversion of the whole building to a business building providing accommodation for a mix of non-polluting industrial, office and other commercial uses;
- office buildings with or without retail and other commercial uses;
- industrial buildings providing accommodation for non-polluting industrial uses and office uses (excluding those involving direct provision of customer services and goods); and
- I-O buildings providing accommodation for non-polluting industrial uses, offices (excluding those involving direct provision of customer services and goods) on upper floors, and general offices with or without commercial uses in the purpose-designed non-industrial portion on the lower floors which will be separated from the industrial uses on the upper floors by a buffer floors.

Expanding User Schedule of the "Industrial" zone

To facilitate the transformation of the industrial sector,

³ According to Property Review 2010, 8% or about 1.6 Million m² GFA of the stock of private flatted factories in urban areas were left vacant as at end 2009. Urban areas comprise Hong Kong Island, Kowloon and Tsuen Wan, Kwai Tsing and Shatin districts.

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the user schedule of the "Industrial" ("I") zone was also expanded in 2001 to permit as of right the use of industrial premises for information technology and telecommunications industries, industrial-related office without the requirement for the related industrial operations to be located within the same premises / building, or in the same industrial area; and to allow public entertainment and educational institutions on application to the Board. In parallel, the incorporation of 'hotel' use into column 2 of the user schedule of "OU(B)" zones in the New Territories statutory town plans was undertaken.

Concurrently, the Master Schedule of Notes on the statutory town plans have been comprehensively reviewed to allow a broader range of uses under respective zonings with the purpose to provide greater flexibility for the owners to adjust the use of their land and buildings in response to market changes, keeping in pace with the process of economic transformation but without compromising the continuous operation of existing industrial uses if deemed fit.

Also, the Board has revised relevant guidelines to permit offices related to industrial use, trading firms, and ancillary showroom uses within existing industrial buildings as of right; and to permit office and commercial uses in industrial buildings subject to planning permission.

Effect of Statutory Planning Initiatives

To find out how industrial floor space in the Territory was being used after the various initiatives were put in place, the Planning Department conducted an updated Area Assessments of Industrial Land in the Territory in 2005. The Area Assessments revealed that there were about 10.8 million m² industrial floor space in industrial buildings within "I" zones. Out of which, about 64.4% (6.97 million m²) were for Storage/Warehouse uses. Ancillary office (with workshop / warehouse / showroom) and office (without workshop / warehouse / showroom) accounted for 6% (0.65 million m²) and 6.3% (0.68 million m²) respectively. While there was sign that some of the industrial floor space which were originally catered for other industrial uses had turned into storage purpose, there was no clear indication that some of the industrial floor space had turned into other uses such as ancillary office / office, training centre, IT and telecommunications, which had been relaxed in "I" zones through various statutory planning means. This might be due to the introduction of the "OU(B)" zoning in 2001, which allowed a wide range of use as of right, including office, and attracted new industries such as IT and telecommunications and related trading companies to be located in "OU(B)" zones.

Types of Uses in Industrial Buildings within "I" Zones in the Territory

District	Gross Floor Area (m ²) (%)	Use							No Information (m ²) (%)
		Manufacturing (m ²) (%)	Warehouse (m ²) (%)	Workshop (m ²) (%)	Ancillary Office (with workshop/warehouse/showroom) (m ²) (%)	Office* (without workshop/warehouse/showroom) (m ²) (%)	Vacant (m ²) (%)	Others (m ²) (%)	
Hong Kong Island	1,045,715.6	61,493.0	562,115.4	89,289.3	130,157.2	48,298.2	96,347.9	58,014.6	0.0
	100.0%	5.9%	53.8%	8.5%	12.4%	4.6%	9.2%	5.6%	0.0%
Kowloon	3,962.0	0.0	0.0	0.0	3,962.0	0.0	0.0	0.0	0.0
	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Tsuen Wan/Kwai Chung	4,782,708.6	492,336.9	3,163,948.8	81,848.0	323,877.3	352,353.5	331,664.1	35,411.2	1,268.8
	100.0%	10.3%	66.2%	1.7%	6.7%	7.4%	6.9%	0.7%	0.1%
Northeast New Territories	2,632,323.3	163,488.5	1,714,405.9	169,191.7	164,632.8	221,034.1	150,958.8	30,681.9	17,929.6
	100.0%	6.2%	65.1%	6.4%	6.3%	8.4%	5.7%	1.2%	0.7%
Northwest New Territories	2,357,133.9	426,005.4	1,530,430.8	126,889.3	25,420.5	58,950.7	174,315.7	15,121.5	0.0
	100.0%	18.1%	64.9%	5.4%	1.1%	2.5%	7.4%	0.6%	0.0%
Total	10,821,843.4	1,143,323.8	6,970,900.9	467,218.3	648,049.8	680,636.5	753,286.5	139,229.2	19,198.4
	100.0%	10.6%	64.4%	4.3%	6.0%	6.3%	6.9%	1.3%	0.2%

Based on survey from 20-9-2005 to 31-10-2005.

Conversion factor from IFA to GFA is 1.33.

* It is possible that the office used surveyed may be industrial-related. However, since there is no information of the location of industrial operations, the office use surveyed has been included as a separate category.

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On the other hand, there were about 15.7 million m² industrial floor space in industrial buildings within "OU(B)" zones. Out of which 28% (4.40 million m²) were for warehouse / storage use, 20% (3.14 million m²) were for office use and 16% (2.55 million m²) were for ancillary office use. IT and telecommunications industries, research design and development centre, training centre uses accounted a total of 3.7% (0.6 million m²). Furthermore, between 2001 and October 2005, there were a total of 42 sites with approved applications, all in the metro areas. Majority of them (90.5% or 38 nos.) were for hotel development. It should be noted that within "OU(B)" zones, Ancillary Office / Office are always permitted and 'hotel' use requires planning permission from the Board.

In brief, some of the initiatives which had been put in place in the 1990s might not be so well received by the market until the introduction of the "OU(B)" zoning in 2001. After a few years of its introduction, there were positive signs of market responses to the "OU(B)" zoning and its impact as a catalyst in the restructuring of industrial areas was emerging. For instance, 36% of industrial GFA in "OU(B)" zones were for ancillary office / office uses as compared to 12.3% of industrial GFA in "I" zones and 38 sites in "OU(B)" zones were approved for 'hotel' development which was not allowed in "I" zones.

Of the 254 hectares of industrial land that has been rezoned to non-industrial uses in the last 10 years, about 196 hectares are for "OU(B)" use and about 58

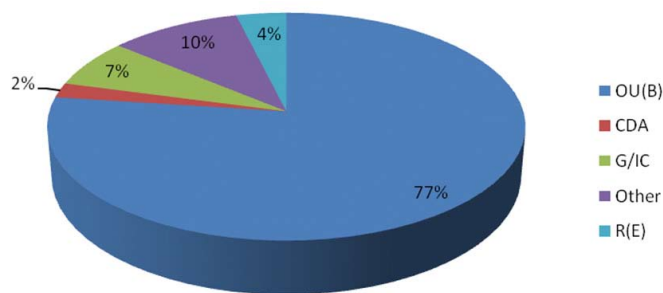
Types of Uses in Industrial Buildings within "OU(B)" Zones in the Territory

Building Type	Uses											Gross Floor Area (m ²) (%)
	Office (m ²) (%)	Ancillary Office (with workshop/warehouse/showroom) (m ²) (%)	Manufacturing (m ²) (%)	Warehouse/Storage (m ²) (%)	Workshop (m ²) (%)	I.T. and Telecommunications Industries (m ²) (%)	Research, Design and Development Centre (m ²) (%)	Training Centre (m ²) (%)	Wholesale (m ²) (%)	Others (m ²) (%)	Vacant (m ²) (%)	
Flatted Factory	2,753,261.7	2,347,902.8	2,053,560.8	3,666,153.5	1,008,222.8	225,439.1	326,332.1	0.0	11,574.7	900,008.7	869,756.9	14,162,213.1
	19.44%	16.58%	14.50%	25.89%	7.12%	1.59%	2.30%	0.00%	0.08%	6.36%	6.14%	100%
Industrial/Office	359,686.8	130,785.5	0.0	20,239.6	0.0	14,302.0	9,751.2	3,241.6	623.9	23,267.6	102,253.7	664,151.9
	54.16%	19.69%	0.00%	3.05%	0.00%	2.15%	1.47%	0.49%	0.09%	3.50%	15.40%	100%
Godown	24,519.6	69,031.6	0.0	718,131.3	0.0	2,965.6	0.0	0.0	0.0	143.3	30,460.0	845,251.4
	2.90%	8.17%	0.00%	84.96%	0.00%	0.35%	0.00%	0.00%	0.00%	0.02%	3.60%	100%
Total	3,137,468.1	2,547,719.9	2,053,560.8	4,404,524.4	1,008,222.8	242,706.7	336,083.3	3,241.6	12,198.6	923,419.6	1,002,470.6	15,671,616.4
	20.02%	16.26%	13.10%	28.10%	6.43%	1.55%	2.15%	0.02%	0.08%	5.89%	6.40%	100%

Remarks : 1) Based on sampling survey from 7.12.2005 to 14.12.2005.
 2) 7% of flatted factory building (i.e. 54 out of 771 buildings) and all of the 35 industrial/office building & 26 godowns are selected for sampling survey.
 3) Conversion factor from IFA to GFA is 1.33.

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hectares are for uses such as “Government, Institution or Community” (“G/IC”), “Residential (Group E)” and “Comprehensive Development Area”. Currently there are about 297 hectares of industrial land with 503 existing industrial buildings providing a total GFA of about 10.55 million m² in areas covered by 12 Outline Zoning Plans (OZPs) in the Territory.



Rezoning of 254 Hectares of Industrial Land for Other Uses

Since the promulgation of relaxation measures in 2001, the Board has approved with conditions 414 applications for change of use of the whole industrial buildings or within industrial buildings in “OU(B)” and “I” zones (329 applications in “OU(B)” and 85 applications in “I”). Amongst these, 260 and 72 applications are for change of use involving part of the building in “OU(B)” zone and “I” zone respectively; 82 applications are for conversion/redevelopment of the whole building including 71 applications (69 applications in “OU(B)” zone) for hotel developments.

In fact since the mid-1980s, the Government has been progressively relaxing the planning controls on the use of industrial buildings in response to continued trends for a changing economy. Old industrial areas like Kwun Tong, Cheung Sha Wan, Kowloon Bay and Tsuen Wan, transformed into secondary office/business nodes, are now accommodating many of the firms related to the trading sector.

Latest Measures to Promote Revitalisation of Old Industrial Buildings

The Chief Executive announced in his 2009-10 Policy Address new measures to promote revitalisation of old industrial buildings through encouraging redevelopment and conversion. The objective is to provide readily available and suitable land and premises

to meet Hong Kong’s economic and social needs, including the development of higher value-added economic activities, such as the six economic areas identified by the Task Force on Economic Challenges.

To put this new policy into practice, the Development Bureau has initiated a series of measures which are well received by the community. These measures are highlighted below:

- (a) Lowering of the ownership application threshold from 90 to 80 percent which aims to address the problem of uniting fragmented owners to agree on the compulsory sale for redevelopment. This measure is applicable for industrial buildings that are aged 30 or above and located in non-industrial zones.
- (b) Tailor-made lease modifications that allow the land premium to be assessed based on the optimal use and proposed intensity of the redevelopment. This “pay for what you build” concept is applicable to the redevelopment of old industrial buildings located in non-industrial zones. Applications must be made within three years from 1 April 2010 and redevelopment to be completed within five years.
- (c) To give owners, through lease modification, the option to pay the assessed land premium, which should exceed HK\$20 million, by installments at a fixed interest rate of 2 percent over the course of five years. Applications need to be made within three years from 1 April 2010.
- (d) For the wholesale conversion of industrial buildings, the incentive is the cancellation of waiver fees. It applies to industrial buildings aged 15 years or above in “I”, “Commercial” and “OU(B)” zones. Application should be submitted in the form of a joint application by all owners within three years from 1 April 2010. It is also conditioned that the building cannot revert to industrial use during the waiver period and no increase to building height, building bulk and gross floor area can be made. Furthermore, full market premium is payable when the building is redeveloped in the future.

To facilitate a smooth implementation of this major

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government initiative, other relevant government departments have also taken into account the constraints of existing industrial buildings and worked out additional measures to facilities wholesale conversion of industrial buildings. For instance, the Buildings Department has relaxed the relevant requirements to make it easier to set up places of public entertainment for accommodating not more than 500 persons in a converted industrial building.

Since the announcement of the measures, there have been 15 planning applications received / processed in relation to wholesale conversion / redevelopment of industrial buildings (as at end July 2010). Amongst these applications, majority are for hotel and office uses; eight are for wholesale conversion, and the rest are for redevelopment.

Preservation and Adaptive Re-use of Historical/Heritage Buildings

Other than industrial buildings, efforts have been taken to comprehensively review town plans and amend zonings for some of the historical/heritage buildings to facilitate for their reuses. During the process, planning briefs setting out the planning parameters and government requirements would be prepared and submitted to the Board for endorsement to guide the implementation of the proposed schemes. One example is the Mallory Street/Burrows Street Urban Renewal Authority Project. The project covers an area of about 780m² generally bounded by Mallory Street and Burrows Street in Wan Chai and involves the pre-war buildings within the street block. These pre-war buildings are classified as Grade II⁴ historical buildings by the Antiquities Advisory Board.



View of 1-11 Mallory Street
Site Photo of Mallory Street/Burrows Street URA Project

The project was announced for commencement on 18 March 2005. The site is zoned "Other Specified Uses" ("OU") annotated "Open Space and Historical Buildings Preserved for Cultural and Commercial Uses" on the approved URA Mallory Street/Burrows Street Development Scheme Plan (DSP) No. S/H5/URA1/2. The planning intention of the "OU" zone is to facilitate in-situ preservation and adaptive re-use of the historical buildings fronting Mallory Street for cultural and commercial uses, together with the provision of outdoor open-air public space for recreational uses serving the need of the local residents as well as the general public.

A planning brief setting out the planning parameters and government requirements had been prepared and endorsed by the Board on 8 July 2005 to guide the implementation of the Development Scheme. According to the planning brief, the 6 historical buildings at Nos. 1-11 Mallory Street should be conserved and converted for adaptive re-use for cultural and commercial uses. Detailed requirements for conservation of the pre-war buildings are set out in the planning brief including, inter alia, detailed conservation study, photographic survey and cartographic records and structural survey of existing condition of the buildings. A minimum of 300m² of public open space should be provided at Nos. 6-12 Burrows Street and the possibility of retaining the

⁴ The definitions of different grading are as follows:

Grade I Buildings/sites of outstanding merit, which every effort should be made to preserve if possible.

Grade II Buildings/sites of special merit, efforts should be made to selectively preserve.

Grade III Buildings/sites of some merit, preservation in some form would be desirable and alternative means could be considered if preservation is not practicable.

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façade of Nos. 6-12 Burrows Street as an entrance feature to the open space is subject to structural engineering feasibility study.

According to the planning scheme approved by the Board on 13 February 2009, the proposed adaptive re-use of the historical buildings includes eating place, shop and services (including cultural use/ gallery/art studio) and public open space. The key elements of historical and architectural significance will be retained, for examples, the façade and the tiled pitched roof; the layout of the units; and the side and back elevation of the most authentic pair of buildings i.e. No. 1& 3 Mallory Street.

Revitalising Historic Buildings through Partnership Scheme

The Revitalising Historic Buildings through Partnership Scheme recently launched by the Development Bureau featured a concerted effort to bring about site-specific rehabilitative use to preserve our unique cultural and historical heritage, as well as revitalising and upgrading of the entire neighbourhood. Under the Scheme, non-profit making organisations using the model of social enterprises can submit proposals for using the Government-owned heritage buildings considered suitable for adaptive re-use.

In their submissions, the non-profit making organisations should come up with detailed plans to show how the historic buildings would be preserved and their historical significance be brought out effectively, how the social enterprise would operate in terms of financial viability and how the local community would benefit. A vetting committee, comprising Government and non-Government experts, has been set up to consider the submissions and related matters. The Government will provide one-stop advisory service for successful applicants to take forward their proposals in the areas of heritage conservation, land use planning, building architecture, and compliance with Buildings Ordinance. Where justified, financial support including grant will be provided to cover the cost for major renovation to the buildings.

The two batches of Scheme include, notably Lui Sen Chun as a Chinese medicine shop, Lai Chi Kok

Hospital and Old Fanling Magistracy as hostels and art and cultural villages, North Kowloon Magistracy as art school, Old Tai O Police Station as boutique hotel, Mei Ho House as youth hostel; etc. These sites are mostly designated for "G/IC" uses. Other historical sites in the Central Business District are also being included as part of the effort of Conserving Central, including Central Market, Murray Building, Former Central Police Station, French Mission Building to preserve the built form and architectural attributes of Hong Kong.

Concluding Remarks

The above planning framework for adaptation and revitalisation shows varying degree of success in transforming industrial floor space to other uses in the process of economic restructuring in Hong Kong. Revitalising heritage buildings to other beneficial uses is a more recent policy initiative. A number of major projects under the Revitalising Historic Building through Partnership Scheme will come into fruition soon. Experience gained from these initial projects would surely provide insight in formulating schemes in future.

While the planning framework is necessary to effect such changes, the framework alone is considered not sufficient to provide the impetus for the transformation. The recent initiatives of the Development Bureau, which have come into effect on 1 April 2010, have added impetus to promote revitalisation of old industrial buildings. These initiatives consist of lowering the ownership threshold for redevelopment, allowing tailor-made lease modifications and giving owners the option to pay the land premium in instalments for five years. For conversion, the incentive of a nil waiver fee is granted upon satisfaction of various conditions. Provision of flexibilities in applying various relevant ordinances and regulations during the redevelopment/ conversion process would also be necessary to facilitate the actual transformation. Given these measures are in place only for a short period of time, the overall effect on revitalization of industrial buildings has yet to be assessed.

The Government recently announced a new population projection of 8.89 million up to 2039. The development pressures will not go away. In the midst of scrambling for more land for development, to maintain a balance of

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recycling land and buildings and opening up greenfield sites becomes all the more important and the challenge will go on.

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Prof. CHAU Kwong Wing

President, The Hong Kong Institute of Surveyors (2009-2010)

Professor CHAU Kwong-Wing is currently Chair Professor of Real Estate and Construction at The University of Hong Kong. He has been teaching at The University of Hong Kong since 1987. He served as Dean of Faculty of Architecture during 2002-2005. Professor Chau received the International Real Estate Society Achievement Award in 1999. He was President of the Asian Real Estate Society in 1996-7 and President of the International Real Estate Society in year 2000-2001. Professor Chau's main areas of research include real estate investment and finance, sustainable development and building performance assessment. Most of his works are empirical studies with implications for policy makers, practitioners and investors.

Surveyors' Role on Building Adaptation and Revitalization

Economically obsolete buildings need not be demolished to regain their economic value. The modification of existing buildings may sometimes be financially more viable than their redevelopment. In addition, financial viability is often not the only consideration; other factors such as sustainability, social and cultural impact, and other regulatory constraints are equally important. When considered holistically, the modification of buildings to adapt to a new economic and regulatory environment, in many instances, could be a better option even if redevelopment, in theory, may offer building owners better short term returns. Particularly the Hong Kong Government launched the new policy on revitalization of the industrial buildings in traditional industrial area which would have injected new synergy in building adaptation and revitalization. This is certainly the case in Hong Kong now and would be more so in the future.

Surveyors have been playing important roles in matters related to the financial, managerial, legal, and technical aspects of what I describe as the land conversion process. This process refers to the practice of changing the characteristics of a plot of land (including any structure and natural resource situated on it) to the benefit of the landowner or society. In a densely populated urban area such as Hong Kong, the land conversion process is mainly concerned with the activities within the traditional building life cycle – from land acquisition to development to maintenance and management, demolition, and, finally, redevelopment. In Hong Kong, due to its ever changing economic environment and land prices, compared to redevelopment, relatively little attention has been paid to extending the life of a building by changing its uses. However, the latter is becoming increasingly important in Hong Kong due to recent regulatory, social, and cultural changes.

There are many different types of surveyor. Each type can contribute to a building's adaptation and revitalization in different ways. Building Surveyors are experts in dealing with the physical changes of a building and the corresponding regulatory constraints governing such changes. Building adaptation usually involves old buildings with varying conditions. Before any decision is made on whether to revitalize or demolish a building, a physical inspection of it is necessary. Building inspection and condition appraisal are a core skills of a Building Surveyor, who is also familiar with the regulatory constraints on how buildings can be altered and used. S/he can advise building owners on the optimal changes to their building that will bring about the most benefits to owners and other stakeholders. Many Building Surveyors are also Authorized Persons who can submit plans of alteration work for approval by the Buildings Department. Building Surveyors also act as project manager to manage building projects from inception stage to completion. They are able to handle alteration and adaptation, building renovation, repair and maintenance as well as building conservation work, competently.

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General Practice Surveyors are experts in land lease matters and valuation of properties in solving problems related to the lease, economic and financial aspects of land and buildings. Coping with building adaptation and revitalization General Practice Surveyors pay an important role in dealing with the associated lease modification to cope with the planned use. Although a decision to extend the economic life of a building may not be purely based on financial gain for the owner, an economic assessment is still important for assessing the opportunity cost of adopting a financially sub-optimal solution. Even if the decision has been made to modify the building to adapt it to its new environment, the impact of different options on the value of the subject property and other spillover effects should be evaluated so that the owner can make a more informed decision. Some building alteration and adaptation projects also involve changes in land use that necessitate the negotiation of the quantum of land premium with the Lands Department. Some building adaptation/conservation projects may involve valuation of compensations to the affected parties, which also requires the services of General Practice Surveyors.

Land Surveyors are experts in the physical measurement of land and buildings. In the legal aspect, the land surveyors verify the boundaries of the property against the lease which is important for protecting the rights and interests of the land owners and to clarify responsibility, for example, for maintenance of the slope adjacent to the building. Land Surveyors prepare plans which are attached in the legal document for the agreement between the land owner and the Government to modify the use of the land or portion of a building in respect of the land lease. For building alterations and vitalization projects, land surveyors prepare block plan of the existing site and building for designing the new works to be carried out. Land Surveyors are experts in measurement, they uses advanced technologies, such as laser scanning to measure historical building for re-constructing the building plans and creating 3-D models of the building for visualizing the difference of the site before and after the adaption / alternation works. Land Surveyors also carried out precise measures for monitoring the movement and stability of old building which is important for building maintenance and safety.

Planning and Development Surveyors are experts in dealing with regulatory, social, and financial issues at a macro level and are most capable of handling large scale building revitalization programs. Although there are not many cases of the large scale modification of old buildings, the “scale” of the modification of individual buildings should not be confined to their modification, as no building is an isolated entity that is detached from its surrounding environment. Whatever is done to an old building will impact its neighboring structures. A Planning and Development Surveyor can analyze such impacts and come up with an optimal strategy for all stakeholders. Planning and Development Surveyors are familiar with planning regulations and their expertise can assist in building adaptation projects that involve planning application.

Property and Facility Management Surveyors are experts in strategic facility planning, asset management, space management, real estate design and management, operation and maintenance, property management, corporate real estate and other facility services to satisfy the end users’ needs. Whether or not an old building can function efficiently after undergoing alteration and adaptation work should be evaluated from the end user’s perspective. End user satisfaction is a key indicator of the successfulness of a building’s alteration/conservation. Property and Facility Management Surveyors do not only have the expertise to satisfying end users’ needs, they are experts in identifying end user requirements and evaluating end user satisfaction. With the growing importance of environmental protection and workplace health and safety, Property and Facility Management Surveyors are competence to provide advice of statutory control and to formulate appropriate systematic procedure for the effective management of such environmental, health and safety requirements for their clients.

Quantity surveyors are experts in construction costs and contract administration. Similar to new building works, alteration works also involve costs. It is important to have an estimate of the alteration and related costs for budgeting purposes. Other quantity surveying functions for new buildings, such as construction procurement, tendering, documentation, cost controls, contract administration, project management, and dispute resolution

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are equally important for building alteration projects. In addition, quantity surveyors are also experts in life cycle costing. Life cycle cost takes into account the total costs, including initial cost and capitalized future maintenance and running costs. The latter costs tend to be more significant for building alteration/conservation than for new building construction. Recent developments in the practice of life cycle costing extends the total cost to cover costs to different stakeholders and the community, which is particularly important for sustainability analysis.

I have briefly described how different types of surveyor can contribute to extending the life of buildings by showing examples of what they can do in the practice of building adaptation and revitalization. However, I must stress that there are overlapping areas of skills and expertise amongst different types of surveyors. Therefore, some of the tasks that can be done by one type of surveyor may be competently handled by another type of surveyor. In reality, more than one type of surveyor is needed to provide a range of services to make a building adaptation and revitalization project successful.

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Prof. Bernard Vincent LIM Wan Fung

Professor (Fractional Appointment), School of Architecture, The Chinese University of Hong Kong

Bernard V. Lim, Principal of AD+RG Architecture Design and Research Group Ltd., and Professor (Fractional Appointment), School of Architecture, the Chinese University of Hong Kong. For years he has been elected Architects Registration Board Member and has been a Council Member of the Hong Kong Institute of Architects (HKIA) contributing particularly in new initiatives for community development and local affairs.

He was elected the President of the HKIA (2005-2006); Founding President of the Hong Kong Institute of Urban Design; Member of the Building Committee of Hong Kong Housing Authority, Antiquities Advisory Board and Tourism Strategy Group; Former Member of the Town Planning Board, Energy Advisory Committee (2004-2010); and Specialist Architectural Advisor to the Legislative Council Commission in 2002.

He has established professional specialization / research in areas of (A) Institutional, Educational, Healthcare and Elderly Buildings, (B) Sustainable designs, and (C) Community Participatory Planning and Workshops. His leading research on Innovative School Designs and Public Participation has been supported by the Quality Education Fund and Sustainable Development Fund.

He served the School Building Design Committee under the Education Bureau; he has been an Honorary Advisor of the Hong Kong Red Cross, Caritas Hong Kong (Social Work Services), Hong Kong Society for Rehabilitation, the Urban Renewal Authority District Advisory Committee (Central / Western), and appointed a Tribunal Member for the Appeal Tribunal (Buildings) and committees under the Buildings Department. He has been appointed since 2008 Chongqing Committee Member of the Chinese People's Political Consultative Conference of PRC. He has been invited to be Advisor to the Guangdong Registered Architects Association.

Revitalization of Historical Buildings - Principles and Cases

With the emerging awareness towards the importance of building adaptation and revitalization in Hong Kong, new measures are needed to revitalise appropriate buildings through relevant and sustainable approaches for the benefit and enjoyment of present and future generations. Due regards should be given to development needs in the public interest, respect for private property rights, budgetary considerations, cross-sector collaboration and active engagement of stakeholders and the general public.

Governments and organizations around the world and Hong Kong are now working on sustainable building adaption and revitalization measures. This presentation reviews recent cases in Hong Kong on how to cope with the challenges in the new era on this aspect from an architect's perspective. Key principles are suggested to formulate strategies. It also recommends the directions to inject new ideas into the process and impart new innovative uses.

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Mr. Nelson HO Siu Leung

Senior Manager, Facilities Management of the Hong Kong Science & Technology Parks Corporation

Mr Nelson Ho is the Senior Manager, Facilities Management of the Hong Kong Science & Technology Parks Corporation responsible for facility management of the Hong Kong Science Park and InnoCentre, and the environment and safety management of the above properties and the 3 Industrial Estates of Hong Kong.

Mr Ho is an experienced Building Surveyor possessed more than 20 years' experience in Projects and Facilities Management. He served in various renowned developers, major consulting firms and public organisations in Hong Kong. Before assuming his current role, Mr Ho was heading the Estates Department of the Hong Kong Academy for Performing Arts for twelve years. One of the major historic restoration project undertaken by Mr Ho, the Bethanie, won the United Nations' Cultural Award in Heritage in 2008.

Mr Ho is active in the activities of the learned societies. He is the founding fellow member of the Hong Kong Institute of Facility Management and is the current President. Mr Ho is also member of the Hong Kong Institute of Surveyors and the Royal Institute of Chartered Surveyors and holds an MBA degree. He had served in the Building Surveying Divisional council for many years and currently is serving as council member of the Property and Facility Management Division of the HKIS; and as member of the RICS Hong Kong Building Surveyors Professional Group Committee. Mr Ho was also one of the first 4 Hong Kong Practitioners being recognized as Experts in property management by the Guangdong Property Management Industry Institute, PRC.

Mr Ho also serves as member in the Shamshuipo District Committee of the Urban Renewal Authority, and as external examiner for Facilities Management courses of SPACE of University of Hong Kong and industry advisory committee of the Master of Facilities Management course of Hong Kong Polytechnic University.

Mr Ho's major professional/research interests are Facilities management, project management, outsourcing management, maintenance, conservation, rehabilitation and restoration of heritage buildings.

Restoration of the bethanie — The Journey to UNESCO Heritage Award

The restoration of the Bethanie was the largest project ever taken by the Estates Department of the Hong Kong Academy for Performing Arts since the inauguration of the Academy in 1985. The project has taken a total of 8 years from the inception till its grand opening in November, 2006. The project is an example of holistic restoration project taking into account the various facets of the history of the Bethanie. In this restoration project, not only did the architectural features be restored, but the livelihood of the building and the community is also revitalized. The presentation will take you through the amazing history of Bethanie and how it is connected with the cowshed, the Dairy Farm and also the French Mission, as well as the discovery of the bauhinia in Hong Kong. All these are interestingly intertwined together as explored during the process of the restoration project.

The Total Facilities Management concept and passion of the team underpinned the success of the project. The careful restoration of every detail with due respect to the original design intention, the future use and operation as well as ease of maintenance was fully considered. There are various challenges in this project in respect of the tracing of the history, its community and architectural correctness, to meet the modernized use of the Film and Television school of the Academy while struggling through the various statutory requirements and facilities management ideals. The presentation attempts to reveal all these elements in the surveyor's perspective and shares the core values in making the project a success and award winning.

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Mr. Raymond CHAN Yuk Ming

Past President, The Hong Kong Institute of Surveyors

Mr. Raymond Chan is the Past President of Hong Kong Institute of Surveyors. He is qualified as a Building Surveyor, Project Management Surveyor, Property and Facility Manager Surveyor, Planning and Development Surveyor. Mr. Chan is also a Member of the Chartered Institute of Arbitrators (MCI Arb) and the Chartered Institute of Building (MCI OB); a Fellow Member of the Hong Kong Institute of Surveyors (FHKIS), the Royal Institution of Chartered Surveyors (FRICS) and the Association of Building Engineers (FBEng). Mr. Chan also process the qualification for Construction Engineering Consultant of China.

Mr. Chan is currently a Governor of the World Organisation of Building Officials (WOBO) and a member of the Town Planning Board, HKSAR Government. Mr. Chan is also serving, or has served in a lot of other Boards and Committees including:

Now serving

- Convenor, Panel for Hearing Objection to Railway Projects
- Member, Election Committee, HKSAR
- Member, Home Purchase Allowance Appeals Committee Panel
- External Member, Divisional Advisory Committee, Division of Building Science and Technology, City University of Hong Kong
- QingDao Committee Member, The Chinese People's Political Consultative Conference

Have served

- Member, Infrastructure Development Advisory Committee, Hong Kong Trade Development Council
- Member, Authorized Person Registration Committees Panel
- Member, Advisory Committee on Barrier Free Access
- Member, Licensing Appeals Board
- Member, Appeal Tribunal Panel
- Chairman, Surveyors Registration Board

Case Study on Building Revitalization – Industrial Building

In the 1960s, Hong Kong was an industrial city accommodating large portion of manufacturing industry. Owing to the opening of Chinese market in the 80s and the restructuring of local economy, most local manufacturers have relocated their production line and labour-intensive operations to Mainland China or other Southeast Asian countries. As a result, many of the local factory buildings in industrial area have been progressively left vacant since then. Despite introduction of planning measures by the government to facilitate better uses of industrial premises during the past two decades, redevelopment or conversion of industrial premises has no much progress. To avoid waste of scarce land resource, the government in October 2009 announced new policy measures to encourage redevelopment and wholesale conversion of industrial buildings. Under the new policy, property owners are allowed to apply at a nil waiver fee for change of use of the entire industrial buildings which are aged 15 years or above. Industrial building owners are therefore provided with good incentives to make better use of their properties.

As a practitioner in the conversion and adaptive re-use of existing industrial buildings, I have realized the opportunities arised and the role we play in the revitalization process. Difficulties encountered, such as issues regarding provision of transport facilities, fire safety, compliance of building regulations, internal layout alteration and access provision etc, may be critical to the success of a project. In my talk, I shall discuss on relevant constraints and possible solutions.

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Dr. Andrew PLATTEN

Associate Dean, School of the Built Environment, Leeds Metropolitan University

Andrew Platten is the Associate Dean and Head of School of Built Environment at Leeds Metropolitan University. Dr Platten has previous client sector experience in urban and housing regeneration and he also has over 20 years experience in the higher education sector in the UK and overseas involving accreditation, subject benchmarking and development of provision in the USA and Hong Kong.

He is currently, the honorary chair of the Centre for the Urban and Built Environment at the Hong Kong College of Technology and a Visiting Professor with the University of Salford and has written over 45 academic papers in the field of construction and construction management.

Previously, as the Head of Constructing the Future, with Elevate East Lancashire, one of the nine Housing Market Renewal Pathfinders in England, Dr Platten was responsible for sustainable the development of the local supply chain companies, employment, skills and knowledge for successful regeneration.

The Influence of Lifestyle, Heritage and Culture in the Regeneration of UK Cities: Leeds A Case Study

This paper concerns the regeneration of cities in the United Kingdom. The impact of economic and social change has impacted greatly upon the world's cities. Changes in technology and the location of manufacturing has led to economic decline in many areas, once reliant upon heavy manufacturing. The current climate of economic decline has demanded more from our cities and centres for living. The ability to learn, change and innovate has become a constant task for many city planners and engineers. In this paper a case study approach concerning the regeneration of Leeds in the North of England is presented. The paper presents a summary of the industrial heritage of the city and its transformation throughout the twentieth century. In the 1970's the city was in decline, but a move over the past thirty years towards the service and cultural sectors has brought a new optimism to the city. In the early years of the twenty first century the legal and financial industries have brought changes to the city centre. This paper reports policy actions and how the market economy has help to reshape the former manufacturing areas of the city. The paper summarises the present tasks for the future of the city, the changes in economic focus, the impact of climate change and the low carbon agenda.

Key words: sustainable development, regeneration, planning policy.

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Introduction

The performance of the past 40 years of the construction sector and the housing market in the UK has been one of boom and bust over a repeated cycle (Muellbauer and Murphy 1997). This has mirrored the economic cycle of the nation as a whole, and prompted the consideration of the value both in terms of the quality of the building stock and its impact upon the local environment and community. Notably, the demand placed upon new properties was extremely great in recent years until the world recession in 2008, a situation that has been commented upon by Case and Shiller, 2003.

During the past 20 year period, the UK has experienced a continued rise the demand for homes, particularly in the South East of the Country. This has led to pressures upon land use and subsequently an increase in housing prices (Evans, 1991). This situation is contrasted with the collapse of the market in areas which have been less attractive to investment. The phenomenon of low and falling demand for housing became evident in the UK in the late 1990s (Bramley and Pawson, 2002). This issue has been observed in both the private and public sectors and has led to societal problems in the inner cities and former industrial centres in the North of England. The issues of low employment, low aspiration, social exclusion and economic decline have been particularly prevalent in these locations (Peach, 1998, Wilcox, 2001 and Elevate, 2006).

Within the context of the regeneration of the former industrial centres, this study provides a case study review of the City of Leeds. It provides a summary of policy and interventions in the market and summarises the tools available to achieve these aims whilst highlighting the need to balance heritage and culture within the process of regeneration.

Aims and Objectives

This work will highlight some of the historic milestones of the city and its development to the present date. The study will in particular, the impact of societal and industrial change in the 20th century. The process of change in the later part of the 20th century is outlined highlighting the impact the city development corporation and the civic trust. Whilst systems of planning, design and

procurement are pertinent to this study, the historical context of the case study over complicates the review and for the purposes of this paper, the overall impact of the current systems are considered.

Historic Development of the City

Leeds is the largest city in the county of Yorkshire, the immediate population is 1.5 million according to the 2001 census. The history of the city located on the river Aire history may be traced back to the bronze age (Wrathmell, 2008). Roman materials including the remains of a road running to the East of the city suggest that the location was used as a fortification, probably part of a wider network severing the needs of the important nearby Cities of York and Hull. In the early 8th Century, the city was a centre for various religious functions, wherein region is formerly recorded as Loidis, from which is derived the modern name of the city.

By 1086, the Domesday Book mentions the presence of a mill, a church and a priest. For this point onwards the city experienced gradual growth and development as a centre for trading and manufacturing. Most notably, the Burgundian Cistercian order established a number of houses in the region in the early 12th century including Kirkstall Abbey founded in 1152. The Abbey's estates transformed the local economy making it a centre for cloth making with trading links to Northern Europe and Italy. In 1207, the borough of Leeds was formed, a bridge was built across the river Aire and the formation of the city layout was established with the building of several houses in 1258. The population of the city expanded in the 15th and 16th centuries with the building of several timber framed buildings and the establishment of chantry chapels. To the east of the city the building of Temple Newsam in 1488, a large mansion demonstrated the new wealth of the region.

The importance of the cloth making industry to the city is evident through this period when the Borough of Leeds was created by charter in 1626 and emphasised during the Civil War with the merchants supporting the King and the clothmakers the parliament. Following the restoration, trade with Holland and Germany surged which paid profits to repair the damaged town. This development also fuelled the construction of a reservoir in 1694 and later the construction of the Aire and Calder

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Navigation in 1700 which enabled the transportation of goods to Hull and on to export to Europe.

During the Georgian Period the first accurate map of the town was produced by John Cossins in 1726. The map clearly defines the main layout of the town locating the main roads of the Headrow and Briggate to the north of the river and canal and a growing settle to the South, which is evident to the present day. In the early 18th century the confidence of the cloth industry is reflected in the construction of the first Cloth Hall and the Holy Trinity Church. Later many properties were redeveloped with the first planned developments of superior housing along Park Row and Park Square, although the impact of pollution from the river side stymied its full development and led to the development of the outskirts of the town in Headingley and Kirkstall. At this time wealth and taste became more evident with the Greek Revival influence upon local architecture.

The Industrial Revolution

In the late 18th and early 19th centuries the economy was radically transformed with the industrial revolution. Goods were transported from the Pennines to the markets of Leeds via roads and pack horse routes. In order to access the international trade market the Leeds Liverpool Canal was opened in 1777. The mechanisation of the weaving trade led to the construction of large mills, such by 1800 and onwards this was typical of the region, for example John Marshall located his entire business to the town in 1806 and built the flax warehouse on Water Lane of "fire proof" construction in 1808. This technological advancement was reflected in the Temple Mills by Bonomi Jun in 1838-43 in the Egyptian Style pioneering methods to control humidity and temperature by the use of a grass roof, tended by local sheep.

At this time the town expanded to the South in the early 19th Century with the building of foundries and engineering works serving the newly mechanised textile mills across the country to become the city's largest employer. The Tower Works on Globe Road producing steel pins funded attractive additions to an extending production centre including Italianate chimney's that stand to this date. In 1811-12 the Round Foundry was served by a steam locomotive and heralded the coming

of the public railway to the city. The building of two stations and a hotel close to the centre changed the profile of the city. A connecting line through centre and over the canal created the "Dark Arches" which formed the centre for an integrated transportation centre.

In the Victorian era Leeds became the fourth largest town in the country, and the title "Capital of the North", the population was swelled by immigrant labour from Ireland and Eastern Europe rising from 53,000 in 1801 to 429,000 in 1901. An elected town council was formed in 1835 and there followed the construction of a large infrastructure of public buildings including the Town Hall in 1852 and the Corn Exchange in 1860. The Gothic Revival was evident in the new churches including the parish church of St Peter and St Saviour which included Pugin's stained glass windows. Alongside the public sector, office buildings for the finance and insurance industries grew alongside and adjacent to the wealthy Park Row. These buildings patronised the renaissance styles with Venetian and Gothic suggestions. The use of brick and later Terracotta which was able to shed the soot and grime of the factories from local clay stocks aided this direction. Characteristic to Leeds were the arcades which were built in the 1870's using a variety of styles including the gothic as a means of improving the decayed and unhygienic "shambles". The arcades provided a covered shopping area changing again the city centre which was crowned by the erection of the City Market in 1904 characterised by its domes and pinnacles.

The opulence of the city given its Royal Charter in 1893 was evident with the construction of several theatres including the City Varieties and the Grand on New Briggate. In the outskirts of the city, housing was in various phases of development. Examples of fine housing could be seen in Headingley and Chapel Town whilst to the East and South the back to back housing for the working class was extremely poor in quality. The Leeds Improvement Act of 1866 attempted to re-plan housing and to improve sanitation conditions, although many developers continued to build new slums up to the 1930's.

During the first world war, the city profited from the large orders for military clothing and this prosperity led to the expansion of the city boundaries in the 1920's.

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New road building linked the city to the suburbs whilst improving traffic flow and a programme of re-planning and slum clearance was led by the council. New housing influenced by advances in Europe was characterised by the Quarry Hill Flats completed in 1938. During the depression the Civic Hall one of the first to use White Portland Stone was built to provide work for the unemployed and add to the city's infrastructure. The building was complemented by the Parkinson Building at the University built 1936 – 1951 .

The second world war thankfully led to only minor damage to the city leaving much of the Victorian and Edwardian infrastructure of the city in place. However, a programme of rebuilding commenced in 1945 to further develop traffic flow and modernise the city with the construction of the Central Colleges (Now Leeds Metropolitan University). In 1964, the Merrion Centre linking to the new inner city motorway, was one of the first shopping malls to be constructed in the country a self contained shopping centre, cinema, offices and car park. The Development Plan of 1965-8 was an error in the vertical segregation of traffic and was abandoned in the 1970's, but not before the construction of the Trinity Arcade opened in 1978. A development to be demolished within 30 years of its opening Further, planning decisions to remodel the former work dormitories in Holbeck and Armley were disastrous with large system built structures proving unpopular and expensive short term solutions to living space.

The errors of planning and design led to the establishment of the Leeds Civic Trust in 1965. The Trust has been the forum for conservation measures since this time seeking to engage with all stakeholders and influence responsible development, (Leeds Civic Trust, 2010).

Economic Decline and Rebuilding

After 1945 the manufacturing sector of the city went into decline and the city failed to attract new industries (Frazer, 1980), leaving the south of the city to become abandoned with factory closures. The working population suffered in particular with job losses.

In the 1980's, the city took the decision to restore its visual character and provide a venue for new investment

despite a changeable picture nationally. Part of this policy was the establishment of the Leeds Development Corporation in 1987, this was a government funded initiative to revise areas affected by industrial decline in the South and Centre of the city. The corporation was dissolved in 1995 establishing the Royal Armouries Museum in the old canal basin and built upon the heritage of the Clarence Dock once famous for its munitions production. The corporation mirrored initiatives in Manchester and Liverpool redeveloping 4.1 million square foot of commercial developments and creating over 9000 new jobs (DETR, 1998). This success was achieved by the provision of attractive office space on former industrial or brown field land and linking to a modernised transportation network. Alongside this high quality housing provision was sited along the canal area providing 571 housing units under the corporation's guidance, although sparking a wider property development rise in the city leading to a 2% growth in population over 1991 to 2001, (Unsworth and Stilwell, 2004).

The Regeneration of the City

The regeneration of Leeds over the 1980's and 1990's became known as the "Leeds Look", (Smales and Whitney, 1996). This was an attempt to bring back the coherence of the city using brick, terracotta, stone dressing and slated roofing. The style used traditional accents to a modern style and provided a reflection of the Victorian and Edwardian heritage. Such developments have included the Magistrates Court, Quarry Hill, Jacob Cramer College and the Henry Moore Sculpture Gallery in the city centre.

A major factor to the re-building of the city centre was in the development of its retail outlets as competition to a growing number of out of town developments. These included the Corn Exchange, White Cloth Hall, Thornton's Arcade and Queen's Arcade and the City Markets. The outstanding development included the County and Cross Arcades as the Victoria Quarter with shop fronts restored to their former Victorian brilliance. This new centre drew new high quality outlets to the city.

To the South the former Round Foundry was redeveloped as a media and food outlet centre as part of a new commercial district mixing new and old

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construction. The Foundry located in Holbeck was once the centre of the heavy industries. Now the Holbeck Urban Village forms a 20 hectare site, attracting £800 million of investment (CABE, 2010). The site includes a six hectare conservation area. Importantly, it joins to a traditionally impoverished residential area with poor access to the city. Spurred by the changing canal area and improved communications between the North and South of the city the site was privately commissioned to serve the media and internet businesses in the city and serves to indicate the attractiveness and importance of the industrial heritage of the centre to new industries and businesses.

This form of redevelopment aided the re-emergence of a growing Financial and Legal Sector. Since the 1980's the sector has grown offering an alternative to the City and partaking in keen competition with Manchester. The sector has grown in the city with new buildings including No 1 City Square completed in 1998 and opposite 15-16 Park Row in 1995 and the White Cloth Hall a refurbishment of the building created in 1770 and part of the wider regeneration of "The Calls". The developments served a growing sector of the city's economic activity employing 240,000 people and generating £12.9 billion in 2008 (LSI, 2008).

Economic Collapse and Re-emergence

The 2008 recession and its ongoing impact upon the UK economy has shaken the city. The reduction of the financial services sector has greatly reduced economic activity. Many new developments have been effectively put on ice since this time, including the rebuilding of the Trinity Arcade Shopping centre in the city centre. Further, the reduction of public investment in 2010 has slowed public financing of new Schools, housing and health estates. A further indicator of market burn out was the high volume of apartments built to the city which experienced reducing demand as credit availability fell in 2008. The past 24 months have been a cause for pause and reflection on the expansion of the past twenty years.

Possibly one of the redeeming features of the current recession has been the re-positioning of the low carbon agenda. The earlier government targets to reduce carbon in housing, education and health sectors (Platten, 2009)

could be criticised for introducing measures upon the sector without the design teams and supply chain fully understanding their implications. In the current age, the need to review design intentions and in particular cost has led to some refocusing of opinion and approach. In the UK the Committee on Climate Change in its report on Building a Low Carbon Economy (2010) has highlighted the opportunities for economic development and advantage. The approach matches with other calls to improve thermal efficiency, reduce fuel bills so as to improve the competitiveness of industries.

For the Leeds City Region, a Leeds City Centre Transformed was published by the Civic Trust in 2009 to promote the wider debate over the future function and layout of the city centre. In the context of the recession the Trust highlighted the opportunities for a rethink of the city's future further to the reported "frenzy" of redevelopment in recent years. The report questions the longevity of economic development and the demand from new professionals entering the local economy. Much of the approach refers to local transportation, reducing journey's to the office and focusing more on at home working. A revisit of the water front development seeking to develop greater vitality and quality of offer is also explicit to the paper.

The City Council is a signatory to the Nottingham Declaration, a commitment to addressing climate change and carbon reduction, including producing 10% of its energy needs from renewable sources and reducing carbon emissions by 25%. This approach is enshrined in its Environment Policy a constituent part of Planning guidance for city developments (Leeds City Council, 2008). As such new building developments must be in meeting with the excellent rating of the BREEAM standards. Examples of buildings meeting this standard include Thorpe Park, Allerton Bywater Centre, The Rose Bowl Building and Carnegie Village at Leeds Metropolitan University. All indicating the scope and shape of the next building revolution in the city. Whether development such as these do contribute to a new city is subject to debate and time of course. Leeds can not be described as a low carbon city, but the aspirations of the city council certainly point to this.

Cultural Leeds

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The wider cultural offer is ongoing. New build developments currently in place and surviving the recession include the new 13,500 indoor area to be built on the site of the now demolished Brunswick Building close to the city centre. The development rescued by the City Council will open in 2012. The development will fulfil a vital role in the city providing a much needed large multipurpose venue.

Other works now progressing to completion include the £12million Northern Ballet Theatre, built close to the Quarry Hill site and forming a significant portion of the growing performing arts community in the city. This development forms part of a wider enrichment of the cultural offering of the city and plays an important role in (a) attracting the new clientele to the city and (b) changes the after working hours offer from alcohol to entertainment.

An example of the mix of heritage and culture can be found in the TempleWorks development. The former Flax Mill, represent the story of Leeds city. The once future facing Mill of John Marshall, was a symbol of Marshall's interest in Egyptology. The Grade 1 listed façade with its "green roof" stood out from the surrounding industrial landscape. The building was later used as a warehouse for a mail order catalogue throughout the 1960's and 70's, but was closed in the early 1990's and fell into disrepair. The building now in the hands of a developer is set to become a centre for young artist hosting the Leeds College of Design and providing a venue for various meetings and events. The development is complete presently, but offers a way ahead for the future regeneration of the building and the community that it serves.

Observations and Conclusions

Leeds as a centre offers a rich historical past. This history steps back nearly 200 years on the banks of the river Aire. The city has experienced growth and change. Reaching it's pinnacle in the Victorian / Edwardian era it was a growing city with a large cloth and manufacturing basis. Supporting a financial centre and large working community. The growth however was exceptional and like many Northern Towns the impact of transportation, pollution and population growth all contributed to a stagnation of its development. The early part of the 20th

century was characterised with re-planning to improve living standards, public health and transportation. In the post war years however, the aspirations of the city conflicted with its earlier heritage with many costly errors whilst the economic focus of the city was lost. The failure to invest in new industries resulted in the stagnation and vacation of the manufacturing centres to the south of the city with loss of work and a resulting depreciation of local housing.

The activities of the Leeds Development Corporation in the 1980s and 90's started changes along the canal area and kick started a development boom, leading to new commercial venues and accommodation. The mix of both new build and the adaptation of existing mills, wharfs and factories has provided a varied and interesting mix of properties, which attracted a new industry base in the form of the finance and legal sectors trading on a buoyant regional economy. The wider range of interests and after work demands for dining and culture also promoted the development of the city's cultural sectors, once a symbol of the Edwardian opulence of the city.

The recession of 2008 and 2009 has had a large impact upon the city. However, the resurgence in review and a commitment to sustainable planning has tempted the speed of development. Examples of working low carbon buildings have been evident. The underlying development of the city as a cultural centre remains in place. Examples of which continue to link the historic foundations of the city to its developing cultural identity.

The importance of city legislation and policy can not be deigned from the first steps to transform living conditions in the mid 19th century to the actions of the present City Council to promote improved carbon performance. However, Leeds has never relied upon huge public sector actions or investment. The development of the city has remained in the hands of its investors and entrepreneurs. Thus the balance of the right environment to support responsible and well thought out development has been critical and probably more so for the next stage over the city's development in the 21st century.

However, others may learn from this experience is complex. A rich cultural heritage both in terms of the quality of the built environment and that of its society

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are extremely important to the foundations of new communities and the re-emergence of the city. The critical factor is to recognise this in the offering to investors and those wishing to locate their business.

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Ivan Ho Chi Ching was trained as a surveyor, town planner and conservation specialist, and was a qualified surveyor. Ivan is now practicing as full time conservation specialist with projects in Hong Kong, Macau and Mainland China. The small practice is renowned for conservation study, heritage impact assessment and management of restoration works for both Chinese and Western buildings. The restoration project “Restoration of Liu Ying Lung Study Hall, Sheung Shui, New Territories” had awarded the UNESCO Asia-Pacific Heritage Award – Honourable Mention in 2006, and another adaptive re-use project “Conversion of the Former Royal Air Force Officers’ Mess and Ancillary Buildings) for The Academy of Visual Arts, Hong Kong Baptist University” had awarded the UNESCO Asia-Pacific Heritage Award – Honourable Mention in 2009 and the “Certificate of Finalist” in the Special Awards Category: Historical Revitalization Developments of the Quality Building Award in 2010. Ivan is involved in three of the Batch I “Revitalising Historic Buildings Through Partnership Scheme” projects.

Case Study on Building Revitalization

The implementation of the new town programme in the 1970s supplied ample land for both public and private development. The acquisition of land in the new town either by land auction or with Letter B were easier than purchase and amalgamate lots in the urban area. The focus of private developers on developments in new towns relieved some of the “old” buildings in the urban areas from the bulldozer. However, the lack of maintenance posed new problems to these “old” buildings, the original residents left these aging and dilapidated flats were replaced by lower income groups. Thus Government set up the Urban Renewal Authority with the legitimate objective of urban re-development.

After the turn of the century, the foci of developers were re-directed back to the urban districts. Those rare “old” buildings which still survived become valuable as well as the expectation of the public arose demanded the preservation of the “old” buildings, though some of them do not achieve a high ranking in cultural heritage assessment. These “old” buildings could not meet the current user requirements and living standards, and the continuation of the original usage is not practical. Revitalization is the only solution “to keep” these “old” buildings.

The finding of a suitable new usage and the users for an “old” building is not an easy task. The bearing of the cost for the conversion work for adaptive re-use and the later maintenance are heavy financial burdens. The size of the building is crucial because small or partitioned floor plan will be very restrictive on the layout design for an additional another means of escape and the lift for universal accessibility. Furthermore the addition and alteration works to enhance the building to comply with the statutory requirements have to be balanced with the conservation principles for maintaining the character is always a “mission impossible”. The old “stylist” balustrade at the façade usually could not satisfy the current height and other requirements. The addition of the “exposed” sprinklers with the pipes ruins the features ceiling. This representation will present examples and the effort to address the issues.

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William Wan is a Registered Professional Surveyor (General Practice) engaged in property development, property sales, leasing and facility management. He obtained a bachelor's degree with first class honours in land management from the University of Reading and a master's degree in construction project management from the University of Hong Kong.

Throughout many years of professional practice in Hong Kong SAR, he has held managerial positions in various statutory corporations with real estate operations, including Hong Kong Airport Authority, Kowloon-Canton Railway Corporation, Mass Transit Railway Corporation and Hong Kong Housing Society. Serving the corporate objectives and business focus of the statutory corporations in different times of his career, he has extensive participation in the commercial packaging, joint venture and implementation of prominent real estate developments such as the Asia World ExPo and Logistic Centre in Chek Lap Kok Airport, the Palazzo at East Rail Fo Tan Station, International Finance Centre at Hong Kong Station, Yaumatei Six- Street Urban Improvement Scheme, and a number of property projects along East Rail, West Rail, Ma On Shan Rail and Tseung Kwan O Rail.

Currently he is the director of property and land in Urban Renewal Authority which is a statutory body established to drive ahead the much needed but thorny process of urban renewal to achieve the purposes of revitalization, redevelopment, rehabilitation and preservation. At the forefront of the process, he witnesses and encounters how the vocal minority could retard the pace of urban renewal in the neglected districts, and how the good-faith projects could fall into the sensitive issues of community and political controversies. He would share his experience in the revitalization of a cluster of prewar buildings to recapture their economic value and high heritage significance, while blending in harmoniously with the new building in the same project site as well as other buildings in the vicinity.

Urban Renewal through Building Revitalization: The Revitalization of Wo Cheong Pawnshop Building Clusters – Make or Break?

To most of us, urban renewal primarily has a multitude of social and economic objectives to serve at the forefront – to slow down the process of urban decay; to achieve planning gains; to improve the living conditions of our urban areas which suffer from building obsolescence due to the neglect or financial incapability of property owners and occupiers; and to revive the original function of the run-down districts which had previously played a vital role in shaping our city, both in the economic and physical context.

The theme of this paper is intended to share the experience in an urban renewal project carried out by the Urban Renewal Authority of Hong Kong SAR during mid 2000's, which was one of the first launched redevelopment projects implemented by the statutory entity after its establishment in 2001.

The project situated at a site bounded by Johnston Road, Ship Street and Tai Wong East Street in the heart of Wanchai District, is a combination of property redevelopment, building revitalization and prewar shophouse preservation. It captured the unique opportunity of undergoing building revitalization cum preservation, alongside the development of a high-rise tower, all within the same project boundary. It has shown the co-existence of building preservation, building revitalization and the slash-and-burn controversy of urban redevelopment, in a

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harmonious and coherent manner within a sensitively balanced building scale.

While the project was fully completed in 2007 with the new and preserved buildings all in operation, it may be interesting to take stock of the many project issues and their solutions which are not only inspirational, but would also provide an appreciation of the extent to which building revitalization could go and the far reaching impact it could have on the neighbouring environment.

Apart from building a new high-rise retail and residential tower, the project scope covered two separate clusters of prewar shophouses earmarked to be preserved and revitalized. There was a host of issues to tackle at the start, which included the sensitive cultural and heritage concerns, the conservation plan and policy of adaptive re-use to be put into practice, the design integration to address the positioning of the high-rise tower and the maximized exposure of the historic shophouses for public appreciation, the feasibility of restoration of building components, structural stability and vertical accessibility..... etc.

One of the burning issues was whether the historic buildings were to be revitalized as a “cultural and heritage project” and perceived to be so by the public, or as an “income-producing real estate project” alongside the high-rise tower within the same project site. The latter had drawn wide attention and public debate on the undesirable dismantling of community network, as well as the caustic remarks on gentrification. All in all, the project has eventuated in a financially sustainable model of public-private partnership, enabling the historic buildings to fulfill the concept of sustainable conservation through innovative building revitalization.

Urban renewal has a multitude of environmental, social and economic objectives to serve at the forefront – to slow down the process of urban decay; to achieve planning gains; to improve the living conditions of our urban areas which have suffered from building dilapidation due to the neglect or financial incapability of property owners and occupiers; and to revive the function and sustainability of the run-down districts which, in the old days, had played a pivotal role in shaping our city.

The revitalization of Woo Cheong Pawnshop Building Clusters was carried out by the Urban Renewal Authority (URA) as a key component in the urban renewal project at Johnston Road and Ship Street, Wan Chai (Hong Kong Island), which is one of the 25 early-launch projects implemented by URA since establishment by the Urban Renewal Authority Ordinance in 2001.

Project Scope

The project site has an area of 1,970 square metres enclosed by Johnston Road, Ship Street and Tai Wong East Street in the heart of Wan Chai District, earmarked for comprehensive development including

the revitalization of two clusters of prewar historic buildings (the shophouses) for adaptive re-use and the construction of a high rise tower (the new tower) adjacent to the existing shophouses to be revitalized.

The two clusters of shophouses comprise a row of four historic buildings at Nos. 60-66 Johnston Road and a graded building at No. 18 Ship Street.

The four shophouse blocks at Johnston Road exist as a single unit through their uniform elevations, which were built likely in the late 1880's. Woo Cheong Pawn Shop occupied the corner block at No.66 and was used by its ex-owner for pawn brokerage business since 1947. The pawn business flourished after the Second World War when many of the immigrants from Mainland China pawning their belongings became a means of survival.

No.18 Ship Street, an isolated structure of loading bearing walls and concrete floors, was built in 1930's. The ground floor was used for a shop and the first and second floors for the family home of the former owner who was in the construction materials trade. It is a Grade II historic building listed by the Antiquities Authority and

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is a “building of special merits”. The building had been kept in good condition due to the great efforts of the former owner.

URA began the project in 2004 and completed it in 2007. The completed development, now named “J Residence” for the residential part and “J Senses” for the retail portion, is made up of a new tower of 30 residential floors with 381 flats over a 3-level commercial podium, together with the five blocks of shophouses. The commercial podium combines the new space in the new tower and all the floors in the preserved shophouses to form the retail portion with a total gross floor area of about 28,000 square feet, currently for eleven food and beverages outlets. The shophouses presently accommodate three operators running themed food and beverages business.

Historical Significance of Shophouses

Shophouse, a common Chinese building type found in the southern part of China and South-East Asia (eg Malaysia and Singapore), was the predominant type of buildings in Wan Chai until the late 1940s. The building block was featured with a high ceiling up to 5 metres, mostly in 3 floors with shop use on G/F and residential uses above, together with an open roof. The width of a shophouse was usually restricted to the standard length of China fir, a normal type of timber used as slabs to support the upper floors.

The upper floor was often divided into a few rooms to accommodate several households, with a shared kitchen and, if any, a latrine (with or without water flushing). This Chinese building type represented the then standard of living environment when most of the new immigrants from China could only afford to pay for a small space with shared facilities. Depending on the location, the ground floor was the most valuable space for retail uses; and the mix of residential units over ground floor shops in the same block resulted in a building type described as ‘tong lau’ (shophouse).

Vision and Mission

With a key initiative in retaining and enhancing the heritage of Wan Chai, URA’s vision is to strive to bring back the functional and economic life of the five historic

buildings while preserving their authentic appearance. The preservation and adaptive re-use of the shophouses was therefore a principal term enshrined in the joint-venture development agreement for the project implemented by public-private participation. The joint venture developer of URA was selected in 2004 through the process of competitive tendering.

Under the auspices of Government’s policy bureau, it remains URA’s mission to improve the living environment of the old built-up areas, promote business opportunities, preserve heritage, boosting tourism and enhance the quality of life for residents, business operations and visitors in Wan Chai District.

Development Requirements

Notwithstanding the good intent of preservation and revitalization by URA, the prewar shophouses attract no exemption from the prevailing statutory requirements on structural loading, means of escape, building servicing, fire resisting construction and access for the disabled.

This revitalization-led project entails an integrated design approach, respecting both the old (5 historic buildings) and the new (the high rise tower) components. The old building fabric has to be duly conserved, restored and adapted for commercial uses. The design has also to create a setback of the sensitive podium of the new tower to allow the visual prominence of the adjoining shophouses, thereby imposing a respectful backdrop for the five historic buildings when viewed from Johnston Road.

Adaptive Re-use for Shophouses

The new tower contiguous to and interlinked with the prewar shophouses at podium level signifies a modern elevation design creating a high contrast with the historic buildings and emphasizing their uniqueness. The combination of glass and metal cladding highlights the modern design character. The podium structure design exhibits a modern elevation based on a modular approach to break up the bulk of the new tower and complements the authentic built form, pattern and appearance of the adjoining shophouses.

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For functional need, the interlink at podium level auspiciously provides for the sharing of the use of fire protection, pumping and power supply systems and other building services provided in the new tower that are crucial to supporting the adaptive re-use of the shophouses.

An essential building feature to revitalize the shophouses is the creation of an annex building to the rear section of the blocks at Johnston Road, adding (i) a passenger lift for easy vertical access to the upper floors of the shophouses, (ii) a pair of fire escape staircases fulfilling the current code of means of escape and allowing in-situ preservation of the original shophouse staircase (abutting on Johnston Road) without the need for major upgrading work to alter its authenticity, and (iii) building services and facilities.

The revitalization is under a Conservation Plan which guides the overall design approach, fit-out rules and future building management covering:

- statement of significance for the buildings;
- evaluation of the buildings based on the system established by Harold Kalman in 'The Evaluation of Historic Buildings';
- structural conditions of the buildings; and
- conservation guidelines to define the elements that should be preserved in the revitalization process and specify the need to follow through a regimented building management plan at the post-completion stage.

The adaptive re-use makes reference to the international accredited charters and principles including the Burra Charter promulgated by the ICOMOS Australia. A whole host of additions and alterations works was executed to bring the historic buildings up to the current building code, such as:

- structural loading and strengthening works
- fire resisting construction (FRC) and means of escape (MOE)
- sanitary fittings, plumbing and drainage
- building services system – E&M, A/C, ventilation
- associated building, structural and drainage works

The Challenges

Building Load

Structural strengthening and upgrading of loading capacity is the most challenging issue in preserving the shophouses such that they can be revitalized for commercial use. The original dead load of the blocks at Johnston Road exceeded the maximum allowable limit of the foundation system based on current building code. The foundation and the load bearing brick walls would have to be redone, causing distortion to the original character defining elements of the historic buildings. To overcome the problem the roof structure interlaced with unauthorized additions and accretions was removed and rescued to form an open roof garden as much as practical for its authentic appearance.

Floor Loading

The timber floors of the shophouses did not meet the current building code. The design therefore adopts the lightest structural elements sensitively with fire protection system to suit commercial uses without disturbing the aesthetic quality of the interior of the buildings.

Floor Connectivity

All original in-filled arch openings, as evidenced on the brick party walls of the Johnston Road blocks, were removed to improve floor connectivity and combine the verandahs for flexible use of the floor area, for more interesting visual impact and satisfying the means of escape requirement, while still maintaining the original character of spatial partition within the building.

Mosaic Tile Floor

To conserve the intricate patterns and good condition of the tiled flooring at 18 Ship Street (dating from the 1940's) involved painstaking processes to upgrade the floor slabs without damaging the tiles. Instead of demolishing and recasting the floor slabs, the concrete at the underside of the floor slabs were removed and new reinforcement chased into the existing concrete structure before covering them with newly cast concrete.

Over-towering Effect

The disposition of the new tower at the north-western corner of the project site alleviates the canyon effect

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along the narrow Ship Street, and allows a distance from the shophouses. The commercial podium of the new building along the street frontage is finished with lighter materials including glass and steel to provide maximum visibility to the shophouses, while reflecting its modern character in contrast with the adjoining historic buildings. The elevation of the commercial podium is designed to add terraces to create a complementary environ for the low-rise shophouses and fostering a less intrusive building scale for the passersby.

Divergent Views and Confrontations

With the function and structural integrity of the shophouses restored through design solutions and construction methods, a nourishing tenant mix would be essential for successful future adaptive re-use. Inevitably there were opposing views and divergent preferences among the concerned, with the tenant mix and choice of retailers becoming a burning issue.

At the outset, the joint venture developer of URA explicably fought for maximum rental incomes and capital value growth, and to achieve their commercial goal, they strived for the retailers who could offer high rentals for the location. Understandably they opted for a high-value retailing mix to capitalize on the location of the property, such as brand name cafe, Japanese noodle shop, tea house, wine/cigar bar, convenience shop, car sales showroom, all of them being too common to other shopping malls.

The public (tacitly represented by the vocal minority) demanded usage of and free access to the historic buildings at all times, with priority and at nil cost to the public, and as usual, the recurrent costs would not be their consideration.

On the other hand, URA should strike a sensitive balance between strong cultural heritage and economic value to sustain the revitalization mission, while stressing on promoting heritage value of the shophouses for public appreciation, highlighting art and crafts, and yet with self-sustainability.

The marked difference in mission, preferences and perception of the concerned parties on the commercial uses of the shophouses resulted in confrontational

views, albeit not necessarily belligerent. Some preferred turning the Johnston Road blocks into Hong Kong's first museum for the permanent exhibition of artifacts and relics related to the history of Chinese pawnshop business. Other groups proposed an old Chinese tea house cum hostel catering for senior citizens at subsidized prices.

Strenuous efforts were rendered in search of high-heritage-value tenants beyond the mundane list of retailers in other shopping malls, and initiating contacts with operators who would share the same vision with URA as to cultural heritage, respect the valuable character of the shophouses and be willing to turn the place into a meaningful venue for the public and tourists.

The exploration of all the possibilities by URA was to commit the right grade of retailers who could adopt interior designs fully integrated with the identity, space limitation and architectural uniqueness of the shophouses, with new additions kept to a minimum but complimentary in scale, style and the materials to the buildings. Who would have the same vision? Who would invest in the shophouses and be prepared to modify its own fit-out elegance to suit the restrictions imposed by the Conservation Plan and stringent rules on decoration fixing method? Despite all the hurdles but with amicable resolutions by URA and the joint venture developer, a mix of themed food and beverage operations emerged as a preferred choice that would augment the sense of place and the nostalgic ambience for the historic buildings.

Make or Break

The mission of URA in this project is not for winning any accolade or for corporate image-building mileage. All is for the simple reason of revitalizing the function and identity of the shophouses rather than mere historical artifacts for display, in the hope of creating spin-off effects to rejuvenate the neighbourhood. This effect has indeed taken place with the opening of exquisite food and beverages outlets at Ship Street and Tai Wong East Street in an organic pattern, forming an exotic place for Wan Chai.

Some critics challenged the adaptive re-use as an empty shell without spirit – it torn the hearts and souls out of the community and gentrified the neighbourhood. Whatever form of commercial uses behind the adaptive

Speakers and Papers

re-use vision would never be perfect or endorsed by everyone; but like it or not, this revitalization-led project has set an auspicious start with the passions of the three visionary tenants in the historic buildings, who have struggled together with other retailers in the new tower for public recognition.

No doubt, there are caustic remarks on the gentrification process brought about by the project. It has nevertheless presented a challenge in the way to regulate the adaptive re-use of historic buildings and prompted debate over the pressing need for more flexible and supportive public policies and exemptions on the building code for conservation projects.

The project has led to a wider recognition of the need for conservation efforts, as contained in one of the previous policy addresses of the Chief Executive of Hong Kong SAR, as follows:

"Revitalization, rather than preservation alone, should be pursued to maximize the economic benefits of historic buildings. This is in line with the concept of sustainable conservation."

Reflections

This project has captured a unique opportunity of building revitalization cum preservation, alongside the new development of a high-rise tower, all within the project site subject to a maximum plot ratio control. It balances building revitalization and new development requirements by exhausting the skills and techniques in resolving competing demands for conservation integrity, modern adaptation and the integration of the old and new.

It is the first local case of property development applying in-situ transfer of development rights to conserve valuable shophouses, making a scheme financially viable under a public-private participation model. It showcases the possible co-existence of building preservation, building revitalization and the slash-and-burn controversy of urban redevelopment, in a harmonious and coherent manner within a sensitively balanced building scale.

To conclude the subject, may I share with you the

following views of the tenants / stakeholders who have participated in, and most of them would continue their contributions to making the historic buildings a place of special attention to the local critics and tourists:

Ms Margaret Xu (徐蕙), operator and owner of Yin Yang Restaurant (鴛鴦飯店) at 18 Ship Street wrote about the project:

"When I saw the building (18 Ship Street), my mind was flooding with pleasant memories and old movie scenesvisions of families having dinner in the terrazzo-plastered dining room, glamorous 50s movie stars meeting up in restaurants converted out of old houses..... Instead of tearing the place apart, I pulled the place together. I designed every new pieces that I put in to fit the original old theme – down to frilly colonial dining chair covers and lace curtains, so, in the end, it was a fresh interpretation of colonial Hong Kong Chinese culture"

OVOlogue(祇月), operator and owner of the food-cum-gallery concept restaurant at Johnston Road shophouses commented:

"Turning the constraints of them (four historical buildings at Johnston Road) into outstanding design features, we strive to create an exceptional opportunity of culture sharing experience for our customers to enjoy, to gather, to relax and, above all to explore the unique place in Hong Kong with this unparalleled character and heritage where east meets west, tradition meets modern in a subtle manner....."

Ex-owners of Woo Cheong Pawnshop took the view that:

"Old shophouses like Woo Cheong which were the most common type of buildings in the area are disappearing, yielding to the pressure of profitable estate development. The conservation project helps save the remaining blocks like Woo Cheong which is iconic in Wan Chai and is a living testimony of the life of people when pawn business was busier..... We are happy to see the conservation of the old pawnshop building especially the revitalized use for F & B operation which is the more flourishing business today....."

Mr David Tse, former property owner of No. 18 Ship Street commented that:

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"This redevelopment scheme turns out to be a fascinating project as a state-of-art..... while the old pawn shop and my family house are nicely embraced.....Historical heritage is in harmony and serves as an added value to the new development, demonstrating the contrast of east meets west, old verses new and heritage blends into cosmopolitan. I believe this extraordinary project can set a milestone not only in the history of town planning, but also in the history of the development of Hong Kong....."

Looking forward, I would quote from the writing of Ms Margaret Xu (徐蓀) on this revitalization-led project:

"Old flame, new passion. Preservation is not about digging into the old – it is about moving on and refreshing the old to face the new world....."

Speakers and Papers



Mr. William HAMES

*Fellow, The Australian Property Institute
Executive Chairman, Hames Sharley*

William Hames is the Executive Chairman of Hames Sharley, and its founding father. www.hamessharley.com.au He is a qualified Architect, Urban Designer and Land Economist with high level skills in retail and commercial property development, including land development.

He is one of the few practitioners in the field of urban design who have formal qualifications in this field having obtained a Masters Degree in Urban Design from Harvard University.

William Hames has considerable international experience, particularly in SE Asia, where he has been responsible for a number of major retail, resort and residential developments. He works throughout Australia and New Zealand. His forte is placing urban design into a practical, commercial realm as well as the creation of vibrant civic spaces.

He has served as a Councillor on the Australian Property Institute for 15 years, and is a Fellow of the Australian Property Institute.

William is currently the Councillor on the WA Chapter of the Australian Institute of Architects and is also a Life Fellow of the Australian Institute of Architects.

He currently serves on two local government Design Advisory Committee's, namely the City of Perth and the City of South Perth and is also the Chairman of the Reshaping Working Group for the Committee for Perth.

William is also the founding Director and Executive Chairman of Cedar Woods Properties Pty Ltd, www.cedarwoods.com.au, a publically listed property development company, with a large portfolio of projects in Western Australia and Victoria.

Building Adaptation and Revitalisation – An Essential to the Preservation of Value

World awareness of sustainability issues is rapidly increasing. China is rapidly embracing the need to re-engineer their existing building stock and to ensure all new buildings are designed to be environmentally sustainable.

The paper introduces Australia's environmental rating tools and makes a comparison to China's 3 Star System and discusses the reasons why the world's building stock must evolve to a more sustainable level.

It then discusses why socially responsible investments (SRI's) are the way of the future and sets out a number of compelling reasons why all building owners will need to future proof their investments by retrofitting existing buildings and designing new buildings to higher environmental performance standards.

The paper then provides some case studies and draws together a number of actions which all building owners and managers should investigate and implement if they are seeking to preserve the value of their investments.

Speakers and Papers

Governments, companies and international institutions are concerned with climate change and global warming. Everybody accepts its occurrence however the debate rages in regard to responsibility, reason and resolution. The richer industrial countries have emitted far more greenhouse gas emissions than the developing nations such as China, India and Brazil and there is great debate about responsibility and the notion of 'climate justice' i.e. who should limit their emissions and by how much. Planet Earth does not consider climate justice, nor is it interested in blame as it continues to warm. We are in the building industry and buildings contribute in excess of 48% of all greenhouse gas emissions through construction and operation. They are energy consumptive and that energy is often generated by burning oil, gas or coal.

This is a world issue and China, whilst rapidly industrialising, it is rapidly embracing the need to reengineer their existing building stock and to ensure that new buildings are designed to be environmentally sustainable.

What can we do as property professionals to facilitate and speed that call to action?

I am an architect and I am actively involved in the property industry. I am a Life Fellow of the Australian Institute of Architects (LFAIA) and a Member of the Planning Institute of Australia (MPIA). As such I am involved in many of the professional pursuits as many of the members of the HKIS.

Hames Sharley practices across a number of disciplines but in all instances our primary objective is to create value or increase value in buildings and property portfolios. One way to do this is to improve the sustainability qualities of those buildings and portfolios.

My task today is to share with you some of our Australian experience and to encourage you to become the champions for Building Adaptation and Revitalisation. In order to measure your success you need to determine some measurable benchmarks.

In Australia we primarily have two rating tools namely NABERS and GREENSTAR.

Nabers is an acronym for National Australian Built Environment Rating System. It is a performance based rating system for existing buildings. It rates a building on the basis of its MEASURED operational impacts on the environment. It benchmarks this against peers and neighbours.

Nabers is an initiative of federal, state and territory governments and is managed by the NSW Department of Environment & Climate Change & Water (DECCW). Greenstar is a national voluntary rating system that rates the environmental performance of a building. Primarily Greenstar considers the wider environment for example access of the building to public transport and is used as a predictive tool when designing and equipping a building.

As an architect we use both tools; Greenstar as a predictive assessment of our design (a design tool) and Nabers as a confirmation after 12 months use. Nabers can also be used as a part of a continuous improvement program to existing buildings. It is an OPERATIONAL TOOL.

I am a member of my governments Nabers Stakeholder Advisory Committee and I represent the Australian Property Institute (API) which is an organisation similar to the HKIS.

My company Hames Sharley has completed a number of assignments in China, primarily in Shanghai and Dalian, and as such I understand that in 2006 China introduced a Green Building Evaluation Standard or the "3 Star System" and have decreed that all new government buildings must at least achieve a 1 star rating.

This is an important first step and if it continues in the same way as Australia where we now have a mandatory disclosure policy for Commercial Building Energy Efficiency for all office space greater than 2,000m² which is being offered for lease. This enables tenants to be able to compare total occupancy costs and encourages building owners to design and equip their buildings to reduce building energy consumption.

What are the fundamental drivers that support the concept of 'greening our buildings':

- Tenants and institutional investors are asking questions

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about our approach and attitude to sustainability, the environment, and occupational health and safety.

- Employees are more demanding of whom they work for and where they work.

Younger talented people consider the E.S.G. factors in addition to the financial factors. ESG is the ENVIRONMENTAL, SOCIAL AND GOVERNANCE considerations taken by the company they chose to work for.

Investors and employers are seeking to be involved in socially responsible investments (SRI's) be they in buildings or businesses.

Why do we need to consider Nabers/Greenstar/3 Star/Leed rating systems?

1. It demonstrates your commitment to the environment.
2. Attracts talented employees and retains them longer.
3. There are tangible cost savings in reducing operational costs.
4. You can track improvements.
5. Encourages transparency and sustainability.
6. Makes you more accountable to your community.
7. Ensures that you manage your environmental impact.
8. Ensures a long term approach to investments in buildings and cities.

I will provide you with two Case Studies of buildings completed in Australia and finally I will draw together a number of actions and considerations which we believe all building owners and managers should investigate and implement if they are seeking to preserve the value of their investments.

Hames Sharley has a number of major projects ranging from a \$2 billion hospital currently under construction, a number of medical research buildings, university buildings, shopping centres and offices however I have chosen a smaller 4,000m² office building and a 35,000m² office/retail mall complex as they represent the range of much of the building stock.

CASE STUDY 1 -70 LIGHT SQUARE

- The 4000m² GLA 70 Light Square office building built in 1984 is a classic example of existing office

accommodation within the Adelaide CBD.

- The building for many years had Australian Central Credit Union as a tenant.
- No official rating has been performed, but the building probably sits around a C grade building as it stands.
- The existing base building is a concrete frame structure, with exterior exposed concrete aggregate panels.
- The orientation of the building is such that its main frontage is west (to the square). This facade has a 70% glass to solid relationship.
- The existing Glazing system is a 12mm clear glass with a grey solar film applied.
- The film on the western windows coupled with the air-conditioning system was the only system to combat the heat load from the West.
- The existing air conditioning was a chilled water constant volume system, which was at the end of its life.
- The existing floor to ceiling height was 2550
- The structural grid is 8.4m by 8.5m.
- The existing toilets area 32L single flush caroma cistern.
- The existing lighting system consisted of a grid of T8 fluoros.
- So that's the existing building that we had to work with. A good solid 80's commercial building. Designed and built to a budget.
- Our brief was to refurbish the base building into a green star rated building and in doing so put the building back into the Market.
- What it needs is an Xtreme Makeover on a commercially tight market!
- So what is possible with this 23-year-old building??
- This is what was possible!
- The process that we went through was to identify that the air-conditioning system needed to be replaced, if we then addressed the western facade in an appropriate manner we would be able to reduce the air-conditioning requirements within the space and also improve the indoor quality of the space.
- We therefore designed a sun screening device on a steel frame with hi-light louvers and vertical panels.
- This was designed in such a way to achieve the maximum shading on the western facade, while not compromising the buildings main asset which is the view to Light Square.
- This was achieved by having a consistent horizontal shading zone per level, 1800mm above floor level.

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(Works with people sitting at desks or standing).

- Vertical louvered zones were created which assists in reducing the heat load and also is positioned in zones, which releases to the integrated fit-out.
- A new film was applied to the existing windows. Much testing was performed on site in terms of colours, reflection, and natural light quality. It was determined that EMF 1221 Reflective Blue Grey film. This film has a 67% heat rejection, a 72% glare rejection, a shading co-efficient of 0.37 and a U value of 5.5.
- A new A/C system has been installed which is an Active Chilled Beam system around the Perimeter Zone and induction air diffusers within the central zone. Such a system is very economical at low \$200 / sqm.
- It also requires a minimal ceiling space which is ideal within an existing building scenario.
- The new systems works within the existing plant room space and is an energy efficient system.
- New T5 lighting systems have been installed within the space.
- Existing kitchen, which isn't conducive with modern workspace design.
- The existing kitchen was removed and converted into a shower on each floor while the associate bike parks are located within the basement.
- The old toilet cisterns were removed and replaced with Dual Flush and timer taps were also installed in the bathrooms.
- In working with the Green Building Council (GBC) rating tool -Greenstar, we pick up points for the following:
 - Recycling facilities for office work.
 - Reuse of existing roof, facades and building structure.
 - Provision of a flexible shell and core with fully integrated fit-out at URS. (By Hames Sharley)
 - Low-VOC content used throughout for insulation, carpets, adhesives, sealants, composite wood products and paints. -Maximum points achieved thus far under the rating tool
 - With a bit of thinking and a holistic approach we were able to take an existing unloved building, and make it green & attractive in a competitive market.
 - These changes, which are quite cost effective, have now put this existing building back.

CASE STUDY 2 -100 ST GEORGES TERRACE

A central City 24 level office tower and 3 levels of retail. Total floorspace 31,443m² nett lettable area and four basement levels of carparking.

- Typical office floor plate of 1,765m² column free space.
- Cross over core design for maximum tenant flexibility.
- The building was one of the first office buildings in Perth to be awarded a 4 Star office by design Greenstar rating from the Green Building Council of Australia.
- The largest retail development in the CBD since Forrest Chase in 1989.
- Commenced design in 2003 and the brief was to deliver the most technological and sustainable building in the Perth CBD.
- A highly complex mixed use project with the added complexity of the preservation of a historic façade and built adjacent a heritage church.

We chose to use the Greenstar rating as a predictive tool and set a benchmark 4-4.5 Star objective.

What did we do to achieve the rating?

- Floor plate design to allow maximum natural light penetration.
- High level windows to maximise daylight penetration.
- High performance double glazing to reduce energy consumption.
- Projecting sunshades on north and east facades o enhance energy performance all year round; summer protection, winter admission.
- Limited windows on Western façade to reduce solar gain.
- Waterless urinals throughout.
- Water efficient plumbing fixtures.
- Energy efficient light fittings.
- Recycling facilities in basement for tenant refuse.
- An integrated building management system.

The Green Building Council of Australia's category achievements were:

Management

A Green Star Accredited Professional was engaged from the initial design stage of the project.

A comprehensive Building User's Guide was contractually developed.

An independent commissioning agent has been appointed to provide commissioning advice to the client and the design team and to monitor and verify the commissioning of HVAC and building control systems.

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The contractor was contractually required to provide and implement a comprehensive waste management plan, which required that the contractor re-use and/or recycle at least 80% of construction waste by weight.

Indoor Environment Quality

Carbon Dioxide in the building is designed to be monitored and controlled to ensure adequate fresh air in the office space

High frequency ballasts have been specified throughout the office building to minimise flicker and eye strain of occupants

Low Volatile Organic Compound (VOC) paints, carpets, and adhesives and sealants have been specified throughout the building

Provision of a dedicated exhaust riser that is used by tenants to remove indoor pollutants from printing and photocopy areas has been designed into the building.

Energy

The project has been designed to achieve a predicted 5 Star NABERS score.

Extensive sub-metering has been specified to facilitate energy monitoring of base building services and tenancies.

Transport

Small car spaces have been designed in the building to encourage the use of energy efficient transportation.

Cyclist facilities including secure bike spaces, showers, lockers and change areas have been specifically installed for at least 10% of tenancy occupants.

The building is located with in close proximity of public transport.

Water

Water meters have been specified for the major water uses of the building to monitor water use.

A water efficient irrigation system has been designed to reduce consumption of potable water for landscape irrigation.

Materials

A Waste Recycling storage area for tenants of the building has been designed into the building.

Land Use & Ecology

The buildings site was previously built upon.

Emissions

The external lighting design avoids light pollution into the night sky.

Refrigerants with zero ozone depleting potential (ODP) have been specified.

A refrigerant leak detection system has been designed to reduce the release of refrigerants to the atmosphere from leaks in the HVAC system.

All stormwater leaving the site is filtered/treated to reduce the potential of polluted water from buildings running off to natural resources.

IN SUMMARY

This building will continue to be monitored and its success benchmarked.

The development was commenced when there was little demand for office space. The design was so structured that the retail/carpark component could be completed with the air rights for office space as a future benefit.

In October 2005 the owner decided that the office tower would commence without an anchor tenant. Demolition commenced in February 2006 and by completion in June 2009, it was 97% leased at the highest yet achieved office and retail rents in Perth.

So what did we as an architectural practice learn from this and other experiences? What can I give to you as a general check list or action list?

I have to acknowledge too many to individually name of our engineering colleagues for parts of the technical information which I include in this assessment and action list when considering building adaptation and revitalisation.

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TO DEMOLISH OR REFURBISH?

- It is cheaper to retrofit than to demolish and build.
- It is faster to rebuild rather than new build.
- It is environmentally better solution to preserve and revitalise. a) If you demolish you lose the embodied energy of the existing building. b) You contribute to the landfill problem. Currently buildings generate about 40% of waste to landfill in OECD countries. c) You preserve raw materials, water etc. New buildings consume 30-50% of available raw materials and add to global emissions. For example, the production of cement a vital ingredient of concrete is responsible for 7% of global CO² emissions.

So whenever possible:

- Extend the building lifecycle.
- Recycle materials.

And consider whenever you use new materials how you could reuse it in the future?

If the building is 20-30 years old, in all probability, it should have the following attributes:

- Ageing plant.
- Less sophisticated control systems or minimal control systems.
- Accumulated bad maintenance and often poor commissioning.
- Basic bad design problems e.g. no external shading on critical heat load facades and little or no insulation.

Once it has been decided to recycle.

What would we seek to do in some order of priority:

- Retain what we can.
- Correct the bad design problems.
- Reduce the solar loads.
- Increase the insulation.
- Improve the day lighting.
- Improve the comfort conditions.
- Reduce the water consumption. Often the corrective measures not only improves the occupant comfort conditions but the passive solar improvements e.g. shading etc represents the building with a fresh new façade in the street thereby enhancing the marketability of the building.
- Review and enhance the foyers, get rid of the expensive pelmet or valance lighting, remove high voltage

dichroic lighting.

- Upgrade the bathrooms, introduce waterless urinals.
- Harvest and store the water from the roof. Once you commence a refurbishment program one of the simplest and cheapest actions, often forgot or neglected, is to embark on an EDUCATION PROGRAM.
- Declare the building objectives and publish them for all to see.
- Educate your staff and tenants and involve the contractors who work on your building.
- Provide energy efficiency training and provide suggestions to staff, tenants and contractors on how to reduce energy consumption and conserve of water, e.g. turn off your equipment when you are not using it, turn off the lights when you walk out.
- Provide opportunities for staff, tenants and contractors to make suggestions, empower them, give them the responsibility, build team spirit and challenge them to reach targets.
- Find ways to reward them e.g. a building dinner or picnic once a target is achieved.

In descending order of priority we recommend that you engage with your engineers the following review:

REVIEW YOUR CONTROL SYSTEMS

- Better control systems help in correcting poor commissioning.
- Key issues are to seek to minimise chiller hours of operations. Then work on facades, limiting or minimising the solar loads will assist in this objective.
- Minimise all reheat systems, in fact; disable them except in extraordinary special cases. Don't reheat cooled air to overcome bad design as it is a bad design solution.
- Preferably turn the boilers off unless in extraordinary cold climates.
- Drop fan speeds and drop pump speeds as low as possible.
- Stage your chiller operation to facades, operate them on an as needs basis only when the load increases on that façade.
- Use the chillers only when you need to.
- Maximise economy cycles and encourage occupants to open windows.
- In regard to fans and pumps: -Use variable pressure control systems -Maximise valve and V.A.V. damper position -Ensure all sensors are operational and correctly calibrated

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- Provide shut off valves so that you can isolate vacant floors/or tenancies.

CORRECTLY COMMISSION YOUR SYSTEM

It is a wise statement used by many engineers, "Good plant will never correct bad commissioning".

- Test all air and water flows.
- Test and fix all sensors and valve damper actuators.
- Test and fix all V.A.V's.
- Test all lighting control systems.
- Ensure all pressure set points are as low as possible.
- Locate pressure sensors at the ends of runs.

REVIEW YOUR EXISTING PLANT

- Benchmark your current chillers against a new chiller. New equipment is more efficient than old equipment therefore operational savings are available and need to be factored into the redevelopment cost considerations.
- Select chillers which match the building needs.
- Air handling units are expensive but should be considered in older buildings. Try to aim for one AHU per façade.

LIGHTING

- Introduce stairwell lighting controls.
- Provide occupancy sensors in common areas and carparks.
- Isolate meeting rooms and board rooms.
- Replace lighting with T5 systems, preferably single lamp fittings.

LIFTS

- Wherever possible reduce unnecessary acceleration and speed.

SUMMARY

In Australia, an upgrade to a 4 Star NABERS rating is feasible and as a general rule, one can expect in the order of 30% operational savings on a 3 year payback. 4.5 Stars is harder and 5 Stars in existing buildings is expensive.

Our experience is that often with a little attention to solar load, increasing insulation and reflectivity of windows, introduction of better controls and attention to commissioning can dramatically lift the operational efficiency of the building. Great gains for often little cost.

And finally, with good benchmarking tools, it allows you to track your improvements over time. Refurbishment doesn't have to be all done in one project but rather becomes an environmental commitment and operational objective over time.

Calculate your reduction in CO² emissions, reduce your energy consumption and then market your achievements. Build your BRAND in regard to sustainability and your commitment to your community. IT IS GOOD FOR BUSINESS.

The major benefit is that it maintains the value of your building and/or portfolio and often actually increases that value.

And a side benefit is that you will contribute to saving the planet for your grand children.

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Mr. LAU Chun Kong

International Director, Jones Lang LaSalle Limited

Mr. Lau is a chartered general practice surveyor with over 23 years' property experience in Hong Kong, the PRC and the Asian region, specializing in valuation, consultancy advice, investment and development site sales and property development. He is the Head of the Valuation Advisory Services Department of Jones Lang LaSalle Hong Kong and is an International Director of the firm with responsibility for the Asia valuation and advisory business.

Impacts on Property Market under Adaptation and Revitalization Policies

Since the announcement of the industrial revitalization policies in the Policy Address 2009-2010, this has created a lot of discussions and concerns amongst different stakeholders about the effectiveness of the policies. And more importantly how this would impact on the prices and rentals of industrial properties and the property market at large.

In this session, Mr. CK Lau, International Director of Jones Lang LaSalle will first introduce the government policies and actions and the analysis thereof. A financial analysis on the savings in land premium and required return on investment will be made - which would help to identify areas of opportunities. Major challenges that applicants may encounter will also be covered. By making reference to various market transactions, market trends will be identified. Case studies will also be made for the Kwun Tong and Wong Chuk Hang areas.



你的笑容
是我們的最大鼓舞

恒基地產不僅對每項業務均力求卓越，更以建設美好將來為己任；我們將繼續積極支持教育、文化藝術、體育及環保教育，為市民締造美好生活、和諧社區，以獲取客戶、股東、業務夥伴及社會各界的稱心微笑。

只因，你們的笑容，就是我們的最大鼓舞！

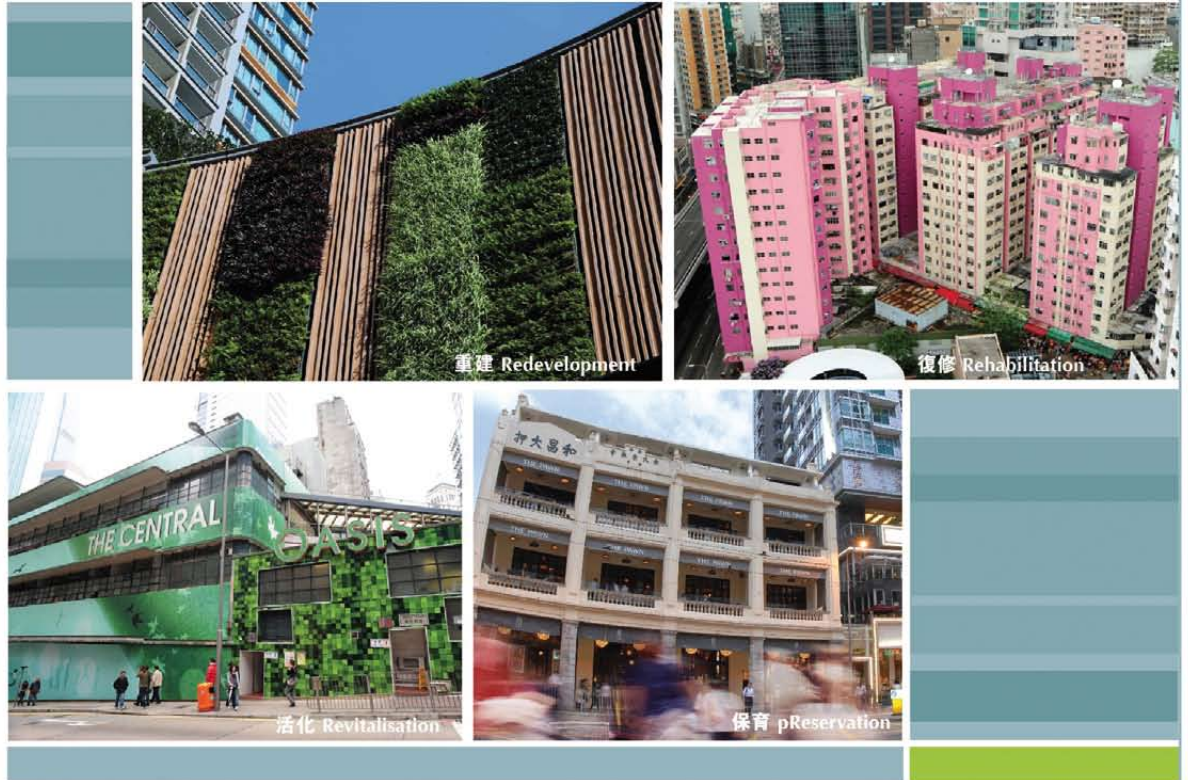


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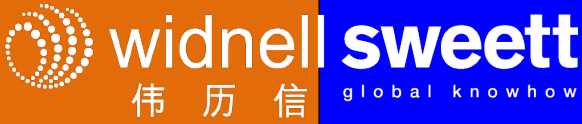
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Introduction of HKIS

The history of the surveying profession in Hong Kong goes back to 1843 with the arrival of the first Surveyor General from the United Kingdom. The first Government Land Auction then took place on 22 January 1844. Until the 1950s, most surveyors in Hong Kong were recruited from overseas, these surveyors being qualified chartered surveyors. Local educational institutes started diploma courses in surveying in the 1960s, and now there are three universities in Hong Kong offering degree courses in surveying.

The Hong Kong Institute of Surveyors (HKIS) has strong links with the Royal Institution of Chartered Surveyors (RICS). A Hong Kong Branch of the RICS (the Branch) has been in existence since 1929 (then known as The Surveyors Institution Hong Kong Branch). In 1978, the Branch set up a working group to examine the possibility of establishing a local institute of surveyors and the conclusion was positive. The Branch was only dissolved on 31 August 1997.

The HKIS was founded in 1984 and registered under the Societies Ordinance. It had 85 founder members, the number of members has now grown to 4,986 as at 31 July 2010 – Members and Fellows - distinguished by the initials MHKIS and FHKIS. The HKIS is now incorporated by ordinance, with the passing of the Hong Kong Institute of Surveyors Ordinance in January 1990. In July 1991, there was also passed the Surveyors Registration Ordinance to set up a Registration Board to administer the registration of surveyors.

To qualify as a corporate member of the HKIS, surveyors must possess a recognised academic degree or similar qualification, followed by a minimum 2 years supervised professional experience within strict guidelines, followed by an Assessment of Professional Competence. HKIS members are also bound by a comprehensive Rules of Conduct.

The title of “Surveyor” embraces a number of disciplines involved with land and its development with buildings. Usually the first to be involved is the **Land Surveyor** who measures and sets out the site. Next follows the **Quantity Surveyor** who is concerned with the building contractual arrangements and cost control. The **General Practice Surveyor** is involved in the valuation, sale, leasing and management of the finished product. **Planning and**

Development Surveyor advises on the possible change of zoning likely environmental impacts and make suggestion on preliminary development contents, while the **Building Surveyor** is involved in the construction and maintenance of the fabric of the building. The **Property and Facility Management Surveyor** plans, organises and manages accommodation services, supplies and other facilities relating to building occupancy.

The HKIS has reciprocal agreements with the following overseas surveying institutes:

- The Royal Institution of Chartered Surveyors
- The Australian Property Institute
- The New Zealand Property Institute
- The Singapore Institute of Surveyors and Valuers
- China Institute of Real Estate Appraisers
- China Engineering Cost Association
- China Association of Engineering Consultants
- The Australian Institute of Quantity Surveyors
- New Zealand Institute of Quantity Surveyors
- Building Surveyors Institute of Japan
- Canadian Institute of Quantity Surveyors
- Chartered Institution of Civil Engineering Surveyors

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