For discussion **PWSC(2008-09)13**
on 21 May 2008

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
15QJ – Redevelopment of the Hong Kong Sports Institute

Members are invited to recommend to Finance Committee the upgrading of **15QJ**, entitled "Redevelopment of the Hong Kong Sports Institute", to Category A at an estimated cost of $1,707.5 million in money-of-the-day prices.

PROBLEM

We need to have a major redevelopment of the Hong Kong Sports Institute (HKSI) to better support the development of high performance sports in Hong Kong by providing world-class training facilities for elite athletes.

PROPOSAL

2. The Secretary for Home Affairs, on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **15QJ** to Category A at an estimated cost of $1,707.5 million in money-of-the-day (MOD) prices as the funding for the main works of the Redevelopment of the HKSI (the Project).

PROJECT SCOPE AND NATURE

3. The full scope of works under **15QJ** comprises –

/(a) …..

(a) demolition of the velodrome for the construction of a new 9-storey multi-purpose building situated at the site of the existing outdoor velodrome in Fo Tan, consisting of the following facilities –

- a sports information centre;
- conference centre, lecture and coaching rooms and function rooms;
- athletes' canteen / restaurant;
- athletes' hostel (four storeys at Level 6 to 9 with a capacity for at least 370 athletes);
- sports residence (distributed at Level 1 to 5 for visiting athletes and sports personnel); and
- offices and ancillary facilities;

(b) a new multi-purpose sports hall (for a 12-lane bowling centre, a venue for training of wushu and three doubles squash courts convertible to four singles squash courts);

(c) a new 52-metre (m) international standard indoor swimming pool connected with the existing 25-m pool to form an integrated indoor swimming complex;

(d) a new 2-storey rowing boathouse;

(e) demolition of part of the HKSI hostel wing for the construction of the entrance of the new integrated indoor swimming complex and upgrading of the existing spectator stand;

(f) upgrading of the existing indoor sports complex (to provide better facilities for table tennis, fencing, badminton, sports science laboratories, sports medicine clinic and fitness training centre with expanded, integrated recovery centre, coaches' offices, building services and fittings);

(g) upgrading of the running / cycling trail with 3-m wide rubber finish;

(h) a 120-m 4-lane covered warm-up track;

/(i) …..

(i) reprovision of four tennis courts, addition of two tennis clay courts and two tennis covered courts, and conversion of the surplus tennis courts and volleyball courts into a new multi-purpose outdoor venue;

(j) a new elevated and covered walkway connecting the new 9-storey multi-purpose building with other key facilities of the HKSI;

(k) integrated sports facilities for athletes with disabilities including, but not necessarily limited to, fencing, boccia, table tennis, rowing, tenpin bowling, swimming, track and field, warm-up and cross-training. Additional ancillary facilities will be specifically targeted for athletes with disabilities including residence, access, toilets and changing rooms, lifts, car-parks, wheel-chair storage etc; and

(l) an off-site temporary velodrome at Whitehead as decanting arrangement.

The location map of the project site, the proposed Master Layout Plan, and the illustrative perspective drawings are at Enclosures 1 to 3 respectively.

4. Given that the HKSI is to be redeveloped in-situ, the Project has to be planned and phased very carefully to minimize disruption to normal operation of the HKSI and athletes training. On the other hand, for the betterment of elite sports development in Hong Kong and to release as soon as possible YMCA's Wu Kwai Sha Youth Village (WKSYV) and Leisure and Cultural Services Department (LCSD) facilities being used by the HKSI, it is desirable to have the Project completed as early as possible.

5. As indicated to the Public Works Subcommittee (PWSC) in May 2007, we plan to commence the construction works in the fourth quarter of 2008 for completion by the third quarter of 2011. The construction works will be taken in two phases. Phase one works (including the refurbishment works of the existing indoor sports complex in Fo Tan venue, and the foundation of the new multi-purpose building, new multi-purpose sports hall and new rowing boathouse) will commence in the fourth quarter of 2008. The HKSI will continue to occupy YMCA's WKSYV as the temporary main base and some of the LCSD venues (mainly in Sha Tin) as elite training facilities until the completion of phase one works, estimated to be in the third quarter of 2009. Phase two covers the superstructure works of the new multi-purpose building, new multi-purpose sports hall and new rowing boathouse, and will commence in the fourth quarter of 2009

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and proceed in parallel with the normal HKSI operations. It is expected that the whole Project will be completed in the third quarter of 2011.

JUSTIFICATION

6. It is the Government's policy in sports development to promote sports in the community, to develop elite sports, and to make Hong Kong a major location for international sports events. For the development of elite sports, the HKSI is tasked as a delivery agent in the provision of high performance sport for talented sportsmen and sportswomen in Hong Kong. In his 2006-07 Policy Address, the Chief Executive announced, amongst other initiatives to promote sports development in Hong Kong, the redevelopment of the HKSI to provide world-class training facilities for local athletes.

7. Following the approval of the Finance Committee (FC) for the first-stage funding of $52.9 million on 22 June 2007, the Hong Kong Sports Institute Limited (HKSIL) appointed the Architectural Lead Consultant and Quantity Surveying Consultant (HKSIL Consultants) in October 2007 to proceed with the preparatory works (including ground investigation, condition and structural survey, and consultancy services for detailed design and tender documentation) for the Project. In drawing up the detailed design of the main works of the Project, the HKSIL and its consultants articulate the following three key principles –

(a) maximizing the synergy of the training areas;

(b) provision of integrated sports facilities as well as additional ancillary facilities to support training of disabled athletes; and

(c) provision of training facilities up to international standards for elite athletes.

8. Located at Yuen Wo Road, Sha Tin, the HKSI complex was first completed in 1982. With 26 years of service, the existing facilities cannot keep pace with the increased sophistication in sports development and elite training, both locally and overseas. It should be noted that the HKSI has not undertaken any major repair works over these years. Based on the detailed condition survey completed by the HKSIL Consultants in the first quarter of 2008, substantial repair works would be required to rectify certain building defects, such as water seepage, spalling concrete, debonded floor and wall finishes, corrosion of metal

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space frame structure and windows, delaminated waterproofing membrane and roof ponding, etc. Besides, a complete replacement of the existing building services systems at this stage is considered necessary.

Options: Refurbishment or Rebuilding

9. In view of the poor condition of the existing HKSI complex which is undesirable for long term elite training purpose, the HKSIL has considered the options of refurbishment and rebuilding. On the advice of the HKSIL Consultants, refurbishment would be a more advisable option in view of the following reasons -

(a) Refurbishment would be more cost-effective. The estimated construction unit cost, represented by the building and the building services costs, for refurbishment of the existing sports complex is $10,742 per m^2 of Construction Floor Area (CFA) whereas the estimated construction unit cost for rebuilding the HKSI sports complex (subject to detailed design) in-situ is in the order of $14,000 to $16,000 per m^2 of CFA . As rebuilding will also involve demolition and piled foundation, the cost of rebuilding the HKSI complex will be significantly higher than that of refurbishing the existing sports complex with a total cost difference of around $160 million in September 2007 prices;

(b) Rebuilding the HKSI sports complex would take around 25 months while it will only take around 11 months to refurbish the existing sports complex. As such, if rebuilding was to be pursued, the HKSI's target to resume operation in Fo Tan in the third quarter of 2009 cannot be met, implying that the HKSIL would not be able to return to the community in the fourth quarter of 2009 the district sports facilities currently designated to elite training; and

(c) It is more environmental friendly to retain the existing sports complex with suitable refurbishment rather than rebuilding since refurbishment would generate less construction waste and cause less adverse environmental impact during a much shorter construction period. All these will minimize noise, dust, and site run-off nuisances to sports facilities users and construction workers on site, residents in the vicinity and the general public.

/10. ……

10. To benefit Hong Kong's elite athletes, as well as to keep up with and contribute to the global scientific trends in athlete support systems, we need to upgrade and provide the sports facilities of international standard to meet the increasing needs and modern international requirements of sports training for athletes in Hong Kong. We also need to expand the support facilities, such as hostel, fitness training centre, sports medicine centre, sports science laboratory, etc. to cater for the increasing number of elite athletes under training and to provide additional ancillary facilities, such as access, toilets and storage to support the training of disabled athletes. Besides, Hong Kong should develop the ability to facilitate various authoritative fora, such as conferences and seminars on sports, and to host exchange programmes regularly. In order to maximize the potential of equipping the HKSI as a sports hub for international exchange, some enhanced facilities including conference facilities will be included in the proposed new 9-storey multi-purpose building in the Project. All in all, the Project is to provide a better environment conducive to elite training, enhance Hong Kong's medal hopes in Major Games, and promote Hong Kong's position as an international sports events capital.

11. Following consultation with the key stakeholders including the Sports Federation & Olympic Committee of Hong Kong, China, Elite Sports Committee, National Sports Associations of the elite sports and sports for the disabled, the Hong Kong Elite Athletes Association as well as the Board, coaches, athletes and staff of the HKSIL concerning the main works since late 2007 and taking into account design preferences, the HKSIL has proposed some fine-tuning of the originally planned project scope as stated in PWSC(2007-08)20. A summary table highlighting the key changes to the original project scope is at Enclosure 4 for Members' reference.

12. We will also make decanting arrangement under **15QJ**. As the existing outdoor velodrome at Fo Tan venue, which is mainly used for cycling training of junior athletes, will be demolished in early 2009 to make way for the construction of the new multi-purpose building, the HKSIL has identified a site at Whitehead, Ma On Sha for setting up a temporary velodrome as the decanting arrangement of the Project. The Lands Department has given approval in-principle to the HKSIL's application for the land grant of the site at Whitehead under short term tenancy.

FINANCIAL IMPLICATIONS

13. The HKSIL, in consultation with D Arch S, estimates the capital cost of the Project to be $1,707.5 million in MOD prices. A detailed breakdown is as follows –

/(a) …..

			$ million
(a)	Site formation and piling		163.0
(b)	Demolition		9.7
(c)	Building		464.4
	(i) Multi-purpose building	229.8	
	(ii) New swimming pool	149.9	
	(iii) Multi-purpose sport hall	69.6	
	(iv) Rowing boathouse	15.1	
(d)	Building services		254.7
	(i) Multi-purpose building	128.6	
	(ii) New swimming pool	85.3	
	(iii) Multi-purpose sport hall	34.6	
	(iv) Rowing boathouse	6.2	
(e)	Refurbishment works (including building services)		228.2
	(i) Main sport hall and hostel wing	190.5	
	(ii) Existing swimming pool	37.7	
(f)	Drainage and external works		134.9
(g)	Decanting works and temporary velodrome		47.1
(h)	Furniture and equipment[1]		87.3

/**$ million**…..

[1] Based on an indicative list of furniture and equipment items required, including furniture and electric appliance in accommodation rooms, sports scientific and medicine equipment, fitness training equipment, sports training equipment, a simultaneous interpretation system, audio-visual systems, public address system, security systems, and furniture and equipment for canteen, sports shop, sports information centre and general offices.

			$ million	
(i)	Consultants' fees		43.8	
	(i) Contract administration	14.6		
	(ii) Site supervision	16.3		
	(iii) In-house technical team	11.9		
	(iv) Out-of-pocket expenses	1.0		
(j)	Contingencies		130.2	
		Sub-total	1,563.3	(in September 2007 prices)
(k)	Provision for price adjustment		144.2	
		Total	1,707.5	(in MOD prices)

A breakdown by man-months of the estimate of consultants' fees is at Enclosure 5. The CFA of the new works and the refurbishment works for **15QJ** is 59 291m^2 and 21 243m^2 respectively. The estimated construction unit cost of the corresponding new/refurbishment works, represented by the building and building services costs, is $12,128 per m^2 of CFA and $10,742 per m^2 of CFA respectively in September 2007 prices. D Arch S considers the estimated cost of the Project reasonable as compared with similar projects undertaken by the Government.

14. Subject to approval, the HKSIL will phase the expenditure for the proposed works as follows –

Year	**$ million (Sept 2007)**	**Price adjustment factor**	**$ million (MOD)**
2008-2009	100.3	1.02575	102.9
2009-2010	575.0	1.06293	611.2
2010-2011	682.7	1.10545	754.7
2011-2012	147.2	1.14967	169.2
2012-2013	58.1	1.19566	69.5
Total	1,563.3		1,707.5

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15. The HKSIL has derived the MOD estimates on the basis of the Government's latest forecasts of trend rate of change in the prices of public sector building and construction output for the period 2008 to 2013. The HKSIL will tender the main works under fixed-price lump-sum contracts without provision for price fluctuation.

16. As the HKSIL does not have the staffing resources and expertise to undertake the required specialist tasks in-house, it needs to continue to engage an in-house technical team to manage the main works.

17. In the submission to the PWSC in May 2007 concerning the first-stage funding for the preparatory works of the Project, we informed the PWSC that the consultant then appointed by the HKSIL estimated that the main works cost of the Project would be about $1,263.2 million (original estimate of the main works cost) in MOD prices. The figure was prepared on the following basis –

(a) the conceptual master layout plan of the Project completed in April 2007;

(b) the prevailing construction unit costs in September 2006; and

(c) the price adjustment factors in March 2007 for conversion into MOD prices.

However, the figure was only a rough estimate for the purpose of providing the PWSC with an indicative figure. The HKSIL Consultants have recently advised that the estimated cost of the main works is $1,707.5 million in MOD prices. The difference between the original and the updated estimated costs of the main works of the Project is due to –

(a) additional costs for extra works items not originally envisaged;

(b) escalation of construction and overhead costs between 2006 and 2007; and

(c) effect relating to the adjustment factors for derivation of costs in MOD prices.

We have provided an analysis of the difference between the original estimate of the main works cost and the updated estimate of the main works cost of the Project to the Home Affairs Panel (HA Panel). Relevant information is at Enclosure 6 for Members' reference.

18. The HKSIL estimates the annual recurrent expenditure arising from the Project to be about $23.5 million.

PUBLIC CONSULTATION

19. Since early 2007, the HKSIL has conducted consultation with the key stakeholders of the sports sector and the relevant District Councils, who showed support to the Project and the phased development. With the support of the HA Panel and the PWSC, the FC approved the first-stage funding of $52.9 million on 22 June 2007 for the preparatory works for the Project.

20. Concerning the main works of the Project, since late 2007, the HKSIL and its consultants have consulted the key stakeholders, who uniformly expressed support for the Project and would like to see the early implementation of the Project for the betterment of elite training and sports development in Hong Kong. On 28 February 2008, we consulted the Culture, Sports and Community Development Committee (CSCDC) of the Sha Tin District Council (STDC). Members of CSCDC of STDC welcomed the Project as the new and enhanced facilities at the redeveloped HKSI would benefit the Sha Tin District and the wider community. We have also updated members of the Sham Shui Po District Council and the District Facility Management Committee of the Tai Po District Council on the latest position in respect of the Project by circulation papers on 3 March 2008.

21. On 11 April 2008, we informed the HA Panel of the latest position of the Project, covering the project scope, programme, cost and collaboration between the HKSI and the community. At the meeting, members of the HA Panel requested the Administration to provide detailed information regarding the difference between the original and the updated estimated costs of the main works of the Project. For the HA Panel meeting on 9 May 2008, we provided the requested information, details of the estimated costs of the main works of the Project at $1,707.5 million in MOD prices and the additional recurrent financial implications of $23.5 million per annum. Members noted the proposed fine-tuning of the project scope, the difference of the original and the updated estimated costs of the main works as well as the additional recurrent financial implications of the Project. Members of the HA Panel indicated no in-principle objection to the Project.

/ ENVIRONMENTAL …..

ENVIRONMENTAL IMPLICATIONS

22. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The HKSIL completed a Preliminary Environmental Review and concluded that the Project would not have any long-term environmental impact and that further environmental studies would not be required.

23. During construction, the HKSIL will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the sites, and the provision of wheel-washing facilities.

24. The HKSIL has considered measures in the planning and design stages to reduce the generation of construction waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled and reused in other projects). In addition, the HKSIL will require the contractor to reuse inert construction waste (e.g. use of excavated materials for filling within the site) on site or in other suitable construction sites as far as possible, in order to minimize the disposal of inert construction waste to public fill reception facilities[2]. The HKSIL will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize the generation of construction waste.

25. The HKSIL will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. The HKSIL will ensure that the day-to-day operations on site comply with the approved plan. The HKSIL will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The HKSIL will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

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[2] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

26. The HKSIL estimates that the Project will generate in total about 89 080 tonnes of construction waste. Of these, the HKSIL will reuse about 37 637 tonnes (42.2%) of inert construction waste on site, and deliver 37 745 tonnes (42.4%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, the HKSIL will dispose of 13 698 tonnes (15.4%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $2.731 million for this Project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[3] at landfills).

ENERGY CONSERVATION MEASURES

27. The Project will adopt various forms of energy efficient features, including –

(a) T5 energy efficient fluorescent tubes with occupancy / daylight sensors control in all offices, carpark and common areas;

(b) Heat pump system for hot water supply for showers and pool heating;

(c) Automatic on/off lighting and ventilation fan in lift cars;

(d) Demand control of fresh air supply with carbon dioxide sensors; and

(e) LED type exit signs.

28. For renewable energy technologies, this Project will adopt solar panels for showers and water heating.

29. For greening features, rooftop and wall greening will be provided.

30. For recycled features, Grey Water Recycling System will be provided to collect waste water for irrigation and toilet flushing.

/31. …..

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[3] This estimate has taken into account the cost of developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3), nor the cost to provide new landfills, (which is likely to be more expensive) when the existing ones are filled.

31. The total estimated additional cost for adoption of the above features is around $25.8 million. These features will contribute to about 12.5% energy savings in the annual energy consumption.

HERITAGE IMPLICATIONS

32. The Project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites / buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

33. The Project does not require any land acquisition.

BACKGROUND INFORMATION

34. In his 2006-07 Policy Address, the Chief Executive announced, amongst other initiatives to promote sports development in Hong Kong, the redevelopment of the HKSI to provide world-class training facilities for elite athletes in Hong Kong. We upgraded **15QJ** – "Redevelopment of the Hong Kong Sports Institute" to Category B in May 2007. Subsequent to the approval by the FC on 22 June 2007 to upgrade part of **15QJ**, entitled "Redevelopment of the Hong Kong Sports Institute – preparatory works", to Category A at an estimated cost of $52.9 million in MOD prices, the HKSIL has appointed the HKSIL Consultants in October 2007 to proceed with the preparatory works, comprising the following –

(a) ground and slope investigations;

(b) structural investigation;

(c) condition survey of building services system;

(d) topographical and tree surveys; and

(e) consultancy services for outline sketch design, detailed design, as well as tender documentation and assessment for the main works.

The HKSIL Consultants have completed the survey of the ground investigation works, servicing condition of existing buildings, site topographical and tree surveys, and the detailed design of the Project. The HKSIL Consultants are finalizing the tender documents for the Project.

35. **15QJ** involves removal of 132 trees out of the existing 812 trees. No tree would be felled while the 132 trees would be transplanted within the same site. All trees to be removed and transplanted are not important trees[4]. As part of the Project, the HKSIL will incorporate planting proposals, adding 100 trees to the site.

36. The HKSIL estimates that the proposed main works under **15QJ** will create about 1 080 jobs (966 for labourers and another 114 for professional/technical staff) providing a total employment of 24 500 man-months.

Home Affairs Bureau
May 2008

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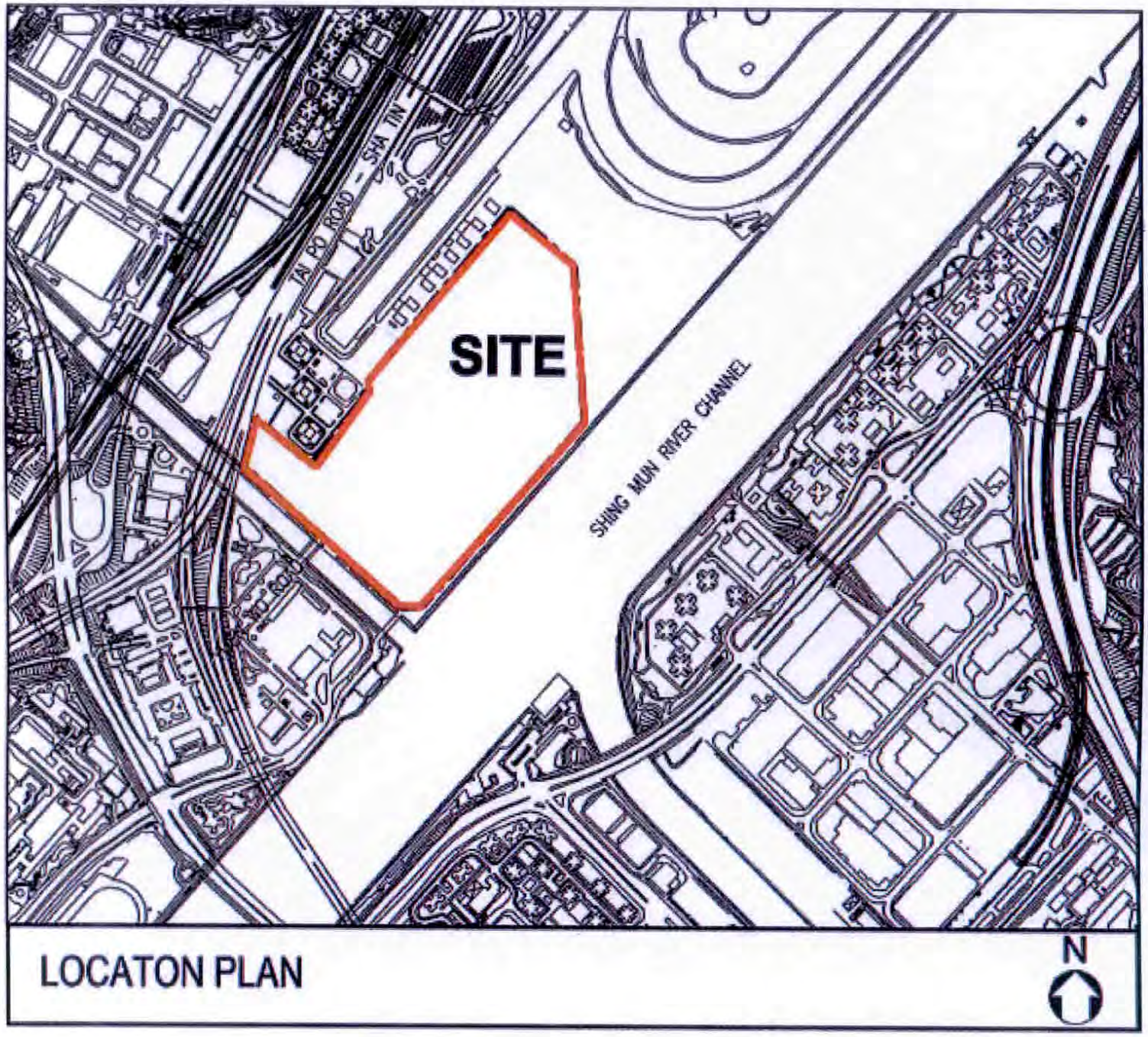
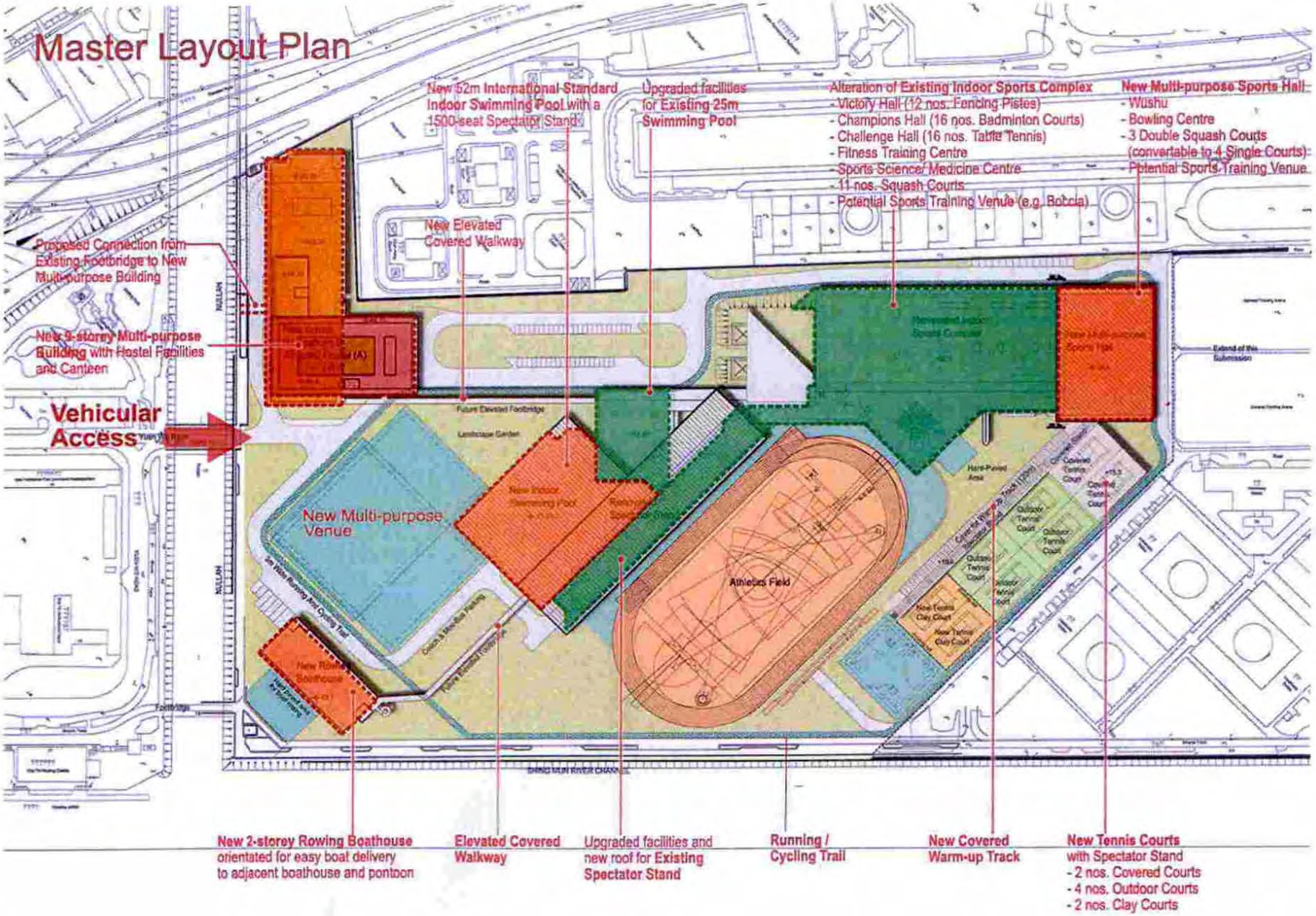
[4] "Important trees" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or event;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 metres.



LOCATON PLAN

Master Layout Plan



Master Planning

Existing indoor sports complex -- main entrance

New multi-purpose sports hall

New 9-storey multi-purpose building

New international standard indoor swimming pool and existing spectator stand

New rowing boathouse

Enclosure 4 to PWSC (2008-09)13

Key Changes to the Project Scope of the Redevelopment of the Hong Kong Sports Institute

Original Project Scope presented to the PWSC in May 2007	**Key changes, if any**
(a) A new 11-storey multi-purpose building situated at the site of the existing outdoor velodrome. It will house the following facilities: (i) a 12-lane bowling centre (ii) a sports information centre (iii) conference centre, lecture and coaching rooms and function rooms (iv) athletes' canteen / restaurant (v) athletes' hostel (five storeys at Level 5 to 9 with a capacity for 370 athletes) (vi) sports residence (two storeys at Level 10 to 11 for visiting athletes and sports personnel) (vii) offices and ancillary facilities	• To construct a 9-storey multi-purpose building with a larger area per floor while the total floor area will remain unchanged. • The new bowling centre will be relocated to the new multi-purpose sports hall.
(b) A new multi-purpose sports hall (for an indoor tennis court, a venue for training of wushu and two doubles squash courts convertible to three singles courts)	• There will be a new bowling centre in the new multi-purpose sports hall. • On squash courts, there will be three doubles squash courts (convertible to four singles squash courts).
(c) A new 52-m international standard indoor swimming pool (connected with the existing 25-m pool)	• To form an integrated indoor swimming complex.
(d) A new 2-storey rowing boathouse	Not applicable
(e) A new 120-m 4-lane warm-up track with spectator stand	• The new warm-up track will be provided with cover and situated opposite to the existing spectator stand.

Original Project Scope presented to the PWSC in May 2007		Key changes, if any
(f)	Upgrading of the existing indoor sports complex (to provide better facilities for table tennis, fencing, badminton, sports science laboratories, sports medicine clinic and fitness training centre with expanded, integrated recovery centre, coaches offices, building services and fittings)	Not applicable
(g)	Upgrading of the running / cycling trail with 3-m wide rubber finish	Not applicable
(h)	Refurbishment of four tennis courts, two new tennis clay courts and conversion of the surplus tennis courts and volleyball courts into a new multi-purpose outdoor venue	• To provide two covered hard courts instead of one for shared use in the new multi-purpose sports hall.
(i)	A new covered walkway connecting the new 11-storey multi-purpose building and the existing indoor sports complex	• The new covered walkway will be elevated.
(j)	Integrated sports facilities for athletes with disabilities including, but are not necessarily limited to, fencing, boccia, table tennis, rowing, tenpin bowling, swimming, track and field, warm-up and cross-training. Additional ancillary facilities will be specifically targeted to athletes with disabilities including residence, access, toilets and changing rooms, lifts, car-parks, wheel-chair storage etc.	Not applicable

Enclosure 5 to PWSC(2008-09)13

15QJ – Redevelopment of the Hong Kong Sports Institute

Breakdown of estimates for consultants' fees

	Consultants' staff costs		Estimated man-months	Average MPS* salary point	Multiplier[(Note 1)]	Estimated fees ($ million)
(a)	Contract administration[(Note 2)]	Professional	-	-	-	9.6
		Technical	-	-	-	5.0
(b)	Site supervision[(Note 3)]	Professional	97	38	1.6	8.8
		Technical	248	14	1.6	7.5
(c)	In-house Technical Team	Professional	120	38	1.6	10.9
		Technical	33	14	1.6	1.0
(d)	Out-of-pocket expenses[(Note 4)]					
	Lithography and other direct expenses					1.0
					Total	43.8

*** MPS = Master Pay Scale**

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (As at 1 April 2007, MPS point 38 = $56,945 per month, and MPS point 14 = $18,840 per month.) A multiplier of 1.6 is also applied to the average MPS point to arrive at the full staff costs for the technical staff employed in-house by the HKSIL.

2. The consultants' fees for contract administration are devised in accordance with the existing consultancy agreements obtained through competitive tendering for the design and construction of **15QJ**. The assignment will only be executed subject to the Finance Committee's approval to upgrade **15QJ** to Category A.

3. Having examined the site supervision costs estimated by the HKSIL, D Arch S considers the figures acceptable. The actual man-months and actual costs for site supervision shall only be known after completion of the construction works.

4. Out-of-pocket expenses are the actual costs incurred. The consultants are not entitled to any additional payment for the overheads or profit in respect of these items.

Enclosure 6 to PWSC (2008-09)13

Analysis of the Difference between the Original Estimate of the Main Works Cost indicated to the PWSC in May 2007 and the Updated Estimate of the Main Works Cost presented to the HA Panel in May 2008

To facilitate comparison, the HKSIL has arranged to convert the original estimate of the main works cost as indicated to the PWSC in May 2007 and the updated estimate of the main works cost as presented to the HA panel in May 2008 back to the September 2006 prices. An analysis of the difference between the original estimate of the main works cost and the updated estimate of the main works cost of the Project is as follows -

	$ Million
Original estimate of the main works cost in MOD prices indicated in the PWSC paper issued in May 2007	**1,263.2**
Less: Provision for price adjustment (based on the estimates of phased expenditure derived by price adjustment factors in March 2007)	(26.8)
Base estimate of the main works cost in September 2006 prices (based on the conceptual master layout plan completed by the HKSIL in April 2007)	**1,236.4**
Changes due to design development	
Add: (A) Additional piling works	37.2
(B) Additional refurbishment works	36.3
(C) Adjustment in contingencies	11.3
Less: (D) Adjustment in other requirements	(3.7)
Revised base estimate of the main works cost in September 2006 prices	**1,317.5**
Add: Provision for escalation of construction and overhead costs between 2006 and 2007	245.8
Revised base estimate of the main works cost in September 2007 prices	**1,563.3**
Add: Provision for price adjustment (based on the revised base estimate of phased expenditure	144.2

derived by most up-to-date price adjustment factors published in March 2008)

Updated estimate of the main works cost in MOD prices **1,707.5**

Information to the PWSC in May 2007

2. According to the Technical Feasibility Statement (TFS) completed by the HKSIL in April 2007, the base estimate of main works cost of the Project was $1,236.4 million in September 2006 prices. With the then price adjustment factors, in May 2007, the HKSIL advised that the original estimate of the main works cost would be about $1,263.2 million (in MOD prices).

Changes due to Design Development

3. Since their appointment in October 2007, the HKSIL Consultants have conducted various preparatory works studies and developed a detailed design after consultations with the relevant stakeholders. In this connection, there are a few changes to the main works requirement and costs due to design development which are set out below.

(A) Additional Piling Works

4. The findings of the ground investigation revealed the following two crucial factors that would have cost implications on the foundation works -

(a) the bedrock level of the site is at 31m to 65m below ground, which is rather different from the previous design assumption for the foundation works (at 35m to 45m below ground); and

(b) the soil on the site of the new rowing boathouse is too weak to support any major structures and so the previously assumed shallow foundation for the new rowing boathouse is required to be changed to a pile foundation.

5. In view of the above, the foundation design has been reviewed, concluding that the required quantities of the foundation works have to be increased. The cost of site formation and piling is therefore adjusted upwards from $97.5 million to $134.7 million, representing an increase of $37.2 million in September 2006 prices.

(B) Additional Refurbishment Works

6. In preparation of the TFS, the then consultants appointed by the HKSIL had advised that there were quite a number of repair works required to be carried out at the HKSI buildings. After being appointed, the HKSIL

Consultants conducted a detailed condition survey on the existing sports complex and the 25-m indoor swimming pool, covering building and building services aspects. The survey revealed that the repair works required for rectification of building defects, such as water seepage, spalling concrete, debonded floor and wall finishes, corrosion of metal space frame structure and windows, delaminated waterproofing membrane and roof ponding, would be far more substantial than those expected in the TFS. Moreover, a complete replacement of existing building services systems is required as the existing systems are too old and unfit for the HKSI's long-term use. These additional requirements have led to an increase in cost for refurbishment works by $36.3 million, from $152.3 million to $188.6 million in September 2006 prices.

(C) Adjustment in Contingencies

7. Apart from the contingencies for the cost items including site formation and piling, demolition and hoarding, building and building services, refurbishment works, and drainage and external works, we also need to make provision of contingencies for decanting works and temporary velodrome, and the additional works items (the additional piling and refurbishment works) as well. The provision for contingencies has therefore been increased by $11.3 million, from $96.5 million to $107.8 million in September 2006 prices.

(D) Adjustment in Other Requirements

8. With some minor fine-tuning to the project scope and design, the funding requirement for other aspects has been reviewed and adjusted, leading to a net decrease of funding requirement by $3.7 million in September 2006 prices.

9. Taking into account the adjustment as stipulated in above, the revised base estimate of the main works cost in September 2006 prices would be $1,317.5 million, which is $81.1 million higher than the base estimate of the main works cost at $1,236.4 million in September 2006 prices.

Escalation of Construction and Overhead Costs between 2006 and 2007

10. There has been a rising trend of construction and overhead costs in the local market between 2006 and 2007 in the light of the booming construction activities in neighbouring markets. The HKSIL Consultants, taking the September 2007 prices as the basis to prepare the estimated cost for the main works (i.e. by pricing the approximate quantities taken from the latest design drawings with unit rates obtained from tenders of similar projects returned in September 2007), advised that the revised base estimate of the main works cost in September 2007 prices would be $1,563.3 million. The net increase of the main works cost (with changes due to design development) from September 2006 prices to September 2007 prices is $245.8 million (or about 18.7%), which is solely attributable to the escalation of the construction and overhead costs within a

one-year period. For Members' reference, the Tender Price Index[1] of the Architectural Services Department during the period from September 2006 to September 2007 indicates an increase of 20.6% in building work costs.

Effect relating to the Change in Price Adjustment Factors from March 2007 to March 2008

11. Based on the HKSIL Consultants' advice, with the revised estimate of the main works cost of the Project at $1,563.3 million in September 2007 prices, and by applying the updated price adjustment factors published in March 2008 to the cost, the updated estimate of the main works cost in MOD prices is $1,707.5 million, indicating that the provision for price adjustment is $144.2 million. Other than the change in the base estimates, the increase in provision for price adjustment can be explained by the change in price adjustment factors and the change in phased expenditure associated with the change in works programme.

[1] Tender Price Index is a quarterly index compiled primarily as an aid to adjust building cost data for estimation purpose.