

**For discussion  
on 6 May 2009**

**PWSC(2008-09)26**

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT**

#### **Universities**

#### **City University of Hong Kong**

#### **23EJ – Student hostel, phase 4 (700 places)**

Members are invited to recommend to Finance Committee the upgrading of **23EJ** to Category A at an estimated cost of \$182.0 million in money-of-the-day prices for the construction of student hostel, phase 4 by the City University of Hong Kong within its campus in Kowloon Tong.

### **PROBLEM**

The City University of Hong Kong (CityU) needs additional hostel to meet the accommodation need of students.

### **PROPOSAL**

2. The Secretary-General, University Grants Committee (SG, UGC), on the advice of the University Grants Committee (UGC) and the Director of Architectural Services (D Arch S) as UGC's Technical Adviser, and with the support of the Secretary for Education, proposes to upgrade **23EJ** to Category A at an estimated cost of \$182.0 million in money-of-the-day (MOD) prices for the construction of student hostel, phase 4 by CityU within the university campus.

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## PROJECT SCOPE AND NATURE

3. The scope of **23EJ** comprises the construction of two connected hostel blocks of 14 and 15 storeys respectively, providing approximately 7 520 square metres (m<sup>2</sup>) in net operational floor area (NOFA). The following facilities will be provided by the project -

- (a) a total of 700 student hostel places and ancillary facilities of some 5 920m<sup>2</sup>, including accommodation for wardens and tutors;
- (b) common facilities of some 1 350m<sup>2</sup> in NOFA, including student activities areas, function rooms, computer rooms and common rooms, etc.; and
- (c) supporting facilities of some 250m<sup>2</sup> in NOFA, including wardens' offices, management offices, emergency/sick room, laundry and store rooms.

4. A site plan is at Enclosure 1. The view of the buildings (artist's impression), sectional plan, and list of facilities are at Enclosures 2 to 4 respectively. CityU plans to commence the construction works in the third quarter of 2009 for completion in the fourth quarter of 2011.

## JUSTIFICATION

5. Hostel life is an essential part of higher education - providing students with an environment conducive to learning, and allowing greater social interaction which enriches students' personal development as well as learning experience generally. Under existing policy, UGC-funded institutions are provided with publicly-funded student hostels calculated in accordance with the following criteria<sup>1</sup>: all undergraduate students should be given the opportunity to stay in student hostel for at least one year of their courses; all research postgraduates, non-local students as well as all undergraduate students whose daily travelling time exceeds four hours, should

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<sup>1</sup> The criteria are applicable to all UGC-funded institutions, except for the Lingnan University (which has been provided with hostel places for 50% of its full-time degree student population having regard to its remote location in Tuen Mun and its aspirations to develop itself into a relatively small, fully residential liberal arts institution) and the Hong Kong Institute of Education (which was provided with hostel places for 50% of its full-time degree student population projected at the time of establishment of the Institute having regard to the potential benefits that hostel life would bring to the quality of pre-service teacher education).

be provided with student hostel places. The Government will fund up to 75% of the capital cost of the approved level of publicly-funded student hostel provision, with the remainder to be met by the respective institutions using their own sources of private funding.

6. In addition to the above-mentioned standard hostel provision, the Administration decided in February 2006 to provide an additional 1 840 publicly-funded student hostel places to the UGC-funded sector to support institutions' increasing student exchange activities.

7. As at the 2007/08 academic year, and taking into account the additional hostel places for exchange activities, the approved publicly-funded hostel provision for CityU should be about 4 740 places. Against its current provision of 2 812 publicly-funded hostel places, CityU has a shortfall of about 1 928 hostel places. To address part of this shortfall, CityU proposes to construct two new publicly-funded hostel blocks (namely Hall 10 and Hall 11) in the northern part of its campus.

8. The two proposed hostel blocks will provide 344 double bedrooms and 12 single bedrooms with study space in each room, and shared bathrooms. A typical floor will provide accommodation for some 64 students with common space and pantry facilities. The ground floor of each block will house common and support facilities such as laundry, function rooms and management offices.

## **FINANCIAL IMPLICATIONS**

9. The total estimated cost of the project is \$242.6 million (in MOD prices). The Government will fund up to \$182.0 million, i.e. 75% of the construction cost. CityU will contribute \$60.6 million through its private sources of funding for the remaining 25% of the construction cost.

10. SG, UGC, on the advice of D Arch S, recommends a capital funding of \$182.0 million in MOD prices to be provided by the Government (see paragraph 13 below), made up as follows –

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	<b>\$ million</b>	
(a) Site formation and development	5.7	
(b) Building	126.1	
(c) Building services	43.5	
(d) Drainage and external works	10.2	
(e) Additional energy conservation measures	1.8	
(f) Consultants' fees for –	4.7	
(i) tender assessment	0.5	
(ii) contract administration	3.9	
(iii) out-of-pocket expenses	0.3	
(g) Resident site staff costs	3.7	
(h) Furniture and equipment	17.0	
(i) Contingencies	<u>15.8</u>	
	Sub-total	228.5 (in September 2008 prices)
(j) Provision for price adjustment	<u>14.1</u>	
	Sub-total	242.6 (in MOD prices)
(k) Less contribution by CityU	<u>(60.6)</u>	
	Total	<u>182.0 (in MOD prices)</u>

11. CityU will engage consultants to undertake tender assessment, contract administration and site supervision of the project. A detailed breakdown of the estimates for consultants' fees and resident site staff costs by man-months is at Enclosure 5.

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12. The construction floor area (CFA) of this project is approximately 13 818 m<sup>2</sup>. The estimated construction unit cost, represented by the building and building services costs, is \$12,274 per m<sup>2</sup> of CFA in September 2008 prices. A detailed account of the CFA vis-à-vis the construction unit cost is at Enclosure 6. D Arch S considers the estimated construction unit cost reasonable, having regard to the current economic situation and prevailing construction prices, and comparable to those of similar projects such as 5EU “New academic block and student hostel” of Lingnan University (with an estimated construction unit cost of \$12,328 per m<sup>2</sup> of CFA in September 2008 prices for the student hostel).

13. Subject to approval, CityU will phase the expenditure as follows -

Year	\$ million (Sept 2008)	Price adjustment factor	\$ million (MOD)	Contribution	
				by CityU \$ million (MOD)	23EJ \$ million (MOD)
2009 - 10	17.5	1.03500	18.1	18.1	-
2010 - 11	136.8	1.05570	144.4	42.5	101.9
2011 - 12	68.5	1.07681	73.8	-	73.8
2012 - 13	5.7	1.09835	6.3	-	6.3
	<u>228.5</u>		<u>242.6</u>	<u>60.6</u>	<u>182.0</u>

14. We have derived the MOD estimate on the basis of the Government’s latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2009 to 2013. CityU will tender the works through lump-sum contracts because it can clearly define the scope of works in advance. The contracts will provide for price adjustment to reflect market fluctuations in labour and material costs.

15. The project has no impact on tuition fees. In accordance with established practice, CityU will operate these student hostels on a self-financing basis through charges levied on hostel places. The proposal has no additional recurrent cost implications on the Government.

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## **PUBLIC CONSULTATION**

16. The project is located within CityU's campus. The Sham Shui Po District Council (SSPDC) was consulted in September 2008. Members of the SSPDC supported the development and requested CityU to mitigate possible noise nuisance during the construction period. CityU has undertaken to adopt appropriate noise mitigation measures in accordance with the relevant standards and guideline. CityU presented the project to the staff and student representatives in January 2009 and no adverse comment was received. The project was also published in the "CityU Today" magazine in February 2009 for the staff's and students' information.

17. We submitted a paper on the project to the Legislative Council Panel on Education for discussion on 16 April 2009. Members supported the project but requested the Administration/ CityU to provide floor plans showing the typical room configuration and facilities of the hostel building; and the details of recycling materials/features adopted in the project conducive to sustainable development. The Administration provided CityU's response to Members on 24 April 2009.

## **ENVIRONMENTAL IMPLICATIONS**

18. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). CityU completed a Preliminary Environmental Review (PER) in November 1997 for CityU's four phases of hostel development, including this project. The PER concluded that with suitable mitigation measures, the proposed hostels would not be subject to adverse environmental impact. CityU has included in the project estimates the provisions required to implement suitable mitigation measures to control short-term environmental impacts.

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

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20. CityU has considered measures (e.g. adoption of typical floor layout to encourage re-use of formwork) in the planning and design stages to reduce the generation of construction waste where possible. In addition, CityU will require the contractor to reuse inert construction waste (e.g. excavated soil) 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<sup>2</sup>. CityU 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.

21. CityU 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. CityU will ensure that the day-to-day operations on site comply with the approved plan. CityU will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. CityU 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.

22. CityU estimates that the project will generate in total about 15 191 tonnes of construction waste. Of these, CityU will reuse about 4 815 tonnes (31.7%) of inert construction waste on site and deliver 8 098 tonnes (53.3%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, CityU will dispose of 2 278 tonnes (15.0%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfills is estimated to be \$503,396 for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne<sup>3</sup> at landfills).

## ENERGY CONSERVATION MEASURES

23. This project will adopt various forms of energy efficient features, including –

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<sup>2</sup> 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.

<sup>3</sup> This estimate has taken into account the cost for 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<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

- (a) heat wheels for heat energy reclaim of exhaust air;
  - (b) occupancy and daylight sensors for lighting control;
  - (c) light-emitting diode (LED) type exit signs; and
  - (d) automatic on/off switching of lighting and ventilation fan inside lifts.
24. For renewable energy technologies, CityU will adopt photovoltaic system.
25. For greening features, CityU will adopt greening on podium and rooftops.
26. For recycled features, CityU will adopt recycling of rainwater for irrigation.
27. The total estimated additional cost for adoption of the above features is around \$1.8 million (including \$0.8 million for energy efficient features), which has been included in the cost estimate of the project. The energy efficient features will achieve 5.6% energy savings in the annual energy consumption with a payback period at about 6.4 years.

### **HERITAGE IMPLICATIONS**

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

### **LAND ACQUISITION**

29. The project does not require any land acquisition.

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**BACKGROUND INFORMATION**

30. Under existing procedures, UGC-funded institutions submit capital works proposals to the UGC annually. The UGC examines all these proposals carefully, with professional advice provided by D Arch S who acts as UGC's Technical Adviser, and refers those supported proposals to the Government for consideration of bidding of funds under the established mechanism. Having examined CityU's proposal, SG, UGC has, in consultation with D Arch S, adjusted the project estimate proposed by CityU to arrive at the project estimate set out in paragraph 10 above.

31. We upgraded **23EJ** to Category B in March 2007. CityU engaged consultants in June 2008 to carry out site investigation, topographical survey and to prepare detailed design and tender documents at a total estimated cost of \$4.2 million. We have charged \$3.1 million to block allocation **Subhead 8100EX** "Alterations, additions, repairs and improvements to the campuses of the UGC-funded institutions". The remaining amount of \$1.1 million was funded by CityU's private sources of funding. The consultants have completed the site investigations, topographical survey, preliminary design and detailed design of the project. CityU is finalising the tender documents for the project.

32. The project will not involve any tree removal within the project site. CityU will incorporate a planting proposal as part of the project, including 70 m<sup>2</sup> grassed area and shrub planting.

33. CityU estimates that the project will create about 134 jobs (118 for labourers and another 16 for professional/technical staff) providing a total employment of 3 250 man-months.



Enclosure 2 to PWSC(2009-10)26

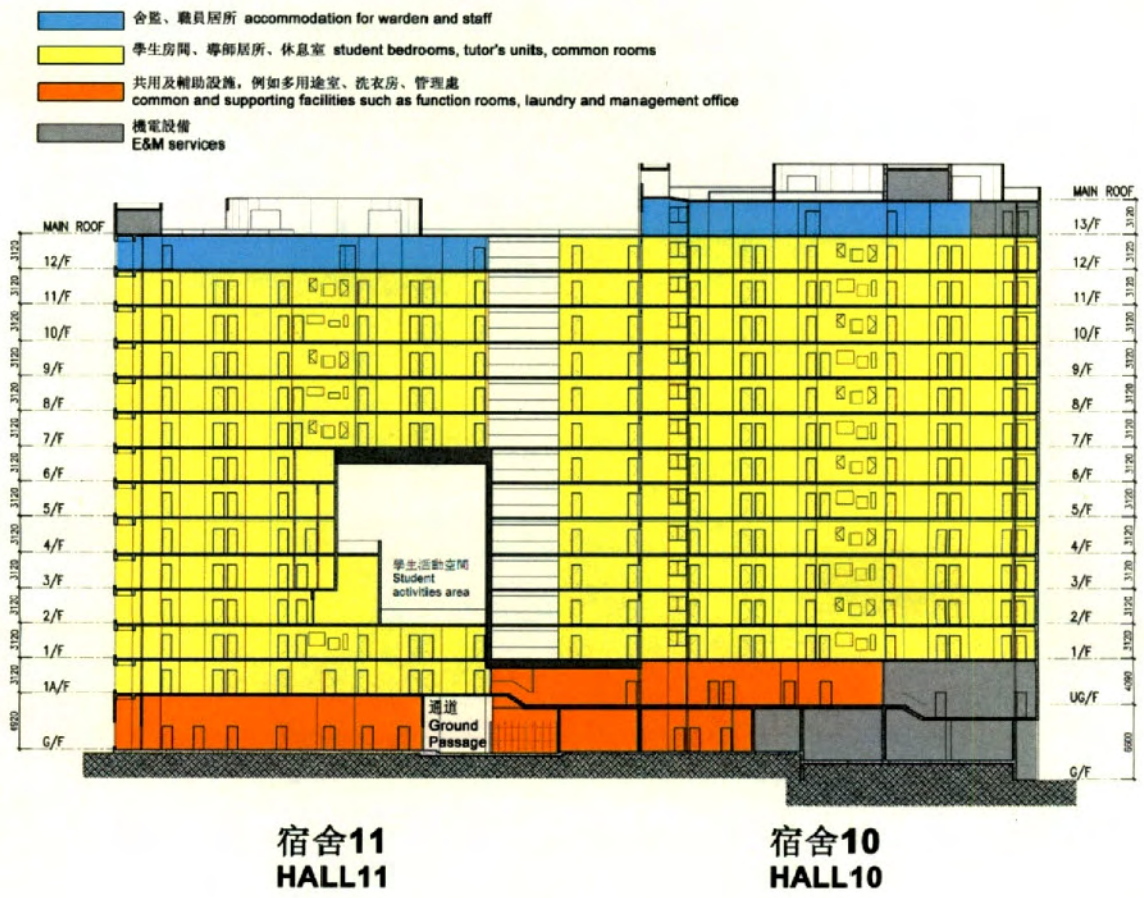
**City University of Hong Kong**  
**23EJ – Student hostel, phase 4 (700 places)**  
香港城市大學  
**23EJ – 學生宿舍第 4 期 (700 個宿位)**

**View of the building (Artist's impression)**  
外觀構思圖



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**Sectional Plan 截面圖**



**Enclosure 4 to PWSC(2009-10)26**

**City University of Hong Kong  
23EJ – Student hostel, phase 4 (700 places)**

**List of facilities**

	<b>No. of Unit</b>	<b>Estimated floor area in net operational floor area NOFA (m<sup>2</sup>)</b>	<b>Hall 10 (m<sup>2</sup>)</b>	<b>Hall 11 (m<sup>2</sup>)</b>
<b>(A) Living accommodation</b>				
1. Double bedroom	344	5 144	2 871	2 273
2. Single bedroom	12	96	48	48
3. Warden's quarter	2	211	106	105
4. Manager's quarter	2	150	72	78
5. Tutor's room	12	192	96	96
6. Domestic staff room	4	124	62	62
	<b>Sub-total</b>	<b>5 917</b>	<b>3 255</b>	<b>2 662</b>
<b>(B) Common space</b>				
1. Common room	22	884	556	328
2. Function room	4	62	30	32
3. Computer room	2	46	28	18
4. Hall office	2	26	14	12
5. Student activities areas	-	299	259	40
6. Gymnasium	1	30	30	-
	<b>Sub-total</b>	<b>1 347</b>	<b>917</b>	<b>430</b>
<b>(C) Support</b>				
1. Management office	2	29	13	16
2. Warden's office	2	27	14	13
3. Emergency/sick room	2	31	16	15
4. Laundry	2	73	39	34
5. Refuse room and store	22	89	62	27
	<b>Sub-total</b>	<b>249</b>	<b>144</b>	<b>105</b>
	<b>Total</b>	<b>7 513</b>	<b>4 316</b>	<b>3 197</b>

**Enclosure 5 to PWSC(2009-10)26**

**City University of Hong Kong  
23EJ – Student hostel, phase 4 (700 places)**

**Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2008 prices)<sup>(Note 1)</sup>**

		<b>Estimated man- months</b>	<b>Average MPS* salary point</b>	<b>Multiplier <small>(Note 2)</small></b>	<b>Estimated fee (\$ million)</b>
(a) Consultants' fees <sup>(Note 3)</sup>					
(i)	Tender assessment Professional	-	-	-	0.5
(ii)	Contract administration Professional	-	-	-	3.9
(iii)	Out-of-pocket expenses <sup>(Note 4)</sup>				0.3
(b)	Resident site staff costs <sup>(Note 5)</sup> Technical	117	14	1.6	3.7
					<hr/> <b>Total</b> <hr/>
					8.4 <hr/>

\* MPS = Master Pay Scale

**Notes**

1. Having examined the consultants' fees and resident site staff costs estimated by CityU, the Director of Architectural Services considers the figures acceptable.
2. A multiplier of 1.6 is applied to the average MPS point to estimate the costs of resident site staff to be employed by CityU. (As at 1 April 2009, MPS point 14 = \$19,835 per month.)

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3. The consultants' fees for tender assessment and contract administration are calculated in accordance with the existing consultancy agreements obtained through competitive tendering for the design and construction of **23EJ**. The assignment will only be executed subject to Finance Committee's approval to upgrade **23EJ** to Category A.
4. Out-of-pocket expenses are the actual costs incurred, including lithography and other direct expenses. The consultants are not entitled to any additional payment for the overheads or profit in respect of these items.
5. CityU will know the actual man-months and actual costs for resident site staff only after completion of the construction works.

**Enclosure 6 to PWSC(2009-10)26**

**The City University of Hong Kong  
23EJ – Student hostel, phase 4 (700 places)**

**Breakdown of the construction floor area (CFA) vis-à-vis the construction unit cost**

(a)	Breakdown of CFA	<b>Estimated floor area (m<sup>2</sup>)</b>
	Net operational floor area (NOFA)	7 513
	Circulation areas and toilets	5 322
	Mechanical and electrical plants	983
	CFA	<u>13 818</u>
(b)	NOFA / CFA ratio	54.4%
(c)	Estimated construction unit cost (represented by the building and building services costs)	\$12,274 per m <sup>2</sup> of CFA (in September 2008 prices)