

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEM AND EQUIPMENT

Universities

The University of Hong Kong

50EG - Consequential works for the new Biological Sciences Building

Members are invited to recommend to Finance Committee to approve a new commitment of \$57.77 million in money-of-the-day prices for the consequential works for refitting out space vacated by Biological Sciences departments for use by other units of the university.

PROBLEM

The University of Hong Kong (HKU) requires funding support for refitting out works to the space vacated by Biological Sciences departments, including the Department of Botany, Ecology and Biodiversity, Zoology and Institute of Molecular Biology that have moved to the new Biological Sciences Building.

PROPOSAL

2. On the advice of the Director of Architectural Services (D Arch S) and with the support of the Secretary for Education and Manpower, the Secretary-General, University Grants Committee (SG, UGC) proposes to create a new commitment of \$57.77 million in money-of-the-day (MOD) prices for HKU to

/implement

implement refitting out works to the space vacated by Biological Sciences departments¹ following their relocation to the new Biological Sciences Building.

Adjustment of the proposed project estimate

3. Having examined HKU's proposal, SG, UGC, in consultation with D Arch S, has adjusted the project estimate proposed by the HKU to arrive at the project estimate set out in paragraph 2 above. A comparison of the project estimate proposed by the HKU and the estimate recommended by the UGC is at Enclosure 1.

PROJECT SCOPE AND NATURE

4. The project involves refitting an existing construction floor area (i.e. the net floor area subject to construction/renovation, excluding external walls and structural elements commonly shared with adjacent rooms) of 5 874 square metres. The works will involve rearrangement of layouts, demolition of existing partitions, repartitioning, replacement of existing finishes, redecoration, as well as the provision of additional laboratory benches and furniture and equipment where necessary. Site plans are at Enclosure 2 for Members' reference. HKU plans to commence the works in June 2000 for completion in October 2000.

JUSTIFICATION

5. HKU received a private donation to construct a new Biological Sciences Building principally to support the research and teaching activities of the Departments of Botany, Zoology and Ecology and Biodiversity. In February 1998, the Finance Committee approved a new commitment of \$80.41 million in MOD prices under Subhead **48EG** - Supplementation for the new Biological Sciences Building for the cost of furniture and equipment items. Since completion of the new building in December 1999, the Biological Sciences departments have gradually moved into the new premises.

6. HKU needs to carry out refitting works to make the vacated space suitable for new users, (in the fields of education, physics, earth sciences,

/chemistry,

¹ These include Chong Yuet Ming Chemistry Building, Chong Yuet Ming Physics Building, James Hsioung Lee Science Building, Hui Oi Chow Science Building, Dexter H C Man Building, Library Annex, Eliot Hall, Knowles Building and T T Tsui Building.

chemistry, medicine, etc². Functionally, the new space will accommodate a variety of facilities, including research laboratories, teaching laboratories and academic offices. The current proposal involves renovation of vacated space where the usage has been changed. Existing fittings will be retained and used by the new users, where applicable.

7. HKU has limited land available within the main university campus for further development. The vacated space is therefore very useful and can be converted into new functional space within a short time frame. Upon completion of the refitting out works, the space will also be used to cope with the needs of the departments concerned for on-going research activities. It is important for HKU to secure funding to carry out the works as soon as practicable.

8. UGC supports HKU's request for public funding to meet the cost of refitting out the space vacated by the Biological Sciences departments.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$57.77 million in MOD prices (see paragraph 11 below), made up as follows -

| | \$million |
|---|------------------|
| (a) Demolition and alteration | 2.87 |
| (b) Building works (rearrangement of layout, demolition of existing partitions, repartitioning, replacement of existing finishes, redecoration, provision of additional laboratory benches and equipment) | 19.01 |
| (c) Building services works (new mechanical/electrical provision to fit the new layout whilst all major utilities will be retained) | 20.10 |

/(d)

² According to a consultancy study commissioned by the UGC on space accommodation, HKU has a shortfall of space for research laboratories, teaching laboratories and offices.

| | \$million | |
|--|------------------|---------------------------|
| (d) Consultants' fees for | 1.88 | |
| (i) assessment of tenders | 0.10 | |
| (ii) contract administration | 0.58 | |
| (iii) site supervision | 1.05 | |
| (iv) out-of-pocket expenses | 0.15 | |
| (e) Furniture and equipment (new items for area with new layout arrangements and usage only. All serviceable items will be retained and reused as far as possible) | 8.47 | |
| (f) Contingencies | 5.23 | |
| Sub-total | 57.56 | (in December 1999 prices) |
| (g) Provision for price adjustment | 0.21 | |
| Total | 57.77 | (in MOD prices) |

10. The construction floor area of the project is 5 874 square metres and the average unit cost of refitting out these space, represented by building and building services costs, is \$6,658 per square metre at December 1999 prices. D Arch S considers the unit cost reasonable in comparison with other projects of a similar nature. A detailed breakdown by man months of the estimates for the consultants' fees is at Enclosure 3.

11. Subject to Members' approval, HKU will phase the expenditure of the project as follows -

/2000 - 2001.....

| Year | \$ million (Dec 1999) | Price adjustment factor | \$ million (MOD) |
|-------------|--------------------------|-------------------------------|---------------------|
| 2000 – 2001 | 52.84 | 1.00000 | 52.84 |
| 2001 – 2002 | 4.72 | 1.04500 | 4.93 |
| | <hr/> 57.56 <hr/> | | <hr/> 57.77 <hr/> |

12. We derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period 2000 to 2002. HKU will tender the works under a fixed-price lump-sum contract because the contract period will be shorter than 21 months and HKU can clearly define the scope of the works, leaving little room for uncertainty.

13. The proposed project has no additional annually recurrent financial implications.

PUBLIC CONSULTATION

14. We consider public consultation unnecessary as the refitting out works will be carried out within the campus of HKU.

ENVIRONMENTAL IMPLICATIONS

15. During construction, HKU will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of appropriate mitigation measures in the relevant contracts. These include the use of noise suppression baffles and silencers, wheel washing facilities and dust suppression equipment as well as regular watering of the site. HKU will also provide and maintain temporary site drainage.

16. HKU estimates that about 500 cubic metres of construction and demolition waste will be disposed of at landfills and 6 000 cubic metres of public fill will be delivered to public filling facilities. HKU has considered in the planning and design stages ways of minimising the generation of construction and demolition (C&D) materials. Where practicable, HKU will reuse the public fill

generated from the project either on site or at other construction sites on the campus. HKU will require the contractor to submit a waste management plan for approval and will ensure that day-to-day operations on site comply with the approved plan. The waste management plan will include appropriate mitigation measures, including an on-site area for waste segregation and the sorting of C&D materials by category. This will facilitate reuse/recycling and reduce the generation of waste. The reused/recycled materials will include paper/cardboard, timber and metal. HKU will also encourage the contractor to use non-timber hoarding as far as practicable. HKU will control the disposal of C&D materials at designated public filling facilities and/or landfills through a trip-ticket system and shall record the disposal, reuse and recycling of C&D materials for monitoring purposes.

LAND ACQUISITION

17. The project does not require land acquisition.

BACKGROUND INFORMATION

18. Under existing procedures, UGC-funded institutions submit capital works proposals to the UGC annually. UGC examines all these proposals carefully, with professional advice provided by D Arch S who acts as UGC's Technical Advisor. UGC refers to the Government those proposals it supports.

19. Consultants employed by the HKU have substantially completed the pre-tender consultancy services, including the detailed design work and the preparation of tender documents for the project. These cost \$1.27 million and were funded from block allocation **Subhead 8100EX** of the Capital Works Reserve Fund. HKU plans to invite tenders as soon as practicable so that the refitting out works can commence as scheduled.

20. We estimate that the proposed works will create about 114 new jobs comprising 11 professional staff, four technical staff and 99 labourers during construction period.

Enclosure 1 to PWSC(2000-01)11

A comparison of the project estimate requested by HKU with the estimate recommended by UGC

| Project | Amount proposed by HKU (at Dec 1999 prices) (\$ million) | Amount recommended by UGC (at Dec 1999 prices) (\$ million) | Amount of reduction (\$ million) |
|---|---|--|---|
| HKU - Consequential works for the new Biological Sciences Building | 58.35 | 57.56 | 0.79 |

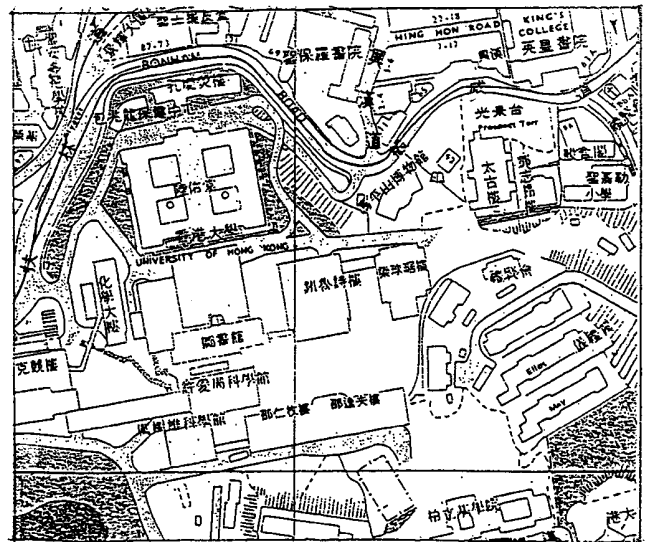
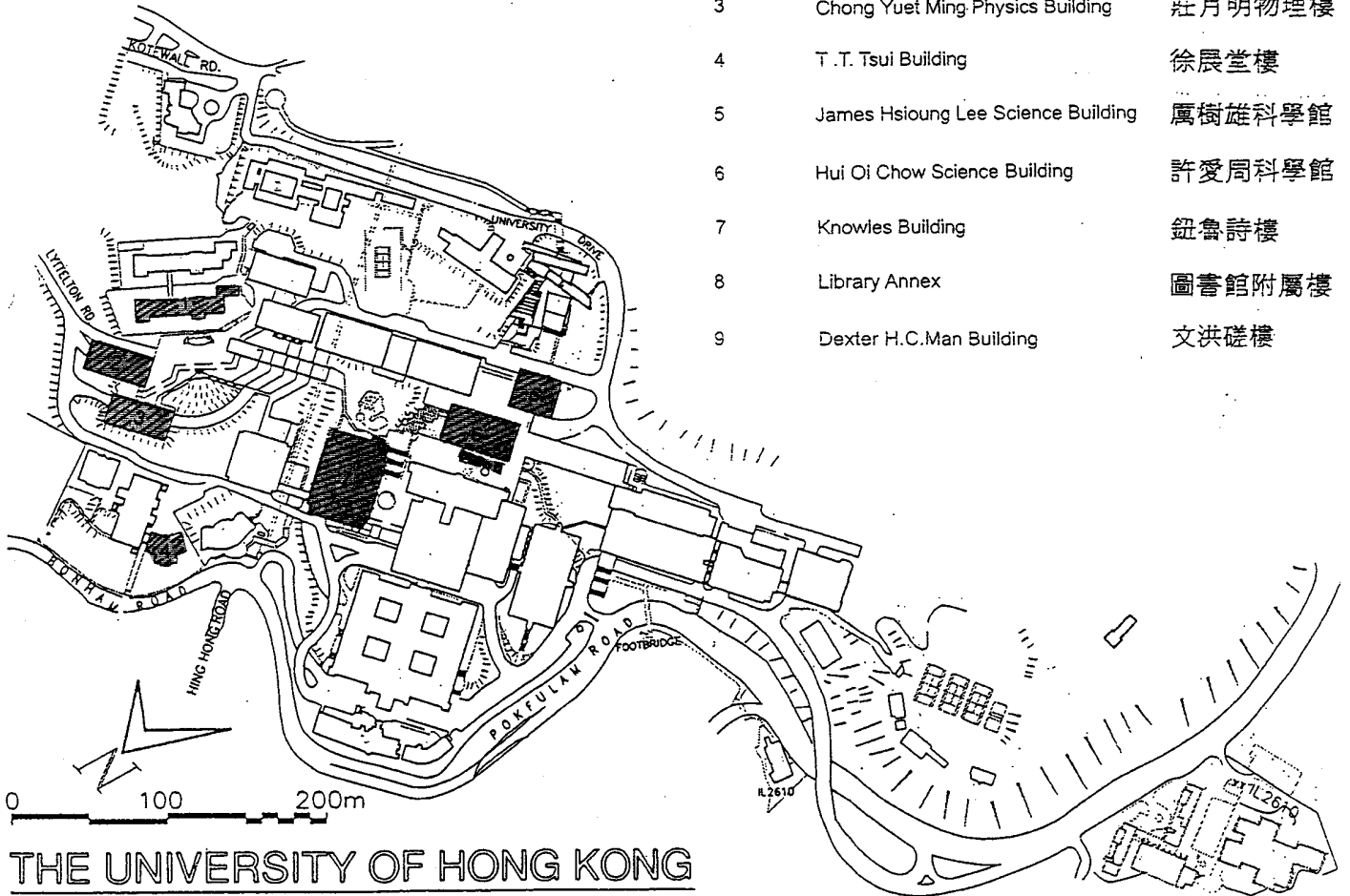
Note

The net reduction of \$790,000 is a result of the following adjustments -

- (a) downward adjustment of professional fees and out-of-pocket expenses -
 - (i) employment of project manager not supported (\$980,000);
 - (ii) reduction of out-of-pocket expenses (\$370,000); and
- (b) upward adjustment of contingencies of \$560,000 - an allowance of 10% of the project estimate as contingencies is considered appropriate for this type of refitting out works.

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| | | |
|---|------------------------------------|--------|
| 1 | Eliot Hall | 儀禮堂 |
| 2 | Chong Yuet Ming Chemistry Building | 莊月明化學樓 |
| 3 | Chong Yuet Ming Physics Building | 莊月明物理樓 |
| 4 | T. T. Tsui Building | 徐晨堂樓 |
| 5 | James Hsioung Lee Science Building | 厲樹雄科學館 |
| 6 | Hui Oi Chow Science Building | 許愛周科學館 |
| 7 | Knowles Building | 鈕魯詩樓 |
| 8 | Library Annex | 圖書館附屬樓 |
| 9 | Dexter H.C.Man Building | 文洪礎樓 |



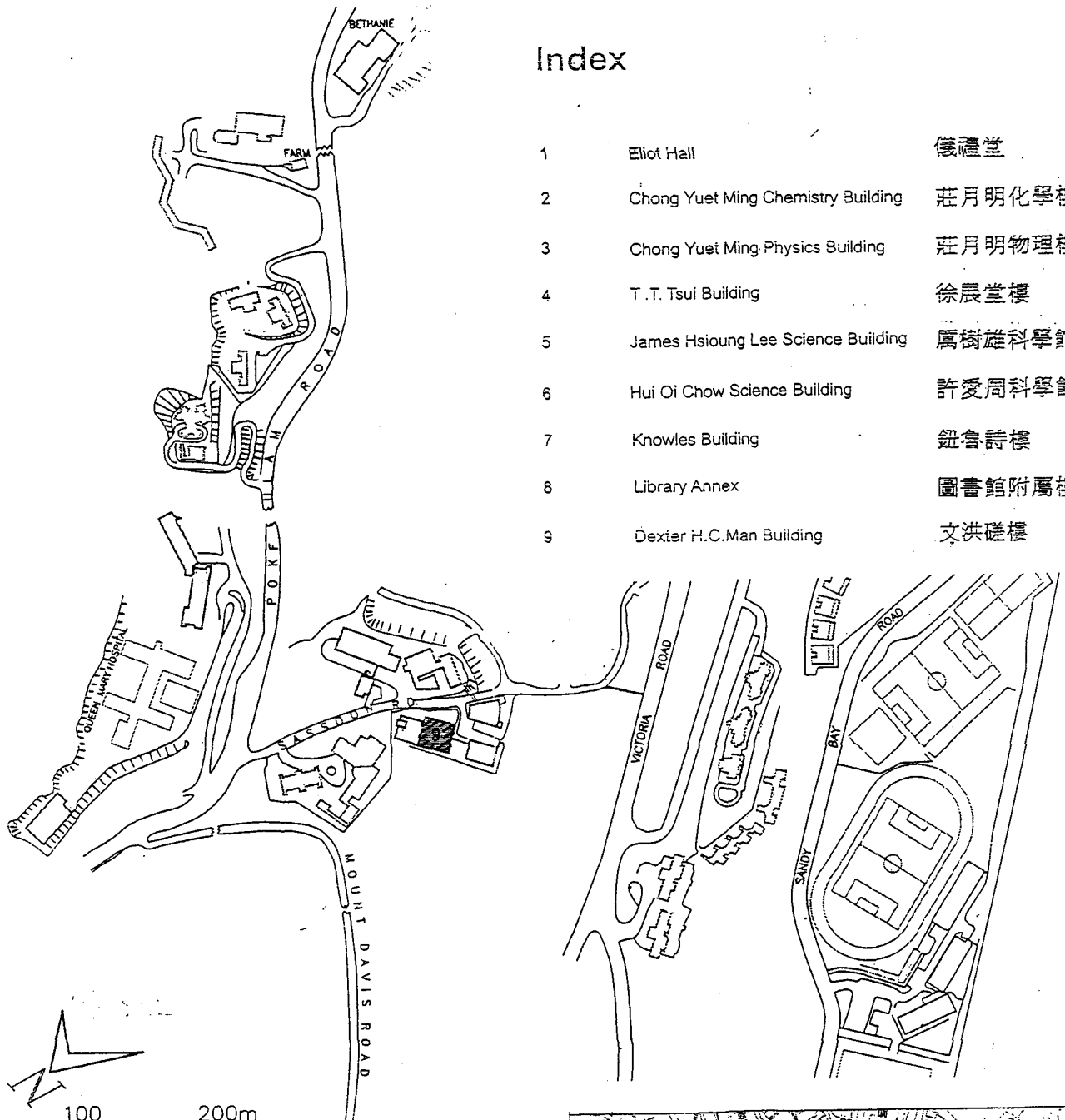
50EG -

Consequential Works for the new
Biological Science Building
新生物科學大樓的相應工程

LOCATION PLAN

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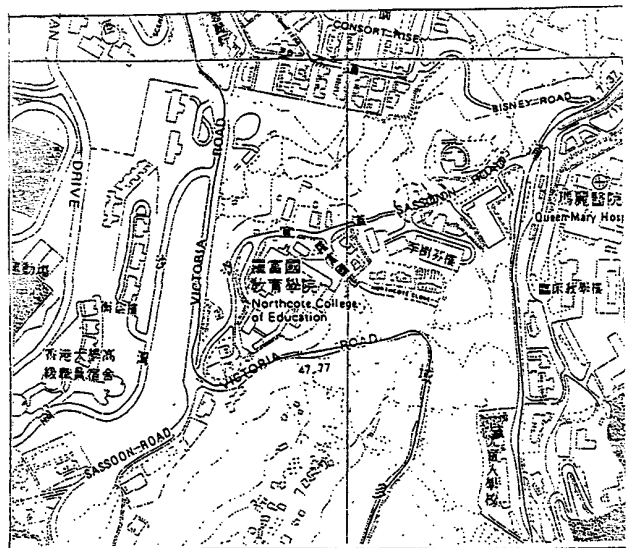
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THE UNIVERSITY OF HONG KONG
BLOCK PLAN

50EG -

Consequential Works for the new
Biological Science Building
新生物科學大樓的相應工程



LOCATION PLAN

The University of Hong Kong
50EG - Consequential works for the new Biological Sciences Building

Breakdown of estimates for consultants' fees

| Consultants' staff costs | | | Estimated man months | Average MPS* salary point | Multiplier factor | Estimated fee (\$ million) |
|---------------------------------------|---------------------------------------|--------------|-----------------------------|----------------------------------|--------------------------|-----------------------------------|
| (a) | Assessment of tenders | Professional | 0.5 | 40 | 2.4 | 0.07 |
| | | Technical | 0.5 | 16 | 2.4 | 0.03 |
| (b) | Contract administration | Professional | 2.5 | 40 | 2.4 | 0.38 |
| | | Technical | 4.0 | 16 | 2.4 | 0.20 |
| (c) | Site supervision | Technical | 29.5 | 16 | 1.7 | 1.05 |
| Total consultants' staff costs | | | | | | 1.73 |
| Out-of-pocket expenses | | | | | | |
| (a) | Printing cost and other reimbursables | | | | | 0.15 |
| Total | | | | | | 1.88 |

* MPS = Master Pay Scale

Notes

- Regarding the staff employed in the consultants' offices, a multiplier factor of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit (as at 1.4.1999, MPS point 40 is \$62,780 per month, and MPS point 16 is \$21,010 per month). A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants.
- Out-of-pocket expenses are the actual costs incurred. The consultants are not entitled to any additional payment for overheads or profit in respect of these items.
- The figures given above are based on estimates prepared by the UGC and have been examined and accepted by the Director of Architectural Services.