

For discussion  
on 31 May 2001

PWSC(2001-02)37

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

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

#### **Medical Subventions**

#### **5ME - Redevelopment and expansion of Pok Oi Hospital**

Members are invited to recommend to Finance  
Committee –

- (a) the upgrading of part of **5ME**, entitled  
“Redevelopment and expansion of Pok Oi  
Hospital – site formation and foundation works” to  
Category A at an estimated cost of \$314.30 million  
in money-of-the-day prices; and
- (b) the retention of the remainder of **5ME** in  
Category B.

### **PROBLEM**

There is a pressing need to meet the increasing demand for hospital services in the Northern New Territories (NTN). The capacity at Pok Oi Hospital (POH) is inadequate and most of its facilities are dilapidated.

**/PROPOSAL .....**

**PROPOSAL**

2. The Secretary for Health and Welfare proposes to upgrade part of **5ME** to Category A at an estimated cost of \$314.30 million in money-of-the-day (MOD) prices to carry out site formation and foundation works, and prepare tender documentation for the main works for the redevelopment and expansion of POH.

**PROJECT SCOPE AND NATURE**

3. On 9 June 2000, Finance Committee approved the upgrading of part of **5ME** as **6ME**, entitled "Redevelopment and expansion of Pok Oi Hospital – preparatory works" to Category A at an estimated cost of \$96.37 million in MOD prices. The scope of the redevelopment project approved on that occasion is set out in Enclosure 1. The redevelopment project was then intended to be carried out in two stages. However, the Hospital Authority (HA), on the recommendation of the project consultants following further study, decided instead to redevelop POH in one stage in order to save time and meet the target completion of the overall redevelopment and expansion of POH by 2006. As a result, detailed design for the entire redevelopment project will be undertaken in one go (i.e. with part to be advanced). The preparation of tender documentation for the main building will have to be advanced. Site formation and foundation works will also have to be completed before the main works.

4. The scope of the redevelopment project will remain the same. However, the phasing of works has been modified as follows –

## (a) Preparatory works

- (i) consultancy services up to the detailed design stage for the main building, the tender documentation stage for the site formation and foundation works, and the contract administration stage for the demolition and decanting works;
- (ii) site investigation; and
- (iii) demolition of the existing South Wing, Accident and Emergency / Out-patient Department (A&E / OPD) Block, and ancillary buildings.

Despite advancement of the design work for part of the main building, the preparatory works proposed in paragraph 4(a) above are broadly within the approved scope and project estimate for **6ME**.

/(b) .....

- (b) Site formation and foundation works
  - (i) consultancy services for preparation of tender documentation for the main building, as well as contract administration of the site formation and foundation works;
  - (ii) site formation and excavation; and
  - (iii) construction of building foundations.

Funding for the proposed site formation and foundation works, estimated at \$314.30 million (in MOD prices), is being sought under this proposal.

- (c) Main works
  - (i) consultancy services for contract administration of the main building;
  - (ii) construction of a new building to accommodate 622 in-patient beds and other supporting facilities;
  - (iii) demolition of Central Wing and North Wing; and
  - (iv) provision of a rehabilitation garden and other external landscaping.

The estimated capital cost for the main works<sup>1</sup> is in the order of \$1.75 billion (in September 2000 prices). We intend to seek approval for this amount around 2002-03.

5. The proposed site formation and foundation works described in paragraph 4(b) above are scheduled for commencement in November 2001 and completion by December 2002. The site plans of the existing POH, the POH under redevelopment, and the redeveloped POH are at Enclosures 2, 3 and 4 respectively.

**/JUSTIFICATION .....**

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<sup>1</sup> Includes furniture and equipment cost for the main building.

## JUSTIFICATION

6. The provision of medical services in the NTN cluster is insufficient to cater for increasing population. By 2006, there will be a projected shortfall of about 1 000 beds in the cluster. This project will expand the capacity of POH by 272 beds. Upon completion of the project in 2006, POH will provide a total of 742 in-patient beds (including the 120 infirmary beds in the Tin Ka Ping Centre). In parallel, HA also plans to expand and develop other medical facilities in NTN to cater for the shortfall of beds in the NTN cluster.

7. HA's original plan was to carry out the redevelopment of POH in two stages with a view to completion by 2006. During the design process, HA's project consultants recommended single-stage redevelopment in favour of two-stage redevelopment as a viable and more cost-effective option for achieving the target completion date. The option will also eliminate interfacing problems, reduce programme and cost risks, improve site utilisation through a larger footprint for the redeveloped hospital, and reduce the extent of decanting and reorganisation of services. The consultants also confirmed that POH would be able to maintain an appropriate level of services during the whole construction period under this option. The POH Hospital Governing Committee and the Social Services, Housing and Publicity Committee of the Yuen Long District Council both gave their full support of the proposed single-stage redevelopment option.

8. This new option requires that the site formation and foundation works be carried out in parallel with the detailed design and preparation of tender documents for the main building. With the floor-by-floor schematic layouts of the future building already fully developed, ground conditions ascertained and loading requirements determined, further detailed design of the main building itself should not change the requirements of site formation and foundation works. The consultants therefore recommended that the site formation and foundation works be conducted in parallel with the ongoing detailed design and tender documentation for the main building. Such an approach is not uncommon in the construction industry.

## FINANCIAL IMPLICATIONS

9. HA, in consultation with the Director of Architectural Services (D Arch S), estimates the cost of the proposed site formation and foundation works to be \$314.30 million in MOD prices (see paragraph 10 below). A detailed breakdown is as follows –

/(a) .....

		<b>\$ million</b>	
(a)	Consultants' fees for	18.97	
(i)	tender documentation for main building	14.86	
(ii)	contract administration for site formation and foundation	1.77	
(iii)	site supervision for site formation and foundation	1.40	
(iv)	Electrical and Mechanical Services Trading Fund (EMSTF) charges <sup>2</sup>	0.94	
(b)	Site formation and foundation	274.36	
(c)	Contingencies	27.44	
	Sub-total	320.77	(in September 2000 prices)
(d)	Provision for price adjustment	(6.47)	
	Total	314.30	(in MOD prices)

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A breakdown by man-months of the estimates for consultants' fees is at Enclosure 5.

/10. ....

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<sup>2</sup> Upon its establishment on 1 August 1996 under the Trading Funds Ordinance, the EMSTF charges client bodies for design and technical consultancy services for electrical and mechanical (E&M) installation. The services rendered for this project include checking consultants' design submissions on all E&M installations and providing technical advice to HA on all E&M designs and their impacts on the project. The figure quoted is based on estimates prepared by the Director of Electrical and Mechanical Services. The actual cost for the service charges is subject to further negotiation between HA and the EMSD.

10. Subject to Members' approval, HA will phase the expenditure as follows –

Year	\$ million (Sept 2000)	Price Adjustment Factor	\$ million (MOD)
2001 – 2002	55.48	0.98000	54.37
2002 – 2003	263.78	0.97976	258.44
2003 – 2004	1.51	0.98759	1.49
	320.77		314.30

11. We derived the MOD estimate on the basis of Government's latest forecast of trend labour and construction prices for the period 2001 to 2004. HA will tender the site formation and foundation works under a fixed-price lump-sum contract because the scope of works can be clearly defined in advance and the works period will be shorter than 21 months.

12. The proposed site formation and foundation works have no additional recurrent financial implication.

## **PUBLIC CONSULTATION**

13. HA consulted the Social Services, Housing and Publicity Committee of the Yuen Long District Council (YLDC) in November 2000. Members of the YLDC supported the proposed single-stage option for the redevelopment and expansion of POH.

14. The Legislative Council Panel on Health Services considered an information paper on progress made with regard to the redevelopment and expansion of POH on 14 May 2001. Members noted the Administration's intention to seek the approval of the Finance Committee to embark on the site formation and foundation works of the project. They had no objection to such an approach.

**/ENVIRONMENTAL .....**

## ENVIRONMENTAL IMPLICATIONS

15. Consultants engaged by HA completed a Preliminary Environmental Review (PER) for the proposed redevelopment and expansion of POH in January 1999. The PER concluded and the Director of Environmental Protection agreed that the project will not cause long-term environmental impacts and that an Environmental Impact Assessment is not necessary.

16. HA will follow the standard practice in removal of any asbestos under the Air Pollution Control Ordinance, and will implement mitigation measures to control all construction phase impacts within established standards and guidelines. We have included in the project estimates the cost of implementing suitable mitigation measures to control these short-term environmental impacts.

17. During construction of the new hospital complex, HA will control noise, dust and site run-off nuisances within the established standards and guidelines through the implementation of mitigation measures in the relevant works contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy demolition activities, as well as frequent cleaning and watering of the site.

18. HA has considered ways to reduce the generation of construction and demolition (C&D) materials as much as possible, and estimates that about 90 800 cubic metres (m<sup>3</sup>) of C&D materials will be generated under this project. Of these, 8 100 m<sup>3</sup> (8.9%) of C&D materials will be reused on site, 75 000 m<sup>3</sup> (82.6%) of inert C&D materials will be delivered to public filling areas, and 7 700 m<sup>3</sup> (8.5%) of C&D waste will be disposed of at landfills. HA will require the contractor to submit to HA's project consultants for approval a waste management plan with appropriate mitigation measures including allocation of an area for waste segregation. HA will ensure that the day-to-day operations on site comply with the plan submitted. HA will require the contractor to reuse excavated material as filling materials on site or on other construction sites as filling materials as far as possible to minimise the disposal of public fill. To further minimise the generation of C&D materials, HA will require the contractor to use metal hoarding, to separate public fill from C&D waste for disposal at appropriate locations and to sort the C&D waste by category on site to facilitate reuse / recycling. HA will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip ticket system, and record the disposal, reuse and re-cycling of C&D materials for monitoring purposes.

/LAND .....

**LAND ACQUISITION**

19. The proposed site formation and foundation works do not require land acquisition.

**BACKGROUND INFORMATION**

20. In the 1998 Policy Address, the Chief Executive announced the decision to redevelop and expand POH to meet the rising demand for medical services in the Northern New Territories.

21. The main hospital compound of POH at Castle Peak Road in Au Tau comprises the South Wing which houses the wards, offices and supporting facilities; the A&E / OPD Block which houses the A&E and out-patient clinics; the Central Wing which houses the wards, operating theatres, rehabilitation facilities, offices, callrooms and supporting facilities; and the North Wing which houses the pharmacy, laboratory, X-ray, rehabilitation and supporting facilities. The Tin Ka Ping Centre, which houses 120 infirmary beds, is separately located at Yau Shin Street in Au Tau. The scope of this redevelopment project does not cover the Tin Ka Ping Centre.

22. We upgraded **5ME** to Category B on 25 February 2000 and part of **5ME** to Category A on 9 June 2000. The detailed design work for the entire project commenced in August 2000 with a view to completion by October 2001. The demolition works of the South Wing, A&E / OPD Block and ancillary buildings started in May 2001 and will be completed by November 2001.

23. We estimate that this project will create 700 jobs, comprising 100 professional/technical staff and 600 labourers.

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Health and Welfare Bureau  
May 2001

(PWWC0385/WIN17)



**5ME – Redevelopment and expansion of Pok Oi Hospital**

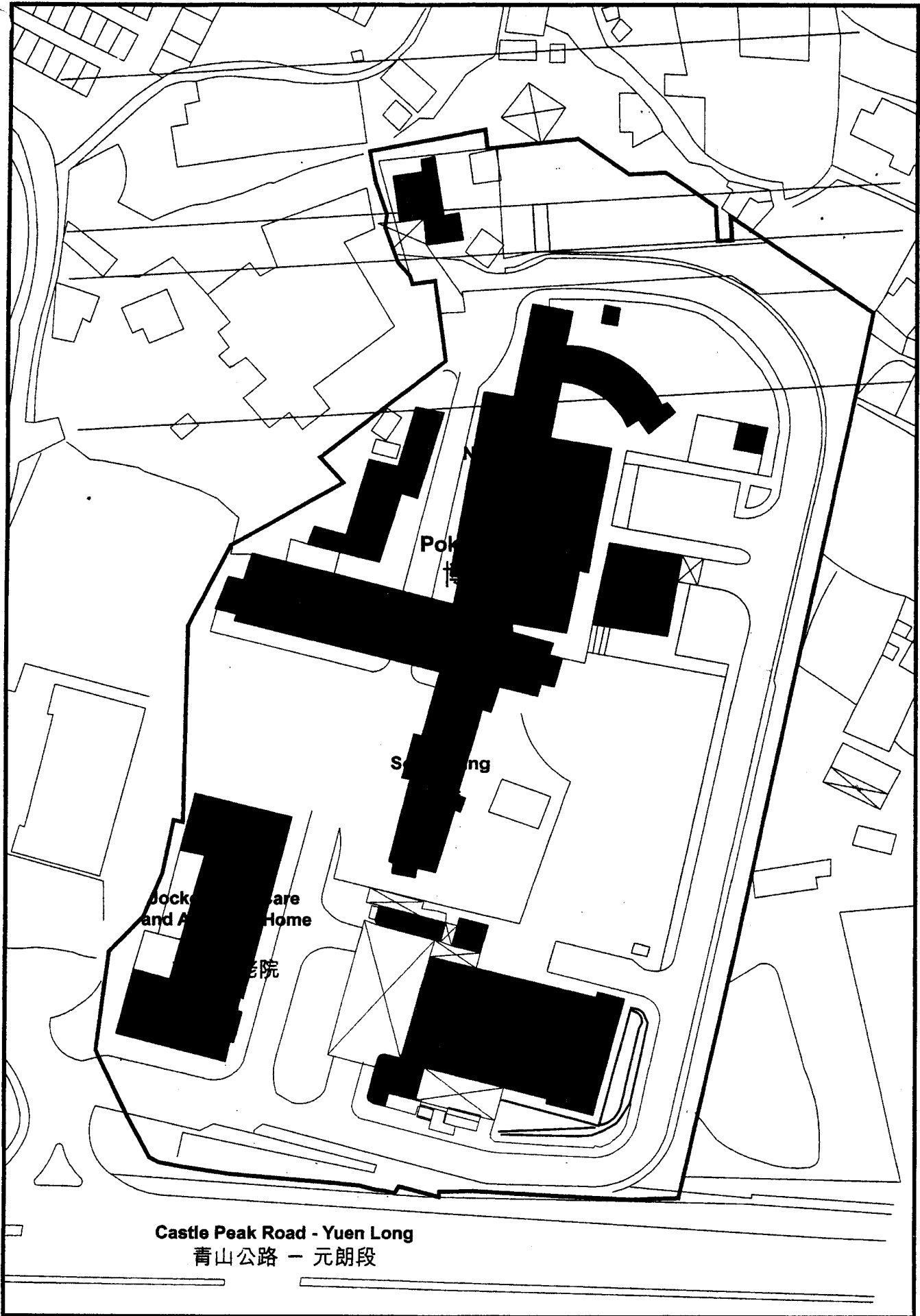
**Scope of project approved by Finance Committee on 9 June 2000**

- (a) Preparatory works
  - (i) site investigation;
  - (ii) consultancy services including detailed design and preparation of tender documentation for Stage 1 redevelopment as well as outline design for Stage 2 redevelopment; and
  - (iii) demolition of the existing South Wing and Accident and Emergency/Out-patient Department (A&E / OPD) Block.

On 9 June 2000, Finance Committee vide FCR(2000-01)22 approved the upgrading of part of **5ME** as **6ME**, entitled “Redevelopment and expansion of Pok Oi Hospital – preparatory works” to Category A at an estimated cost of \$96.37 million in MOD prices.

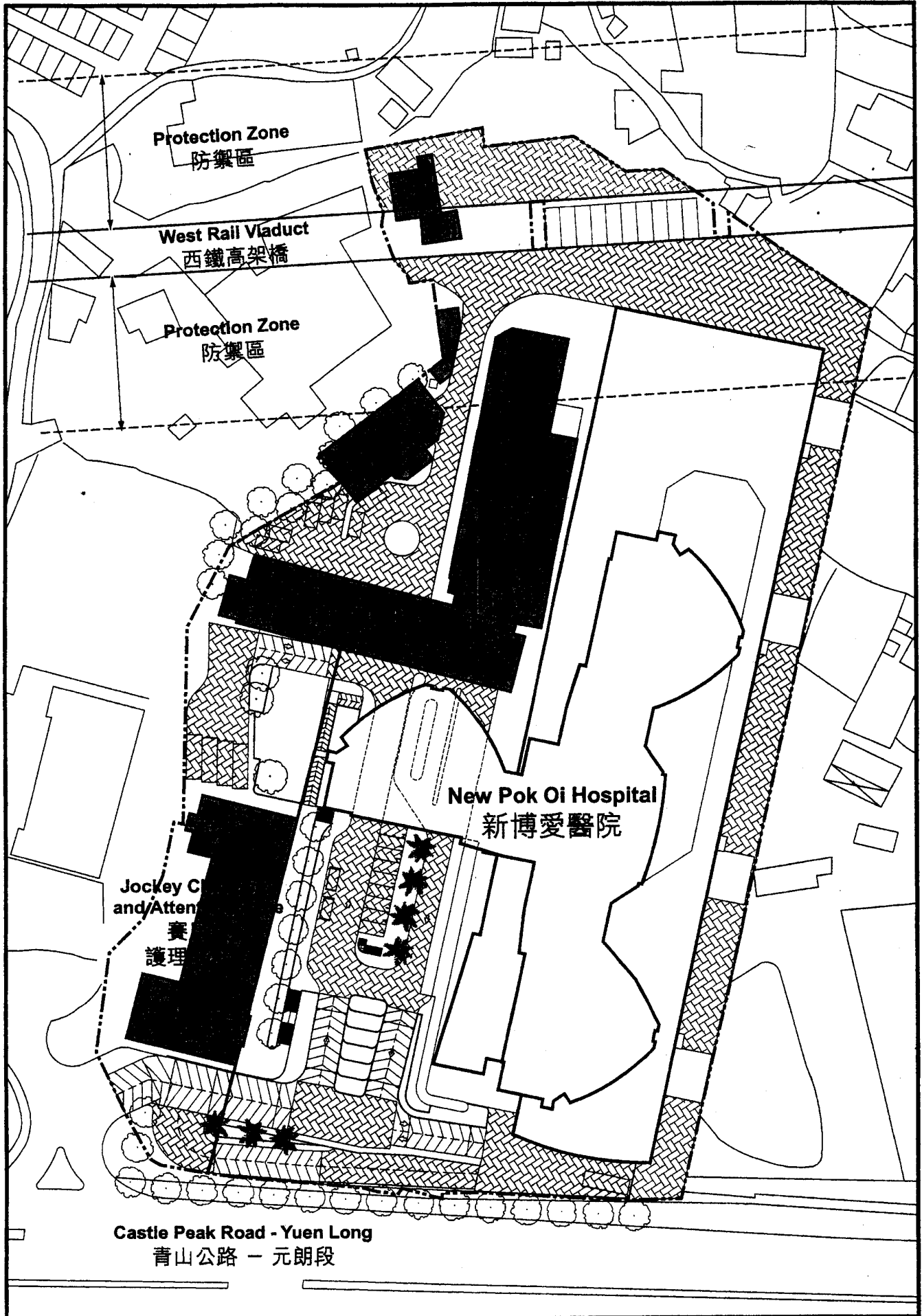
- (b) Main works
  - (i) Stage 1 redevelopment which entails the construction of a new building on the existing site of the South Wing and A&E / OPD Block to accommodate 300 in-patient beds and other supporting facilities;
  - (ii) consultancy services covering contract administration for Stage 1 redevelopment as well as detailed design, preparation of tender documentation and contract administration for Stage 2 redevelopment; and
  - (iii) Stage 2 redevelopment which entails the demolition of the existing Central Wing, the North Wing and staff quarters, and the construction of a new building to accommodate 322 in-patient beds as well as the provision of a rehabilitation garden and other necessary external landscaping.

Funding for main works is to be sought in due course.

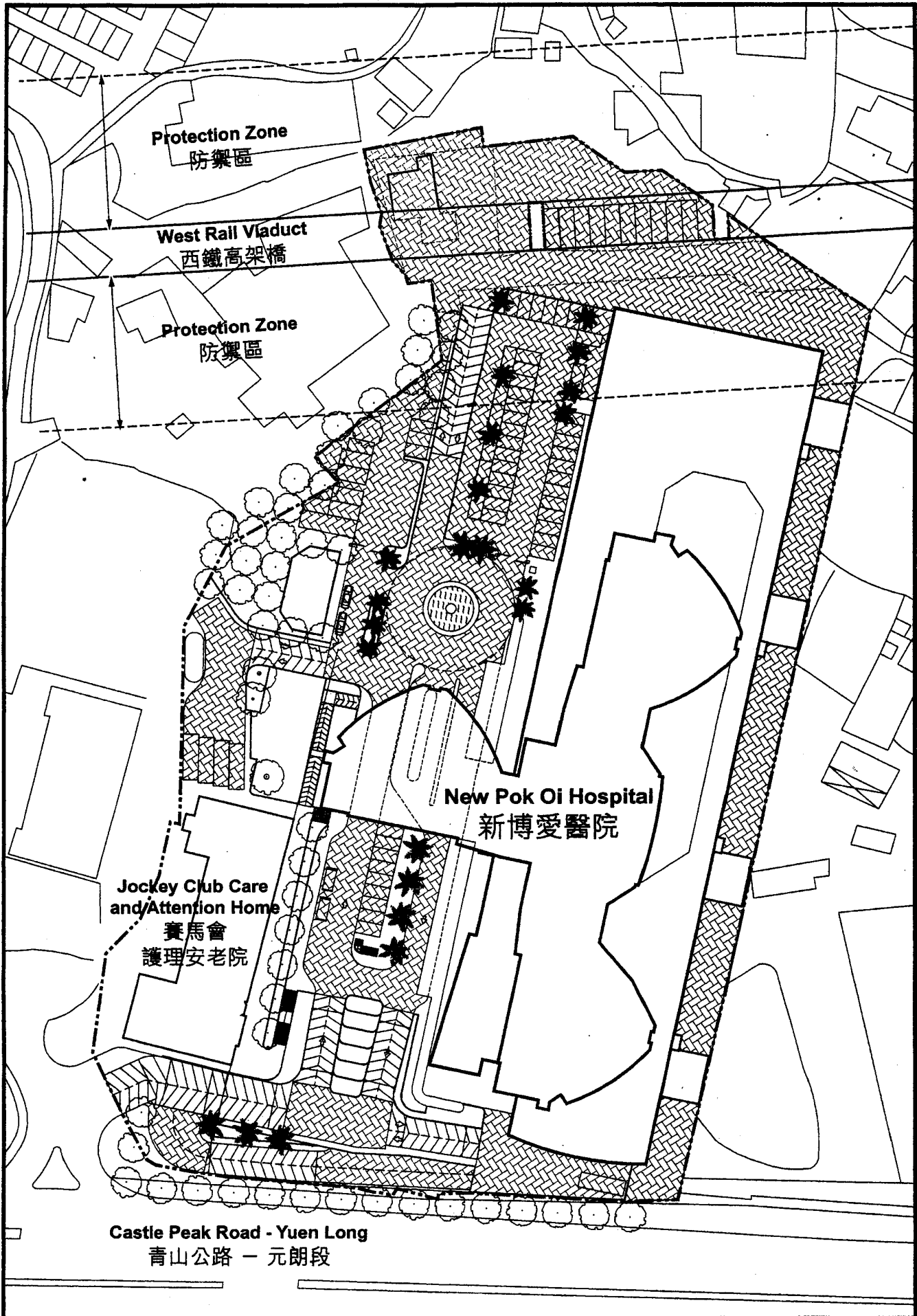


**SITE PLAN OF EXISTING HOSPITAL**  
SCALE 1:1000

**現時平面圖**  
比例 1:1000



**SITE PLAN DURING REDEVELOPMENT OF HOSPITAL 重建中平面圖**  
**SCALE 1:1000 比例 1:1000**



**SITE PLAN OF REDEVELOPED HOSPITAL**  
SCALE 1:1000

**重建後平面圖**  
比例 1:1000

**5ME – Redevelopment and expansion of Pok Oi Hospital****Breakdown of estimates for consultants' fees**

Category of works/items			Estimated man-months	Average MPS* salary point	Multiplier factor	Estimated fees (\$ million)
<b>(A) Consultants' staff costs</b>						
<b>(I) Tender documentation</b>						
(a)	Architectural discipline	Professional	15.4	38	2.4	2.13
		Technical	46.3	14	2.4	2.12
(b)	Building services discipline	Professional	6.1	38	2.4	0.84
		Technical	18.5	14	2.4	0.85
(c)	Structural engineering discipline	Professional	4.5	38	2.4	0.62
		Technical	13.6	14	2.4	0.62
(d)	Quantity surveying discipline	Professional	12.4	38	2.4	1.71
		Technical	37.6	14	2.4	1.72
(e)	Project management discipline	Professional	30.8	38	2.4	4.25
					Sub-total	14.86
<b>(II) Contract administration</b>						
(a)	Architectural discipline	Professional	4.2	38	2.4	0.58
		Technical	5.5	14	2.4	0.25
(b)	Building services discipline	Professional	1.6	38	2.4	0.22
		Technical	2.4	14	2.4	0.11
(c)	Structural engineering discipline	Professional	1.3	38	2.4	0.18
		Technical	1.3	14	2.4	0.06

Category of works/items			Estimated man-months	Average MPS* salary point	Multiplier factor	Estimated fees (\$ million)
(d)	Quantity surveying discipline	Professional	1.8	38	2.4	0.25
		Technical	2.6	14	2.4	0.12
					Sub-total	1.77
(II)	Site supervision	Professional	7.4	38	1.7	0.72
		Technical	21.1	14	1.7	0.68
					Sub-total	1.40
<b>(B) Electrical and Mechanical Services Trading Fund (EMSTF) charges</b>						0.94
					Total	18.97

\* MPS = Master Pay Scale

### Notes

1. A multiplier factor of 2.4 is applied to the average MPS point to arrive at the full staff costs for the staff employed by the consultants. The staff costs include the consultants' overheads and profits. (As at 1 April 2000, MPS point 38 = \$57,525 per month and MPS point 14 = \$19,050 per month). A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants.
2. The figures given above are based on actual fees payable to consultants, who have been selected through a competitive bidding system.
3. Upon its establishment on 1 August 1996 under the Trading Funds Ordinance, the EMSTF charges client bodies for design and technical consultancy services for electrical and mechanical (E&M) installation. The services rendered for this project include checking consultants' design submissions on all E&M installations and providing technical advice to HA on all E&M designs and their impacts on the project. The figures above are based on estimates prepared by the Director of Electrical and Mechanical Services. The actual cost for the service charges is subject to further negotiation between HA and the EMSD.