For discussion **PWSC(2008-09)15**
on 21 May 2008

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Education – Others
104ET – A direct subsidy scheme school (secondary-cum-primary) in Area 13, Yuen Long

Members are invited to recommend to Finance Committee the upgrading of **104ET** to Category A at an estimated cost of $242.9 million in money-of-the-day prices for the construction of a direct subsidy scheme school (secondary-cum-primary) in Area 13, Yuen Long.

PROBLEM

We need to provide more diversity in our school system and give parents more choices in the selection of schools for their children.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **104ET** to Category A at an estimated cost of $242.9 million in money-of-the-day (MOD) prices for the construction of a direct subsidy scheme (DSS) school (secondary-cum-primary) comprising a 24-classroom secondary section and an 18-classroom primary section in Area 13, Yuen Long.

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PROJECT SCOPE AND NATURE

3. The proposed school will provide the following facilities –

		Secondary Section	Primary Section
(a)	classrooms	24	18
(b)	special rooms	1 (exclusive for secondary section)	2 (exclusive for primary section)
	Shared facilities		
(c)	special rooms		12
(d)	small group teaching rooms		6
(e)	guidance activity rooms		2
(f)	student activity centre cum lecture theatre		1
(g)	interview rooms		3
(h)	staff room		1
(i)	staff common room		1
(j)	conference room		1
(k)	library		1
(l)	assembly hall (which can be used for a wide range of physical activities such as badminton, gymnastics and table-tennis)		1
(m)	multi-purpose area		1
(n)	basketball courts at ground level		3
(o)	60-metre (m) running track[1]		1
(p)	green corner[2]		1
(q)	ancillary accommodation, including a lift and relevant facilities for the handicapped		Available

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1 Making optimal use of the space of the campus, a 60-m running track will be provided.

2 The green corner is a designated area inside the campus to enable students to develop an interest in horticulture and natural environment. The green corner may include a greenhouse, a weather station and planting beds.

The proposed school will meet the planning target of providing two square metres (m^2) of open space per student. A site plan is at Enclosure 1 and views of the school premises (artist's impression) are at Enclosure 2. We plan to start the construction works in November 2008 for completion in August 2010.

JUSTIFICATION

4. For the past three decades, the majority of schools in Hong Kong have been public sector schools offering conventional curriculum. Apart from meeting the projected demand for school places from a macro-planning perspective, the Government wishes to promote DSS schools and the operation of through-train schools so that a vibrant and diversified school system can be established. The injection of diversity into our school system can meet the needs of multiple talents of our young people, cultural diversity in the community, and multi-faceted demands on our work force in the face of fast changing technology and increasing globalization.

5. The proposed school will be a co-educational secondary-cum-primary school and use both English and Chinese as the medium of instruction. In addition to becoming biliterate and trilingual, students of the school may take a third language such as Japanese or Spanish to sharpen the competitive edge. To this end, the school has planned to put great effort in the area of performing arts such as drama, dancing, singing, public speaking which is a prevalent and innovative approach to blend the learning of language with critical thinking and creativity. The mode of through-train operation will allow students to have continuous progression in their learning through the primary and secondary schooling. Riding on the rich experience of the School Sponsoring Body in providing youth services in Hong Kong, the school is set to train its students to be responsible and whole-heartedly committed to the well-being of themselves. In addition to the local curriculum to be primarily offered[3], the school will also offer International Baccalaureate (IB) programmes of Primary Years Programme, Middle Years Programme and Diploma Programme that are expanding rapidly around the world. Subject to authorization by the IB Organisation, the school will be the first DSS through-train school in Hong Kong providing IB programmes at all levels, as an additional curriculum choice for some students.

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3 Under the existing policy, DSS schools are required to offer principally a curriculum targeted at local students and prepare them for local examinations. DSS schools can offer IB programmes as an additional curriculum choice for some of its students on condition that they would principally offer a local curriculum preparing students for local examinations.

6. Since the proposed school will be recruiting students from all over the territory, its operation will only have a marginal impact on the supply and demand balance of public sector school places in Yuen Long district. Its local curriculum targets at preparing its students for local examinations while the IB programme is an additional choice for students.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be $242.9 million in MOD prices (see paragraph 8 below), made up as follows –

			$ million	
(a)	Piling		42.0	
(b)	Building		98.2	
(c)	Building services		32.0	
(d)	Drainage		4.5	
(e)	External works		17.0	
(f)	Consultants' fees for –		7.2	
	(i) Contract administration	3.0		
	(ii) Site supervision	4.2		
(g)	Contingencies		19.4	
	Sub-total		220.3	(in September 2007 prices)
(h)	Provision for price adjustment		22.6	
	Total		242.9	(in MOD prices)

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We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees by man-months is at Enclosure 3. The construction floor area (CFA) of **104ET** is 15 941 m^2. The estimated construction unit cost, represented by the building and the building services costs, is $8,168 per m^2 of CFA in September 2007 prices. We consider this comparable to similar school projects undertaken by the Government.

8. Subject to approval, we will phase the expenditure as follows –

Year	$ million (Sept 2007)	Price adjustment factor	$ million (MOD)
2008 – 09	6.8	1.02575	7.0
2009 – 10	85.5	1.06293	90.9
2010 – 11	78.3	1.10545	86.6
2011 – 12	22.7	1.14967	26.1
2012 – 13	27.0	1.19566	32.3
	220.3		242.9

9. We have derived the MOD estimates 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 2008 to 2013. We intend to award the contract on a lump-sum basis because we can clearly define the scope of works in advance. The contract will not provide for price adjustment because the contract period will not exceed 21 months.

10. We estimate the annual recurrent expenditure for **104ET** to be $46.5 million.

PUBLIC CONSULTATION

11. We consulted the Yuen Long District Council on **104ET** on 14 March 2007. Members of the Council supported the project.

12. We consulted the Legislative Council Panel on Education on 24 October 2005 on our review of the School Building Programme. The Panel supported our recommendation to proceed with two DSS school projects, including **104ET**.

ENVIRONMENTAL IMPLICATIONS

13. We engaged a consultant to conduct a Preliminary Environmental Review (PER) for **104ET** in January 2008. The PER recommended installation of insulated windows and air-conditioning for rooms exposed to traffic noise exceeding the limits recommended in the Hong Kong Planning Standards and Guidelines. The recommended mitigation measures include :

	Mitigation measures	**Estimated cost $ million (in Sept 2007 prices)**
(a)	Insulated windows and air-conditioning for four classrooms on 6/F and 7/F at the northern façade and five classrooms on 2/F, 3/F, 4/F, 6/F and 7/F at the southern façade of the primary classroom block.	0.9
(b)	Insulated windows and air-conditioning for all classrooms from 2/F to 7/F at the southern façade of the secondary classroom block.	2.3
(c)	Insulated windows and air-conditioning for five special rooms on 2/F, 4/F and 7/F at the southern façade of the special room block	0.9
(d)	Insulated windows and air-conditioning for a special room on 6/F at the northern façade of the special room block.	0.2

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With such mitigation measures in place, the project would not be exposed to long term environmental impacts. We have included the cost of the above mitigation measures as part of the building and building services in the project estimate.

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

15. We have 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 or reused in other projects). In addition, we 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[4]. We 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.

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

17. We estimate that the project will generate in total about 25 750 tonnes of construction waste. Of these, we will reuse about 7 050 tonnes (27.4%) of inert construction waste on site and deliver 16 700 tonnes (64.8%) of inert

/construction .....

4 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.

construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 2 000 tonnes (7.8%) 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 $700,900 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[5] at landfills).

ENERGY CONSERVATION MEASURES

18. This project has adopted various forms of energy efficient features, including –

(a) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by daylight sensor will be adopted in all offices and rooms at the perimeter of the building;

(b) heat recovery fresh air pre-conditioners in the air-conditioned rooms;

(c) automatic on/off switching of lighting and ventilation fan inside the lift; and

(d) light emitting diode (LED) type exit signs.

19. We will install photovoltaic panels to provide renewable energy for environmental benefits.

20. We will provide landscape in the appropriate area on the main roof and terraces for environmental and amenity benefits.

21. We will install rainwater collection system for landscape irrigation with a view to conserving water.

22. The total estimated additional cost for adoption of the above features is around $3.1 million, which has been included in the cost estimate for this project. There will be about 9% energy savings in the annual energy consumption.

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5 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^3), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

24. The project does not require any land acquisition.

BACKGROUND INFORMATION

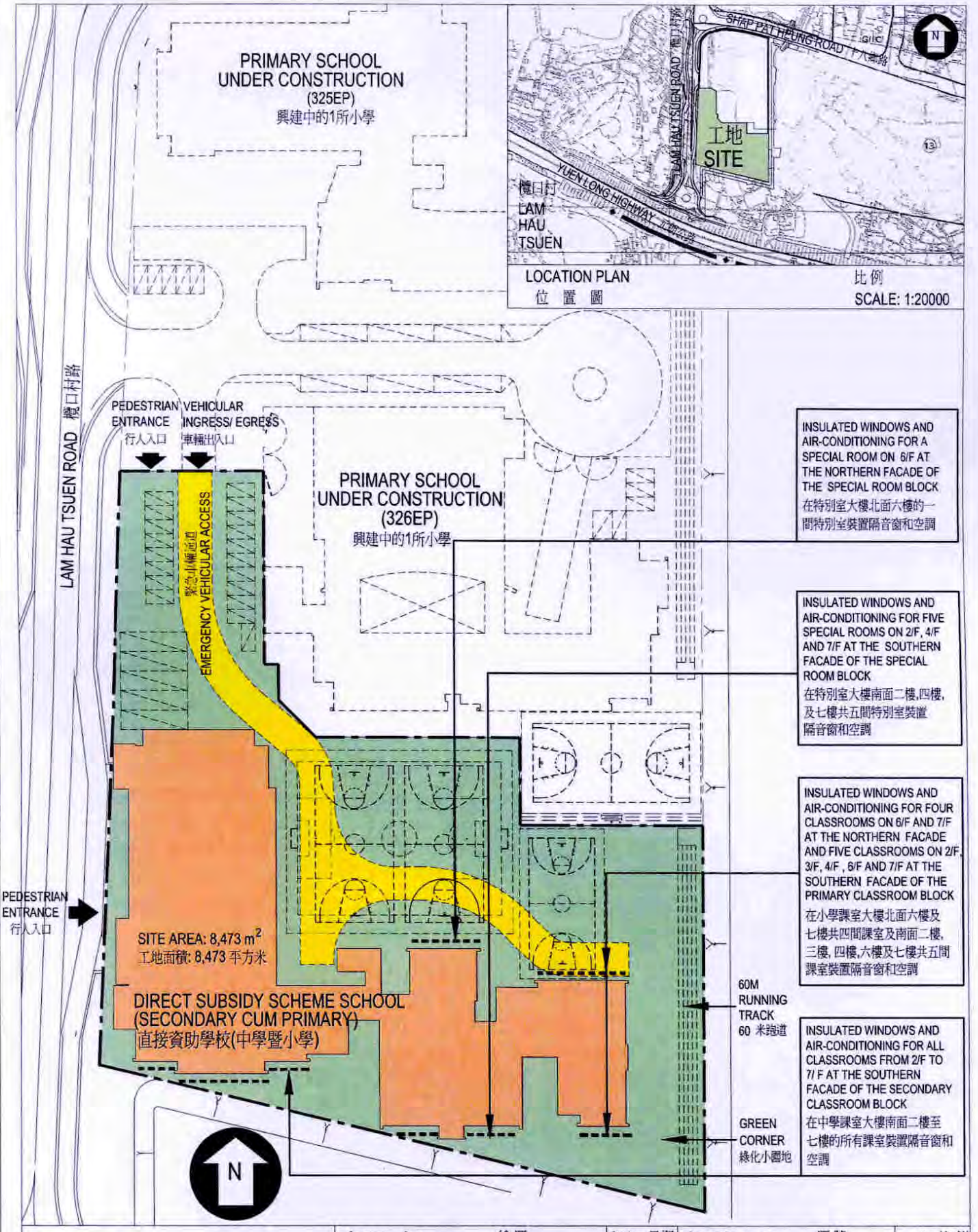
25. We upgraded **104ET** to Category B in September 2006. We engaged an architectural consultant in July 2007 to undertake the detailed design and PER. We engaged a quantity surveying consultant in December 2007 to prepare tender documents. The total cost of the above consultancy services and works is about $5.5 million. We charged this amount to block allocation **Subhead 3100GX** – "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The architectural consultant has completed the detailed design and PER. The quantity surveying consultant is finalizing the tender documents.

26. The proposed works will not involve any tree removal. We will incorporate planting proposals as part of the project, including an estimated quantity of 86 trees, 1 500 shrubs and ground covers.

27. We estimate that the proposed works will create about 223 jobs (198 for labourers and another 25 for professional/technical staff) providing a total employment of 4 219 man-months.

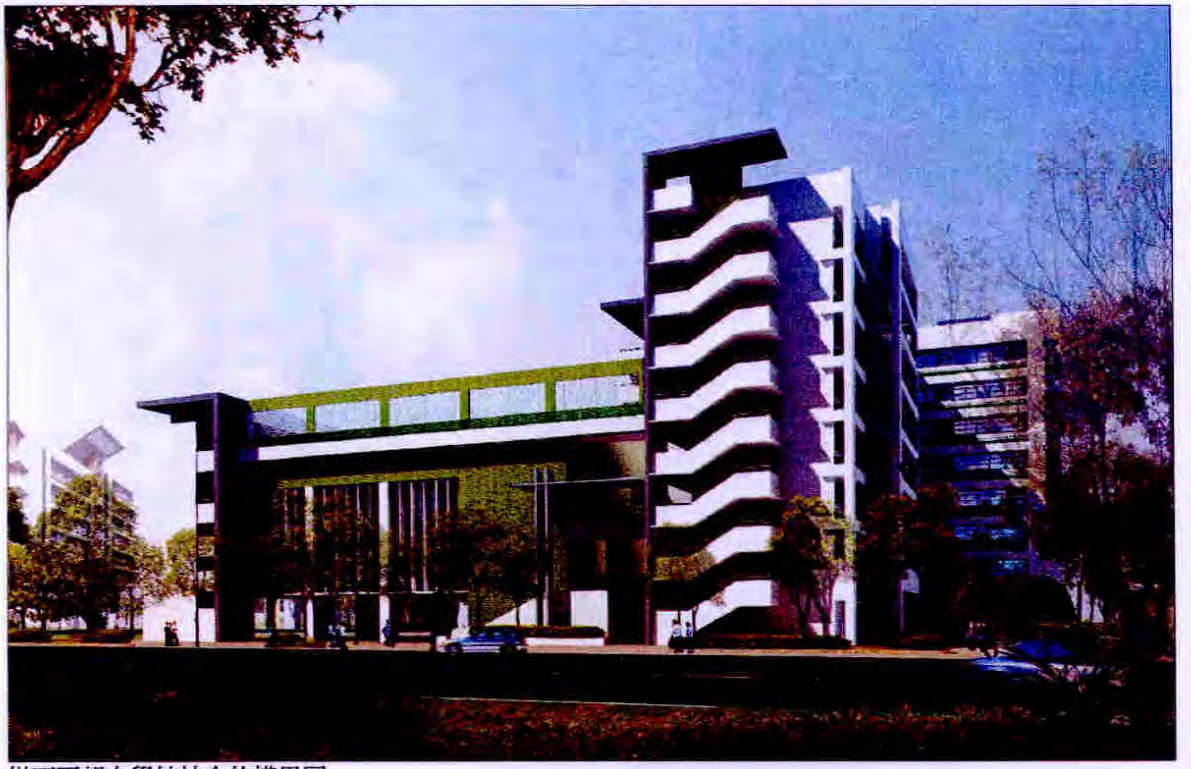
Education Bureau
May 2008

附件1 ENCLOSURE 1



TITLE 104 ET A DIRECT SUBSIDY SCHEME SCHOOL (SECONDARY CUM PRIMARY) IN AREA 13, YUEN LONG. 元朗第13區1所直接資助學校(中學暨小學)	drawn by 繪圖 MIKE, YEUNG YIM YU 楊艷瑜	date 日期 21.05.2008	drawing no. 圖號 AB/7133/XA 101	scale 比例 1:1000
	approved 批核 JOSEPH M.K. TANG 鄧文傑	date 日期 21.05.2008		
	office PROJECT MANAGEMENT BRANCH 工程策劃處		ARCHITECTURAL SERVICES DEPARTMENT 建築署	

從東北面望向學校校舍的構思圖
VIEW OF THE SCHOOL PREMISES FROM NORTH-EASTERN DIRECTION
(ARTIST'S IMPRESSION)



從西面望向學校校舍的構思圖
VIEW OF THE SCHOOL PREMISES FROM WESTERN DIRECTION
(ARTIST'S IMPRESSION)

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Breakdown of the estimate for consultants' fees

Consultants' staff costs			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Contract administration (Note 2)	Professional	–	–	–	2.0
		Technical	–	–	–	1.0
(b)	Site supervision (Note 3)	Professional	11.0	38	1.6	1.0
		Technical	106.2	14	1.6	3.2
					Total	7.2

* 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 January 2008, MPS point 38 = $56,945 per month and MPS point 14 = $18,840 per month.)

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **104ET.** The assignment will only be executed subject to Finance Committee's approval to upgrade **104ET** to Category A.

3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.