

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

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

#### **Education Subventions**

#### **36EC – Redevelopment of Marymount Primary School and improvements to Marymount Secondary School, Wan Chai**

Members are invited to recommend to Finance Committee the upgrading of **36EC** to Category A at an estimated cost of \$123.8 million in money-of-the-day prices for the redevelopment of Marymount Primary School and improvements to Marymount Secondary School in Wan Chai, Hong Kong.

#### **PROBLEM**

Marymount Primary School (MPS) does not have enough classrooms for conversion into whole-day operation and the facilities of Marymount Secondary School (MSS) fall short of current standards. It is necessary to carry out in-situ redevelopment of MPS and improvement works to MSS as a joint development.

#### **PROPOSAL**

2. The Secretary for Education and Manpower (SEM), on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **36EC** to Category A at an estimated cost of \$123.8 million in money-of-the-day (MOD) prices for redeveloping the existing MPS from a 12-classroom primary school into a 24-classroom whole-day primary school and for carrying out improvement works to MSS.

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3. To maximise site potential and cost effectiveness, we propose to carry out the redevelopment of MPS together with the school improvement works for MSS as a joint development by sharing the same lot, geotechnical works and substructures.

### PROJECT SCOPE AND NATURE

4. The scope of the project comprises the demolition of the existing substandard premises of MPS, the construction of a new nine-storey school building<sup>1</sup> to be shared by MPS (six storeys) and MSS (three storeys), and the conversion works to be carried out in the existing MSS premises to upgrade facilities to current standards.

5. The new primary school section will have the following facilities –

- (a) 24 classrooms;
- (b) six special rooms, including a computer-assisted learning room and a language room;
- (c) four small group teaching rooms;
- (d) a guidance activity room;
- (e) two interview rooms;
- (f) a staff room and a staff common room;
- (g) a student activity centre;
- (h) a conference room;
- (i) a library;
- (j) an assembly hall;
- (k) a multi-purpose area;
- (l) a basketball court (at the rooftop);

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<sup>1</sup> G/F to 4/F and LG1 are designated to the new primary school section. LG2 to LG4 are designated to the secondary school section.

- (m) a green corner<sup>2</sup>; and
  - (n) ancillary accommodation, including a lift and facilities for the handicapped.
6. Improvement works<sup>3</sup> for MSS include –
- (a) Items to be provided in the new school building –
    - (i) seven special rooms;
    - (ii) a multi-purpose area;
    - (iii) a conference room;
    - (iv) a basketball court (at the elevated platform);
    - (v) a covered playground; and
    - (vi) ancillary accommodation, including changing rooms.
  - (b) Items to be provided through conversion of the existing MSS premises –
    - (i) two special rooms;
    - (ii) two small group teaching rooms;
    - (iii) an interview room;
    - (iv) a staff common room;
    - (v) a student activity centre;
    - (vi) a discipline master's office; and
    - (vii) ancillary accommodation, including a medical inspection room.

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<sup>2</sup> 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 green house, a weather station and planting beds.

<sup>3</sup> The improvement works proposed for MSS follow the same types and specifications of items for projects under the final phase of the School Improvement Programme.

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The redevelopment project will meet the planning target of providing two square metres of open space per student. A site plan is at Enclosure 1 and computer rendering drawings of the new school building are at Enclosure 2. The school sponsor plans to start the demolition works in August 2003 and site formation works in January 2004. The construction works will commence in February 2005 for completion in May 2006.

## JUSTIFICATION

7. To facilitate the implementation of 100% whole-day primary schooling by the 2007/08 school year, it is Government policy to convert existing bi-sessional primary schools into whole-day operation where feasible through the construction of extra classrooms or redevelopment. In line with the above policy, we propose to redevelop MPS in-situ, which has 12 classrooms for the operation of 24 bi-sessional classes, into a 24-classroom primary school on an in-situ basis. This would enable the school to convert into whole-day operation without affecting its student intake after the redevelopment.

8. MSS was built in 1950s. Its facilities are below current standards. It is Government policy to upgrade the facilities of existing schools to the prevailing standards under the School Improvement Programme (SIP) to enable them to meet the requirements arising from changes in curriculum and teaching methods in recent years. Standard facilities, such as small group teaching room, student activity centre and multi-purpose area are not available. Because of the proposed joint development with MPS, MSS has not been included in the SIP. The proposed improvement works under 36EC would upgrade MSS to current standards and facilitate the provision of quality education.

9. To facilitate the redevelopment of MPS and to allow students to enjoy whole-day schooling at the earliest instance, we have accommodated students of MPS at a decanting school premises at Cloud View Road, North Point, on a temporary basis since September 2002.

## FINANCIAL IMPLICATIONS

10. The school sponsor estimates the capital cost to be \$123.8 million in MOD prices (see paragraph 12 below). D Arch S has examined and endorsed the cost estimate, made up as follows –

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		<b>\$ million</b>	
(a)	Demolition	2.6	
(b)	Site formation	3.6	
(c)	Slope stabilisation	1.0	
(d)	Piling	21.5	
(e)	Building	55.9	
(f)	Building services	17.5	
(g)	Alteration works	3.1	
(h)	Drainage and external works	7.7	
(i)	Furniture and equipment (F&E) <sup>4</sup>	3.8	
(j)	Consultants' fee for –	4.1	
	(i) Contract administration	2.6	
	(ii) Site supervision	1.1	
	(iii) Out-of-pocket expenses	0.4	
(k)	Contingencies	12.1	
	Sub-total	132.9	(in September 2002 prices)
(l)	Provision for price adjustment	(9.1)	
	Total	123.8	(in MOD prices)

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<sup>4</sup> This includes the F&E costs of \$3.5 million for conversion of MPS into whole-day operation and \$300,000 for improvements of MSS with serviceable items deducted.

The school sponsor proposes 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 the new primary school section is 9 489 square metres. The estimated construction unit cost for the new primary school section, represented by the building and building services costs, is \$5,628 per square metre of CFA in September 2002 prices. D Arch S considers this comparable to similar school projects built by the Government. A comparison of the reference cost for a 24-classroom primary school based on an uncomplicated site with no unusual environmental or geotechnical constraints with the estimated cost of the new primary school section is at Enclosure 4.

11. The budget ceiling for the improvement works to MSS is set at 42% of the average cost of construction of a new school of the same type and size, currently estimated at \$40.7 million for a 28-classroom secondary school. This is in line with the policy under the SIP. The CFA of the secondary school section of the new school building and the conversion works within the existing secondary school premises are 3 859 and 880 square metres respectively.

12. Subject to approval, the school sponsor will phase the expenditure as follows –

<b>Year</b>	<b>\$ million (Sept 2001)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2003 – 04	19.1	0.94300	18.0
2004 – 05	40.9	0.93003	38.0
2005 – 06	55.3	0.93003	51.4
2006 – 07	17.6	0.93003	16.4
	132.9		123.8

13. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period from 2003 to 2007. The school sponsor will invite tenders for the demolition works, the site formation and piling works and the main contract works under three fixed-price lump-sum contracts because the contract periods for each contract will be less than 21 months and the school sponsor can clearly define the scope of works in advance, leaving little room for uncertainty.

14. The cost of F&E for MPS, estimated at \$3.5 million to be borne by the Government, is less than the standard F&E provision for a new 24-classroom primary school as we have taken into account the serviceability of the F&E of the existing school. We will adopt the same practice for all school projects for the reprovisioning of existing schools. The cost of F&E for MSS, estimated at \$300,000, will also be borne by the Government. This is in line with existing policy for the SIP.

15. The annual recurrent expenditures of MPS and MSS are \$19.1 million and \$36.1 million respectively. Upon redevelopment, they are estimated to be \$19.6 million and \$36.5 million.

## **PUBLIC CONSULTATION**

16. The school sponsor has consulted the Parent-Teacher Associations of MPS and MSS on the redevelopment project. They supported the proposal. The school sponsor will take all necessary steps to minimise any possible disruptions to the students and teachers during the demolition and construction works. Since the proposed redevelopment of the schools is carried out within the existing school boundary, we consider public consultation not necessary.

## **ENVIRONMENTAL IMPLICATIONS**

17. The school sponsor engaged consultants to conduct a Preliminary Environmental Review (PER) for 36EC in July 2002. The PER concluded that the new school building would not be subject to adverse environmental impacts provided that the school sponsor implements the following environmental mitigation measures to keep the road traffic noise impact within the limits recommended in the Hong Kong Planning Standards and Guidelines –

<b>Mitigation measures</b>	<b>Estimated cost \$ million (in Sept 2002 prices)</b>
(a) Provision of air-conditioning to eight classrooms and one special room from the 2/F to 4/F at the northern façade	0.9
(b) Provision of air-conditioning to 16 classrooms and four small group teaching rooms from the 1/F to 4/F at the southern façade	1.4

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The school sponsor has included the cost of the above mitigation measures as part of the building services works in the project estimate.

18. During construction, the school sponsor will control noise, dust and site run-off nuisances to within established standard 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 site, and the provision of wheel-washing facilities.

19. At the planning and design stages, the school sponsor has considered measures to reduce the generation of construction and demolition (C&D) materials. The school sponsor has introduced prefabricated building elements into the school design to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures. The school sponsor will use suitable excavated materials for filling within the site to minimise off-site disposal. In addition, the school sponsor will require its contractors to use metal site hoardings and signboards so that these materials can be recycled or reused in other projects.

20. The school sponsor will require its contractors to submit waste management plans (WMPs) for approval. The WMPs will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. The school sponsor will ensure that the day-to-day operations on site comply with the approved WMPs. The school sponsor will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. The school sponsor will require its contractors to separate public fill from C&D waste for disposal at appropriate facilities. The school sponsor will record the disposal, reuse and recycling of C&D materials for monitoring purposes. The school sponsor estimates that the project will generate about 4 000 cubic metres (m<sup>3</sup>) of C&D materials. Of these, the school sponsor will reuse about 800 m<sup>3</sup> (20%) on site, 2 800 m<sup>3</sup> (70%) as fills in public filling areas<sup>5</sup>, and dispose of 400 m<sup>3</sup> (10%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$50,000 for the project (based on a notional unit cost<sup>6</sup> of \$125/m<sup>3</sup>).

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<sup>5</sup> A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

<sup>6</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 are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.



**LAND ACQUISITION**

21. The project does not require land acquisition.

**BACKGROUND INFORMATION**

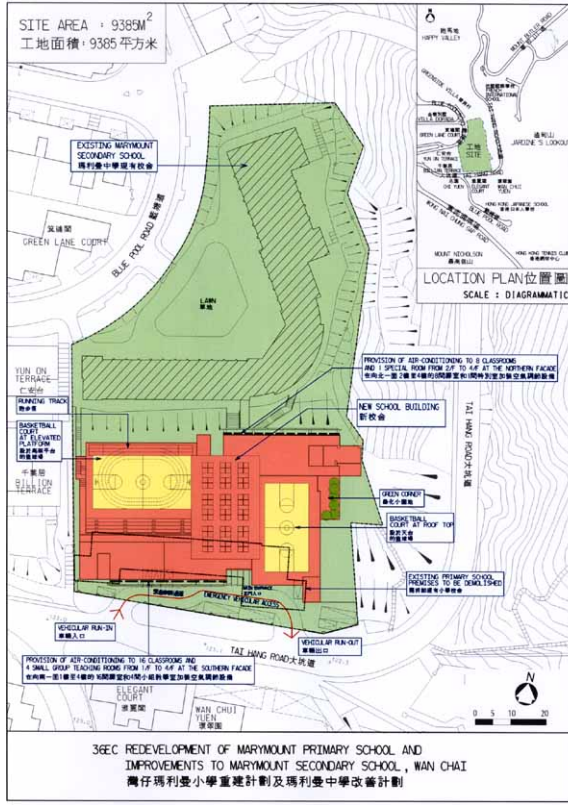
22. We upgraded **36EC** to Category B in July 2002. The school sponsor engaged consultants to undertake the PER, topographical survey in July 2002, detailed design and tender documentation in November 2002, and site investigation in December 2002 for the project. We will charge the Government's contribution of \$5.8 million to block allocation **Subhead 8100QX** "Alterations, additions, repairs and improvements to education subvented buildings". The consultants engaged by the school sponsor have completed the PER, topographical survey, detailed design and site investigation and are finalising the tender documents.

23. We estimate that the project will create some 180 jobs comprising 20 professional/technical staff and 160 labourers, totalling 2 650 man-months.

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Education and Manpower Bureau  
June 2003

附件 1 Enclosure 1



附件 2 Enclosure 2



電腦繪製的新校舍模擬圖(南面)  
 Computer rendering drawing of the new school building (Southern View)



電腦繪製的新校舍模擬圖(北面)  
 Computer rendering drawing of the new school building (Northern View)

36EC REDEVELOPMENT OF MARYMOUNT PRIMARY SCHOOL AND IMPROVEMENTS TO MARYMOUNT SECONDARY SCHOOL, WAN CHAI  
 灣仔瑪利曼小學重建計劃及瑪利曼中學改善計劃

**36EC – Redevelopment of Marymount Primary School and improvements to Marymount Secondary School, Wan Chai**

**Breakdown of the estimate for consultants' fees<sup>(Note 1)</sup>**

		Estimated man- months	Average MPS* salary point	Multiplier <sup>(Note 2)</sup>	Estimated fee (\$ million)
(a) Consultants' staff cost					
(i) Contract administration <sup>(Note 3)</sup>	Professional	–	–	–	1.9
	Technical	–	–	–	0.7
(ii) Site supervision <sup>(Note 4)</sup>	Technical	35.8	14	1.6	1.1
Sub-total					3.7
(b) Out-of-pocket expenses <sup>(Note 5)</sup>					
Lithography and other direct expenses					0.4
Sub-total					0.4
Total					4.1

\* MPS = Master Pay Scale

**Notes**

1. The figures are based on estimate prepared by the school sponsor. D Arch S has examined the figures and considered them reasonable.
2. 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 October 2002, MPS point 14 is \$19,195 per month.)

3. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **36EC**. The assignment will only be executed subject to Finance Committee's approval to upgrade **36EC** to Category A.
4. The consultants' staff cost for site supervision is based on the estimate prepared by the school sponsor. We will only know the actual man-months and actual costs after completion of the works.
5. 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.

**Enclosure 4 to PWSC(2003-04)39**

**A comparison of the reference cost of  
a 24-classroom primary school project  
with the estimated cost of 36EC**

**\$ million  
(in Sept 2002 prices)**

	<b>Reference cost*</b>	<b>New primary school section</b>	
(a) Demolition	–	1.8	(See Note A)
(b) Site formation	–	2.5	(See Note B)
(c) Slope stabilisation	–	0.7	(See Note C)
(d) Piling	7.0	15.3	(See Note D)
(e) Building	38.5	40.1	(See Note E)
(f) Building services	10.3	13.3	(See Note F)
(g) Drainage and external works	7.8	5.6	(See Note G)
(h) Furniture and equipment	–	3.5	(See Note H)
(i) Consultants' fees	–	2.9	(See Note I)
(j) Contingencies	6.3	8.6	
Total	<u>69.9</u>	<u>94.3</u>	
(k) Construction floor area	9 129 m <sup>2</sup>	9 489 m <sup>2</sup>	
(l) Construction unit cost {[(e) + (f)] ÷ (k)}	\$5,346/m <sup>2</sup>	\$5,628/m <sup>2</sup>	

**\* Assumptions for reference cost**

1. The estimation is based on the assumption that the school site is uncomplicated and without unusual environmental restrictions. No allowance is reserved for specific environmental restrictions such as the provision of insulated windows, air-conditioning and boundary walls to mitigate noise impacts on the school.
2. No site formation works/geotechnical works are required as they are normally carried out by other government departments under a separate engineering vote before handing over the project site for school construction.
3. Piling cost is based on the use of 101 steel H-piles at an average depth of 30 metres, assuming that percussive piling is permissible. It also includes costs for pile caps, strap beams and testing. No allowance is reserved for the effect of negative skin friction due to fill on reclaimed land.
4. Cost for drainage and external works is for a 24-classroom primary school site area of 4 700 square metres built on an average level site without complicated geotechnical conditions, utility diversions, etc. (i.e. a “green-field” site).
5. No consultancy services are required.
6. Furniture and equipment costs are excluded as they are usually borne by the sponsoring bodies of new schools.
7. The reference cost for comparison purpose is subject to review regularly. D Arch S will review, and revise if necessary, the reference cost which should be adopted for future projects.

**Notes**

- A. Demolition of the existing MPS is required to make way for the construction of the new school building.
- B. Site formation is required to form the proposed platform levels for the construction of the new school building.
- C. Slope stabilisation work to the existing slope features is required to cater for the change in geotechnical/structure nature of the slopes resulting from the construction of the new school building.

- D. The piling cost is higher due to the adoption of a combined piling system of pre-bored rock-socketted H-pile with driven H-pile to suit the geotechnical and topographical conditions of the sloping site. The system comprises 125 pre-bored rock-socketted H-piles with an average depth of 30 metres and 110 driven H-pile with an average depth of 30 metres. Combined piling system is required because of the extreme variation in founding levels of the bedrock.
- E. The building cost is higher because of the larger CFA. This is due to the increased supporting/circulation areas needed in this non-standard school as a result of the physical constraints of the site which make the Year 2000 school design not adoptable here. D Arch S considers that the minor increase in CFA is justified and reasonable.
- F. The building services cost is higher because of the provision of air-conditioning as a noise mitigation measure and the provision of emergency power generator system to meet the fire services requirement.
- G. Drainage and external works costs are lower because of the smaller external area available to the new school building. The scale of such works is therefore smaller.
- H. The cost of furniture and equipment, estimated to be \$3.5 million, will be borne by the Government as the new school building will enable the new primary school section to operate on a whole-day basis.
- I. Consultants' fees are required for contract administration, site supervision and out-of-pocket expenses.