

For discussion
on 24 May 2000

PWSC(2000-01)28

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 - BUILDINGS

Education – Tertiary/other

85ET – Improvement works to existing government schools based on the recommendations of the Education Commission Report No. 5, phase 4

Members are invited to recommend to Finance Committee the upgrading of **85ET** to Category A at an estimated cost of \$382.1 million in money-of-the-day prices to enable improvement works to be carried out at 12 government schools in phase 4 of the School Improvement Programme.

PROBLEM

We need to carry out improvement works to 12 government schools (ten secondary and two primary schools) under phase 4 of the School Improvement Programme (SIP).

PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary of Education and Manpower, proposes to upgrade **85ET** to Category A at an estimated cost of \$382.1 million in money-of-the-day (MOD) prices for improvement works for 12 government schools under phase 4 of the School Improvement Programme (SIP). A list of the schools is at Enclosure 1.

/PROJECT

Enclosure 2 to PWSC(2000-01)28

School Name 學校名稱	Staff Room	Staff Common Room	Interview Room 1	Interview Room 2	Student Activity Centre	Computer Assisted Learning (CAL) Room	Preparation Room for CAL	Language Room	Additional Classroom	Multi-purpose Room	Conference Room	Deputy Principal's Office	Discipline Master's Office	Social Worker's Office	Multi-purpose Area in m ²
Shau Kei Wan Government Secondary School 筲箕灣官立中學	1	1	1	0	1	1	1	1	2	1	1	1	1	1	0
Tsuen Wan Government Secondary School 荃灣官立中學	1	1	0	0	1	1	1	1	2	0	0	0	0	0	0
Chiu Lut Sau Memorial Secondary School 趙聿修紀念中學	1	1	1	1	0	1	1	1	2	0	1	0	0	1	0
South Tuen Mun Government Secondary School 南屯門官立中學	1	1	1	1	0	1	1	1	2	1	1	1	1	1	0

Total number of schools = 12

PROJECT SCOPE AND NATURE

3. The objective of the SIP is to bring the facilities of primary and secondary schools up to prevailing standards, where practicable. Starting from phase 4, the scope of improvement works has been expanded so that the standards of existing schools can be upgraded as far as practicable to fall in line with the latest schedule of accommodation for new schools to be completed from the year 2000. Depending on the needs and circumstances (including site availability) of individual schools, we intend to provide the following additional facilities -

(a) Secondary schools -

additional classrooms, a language room, a computer-assisted learning/computer room, a preparation area for computer-assisted learning activities, a staff room, a staff common room, a discipline master's office, a school social worker's office, a deputy principal's office, two interview rooms, a conference room, a student activity centre, a multi-purpose room and a multi-purpose area; and

(b) Primary schools -

additional classrooms, a language room, a computer-assisted learning room, a preparatory area for computer-assisted learning activities, a library, a remedial teaching room, a staff room, a staff common room, a discipline master's office, two interview rooms, a conference room, a student activity centre and a multi-purpose area.

4. The improvement works fall under two categories, i.e. addition/alteration works within existing school buildings, or construction of extensions to existing school buildings (either in the form of an annex or a roof-top extension). The actual scope of works to be provided will depend on the needs and circumstances of each school. The checklist at Enclosure 2 sets out the additional facilities to be made available to each of the 12 schools upon completion of improvement works. We will also provide access for the disabled to these schools, where technically feasible.

5. We plan to start improvement works for these 12 schools in October 2000. Works will be staggered over time and it is anticipated that the final completion date will be December 2002.

JUSTIFICATION

6. The SIP was one of the recommendations of the Education Commission Report No. 5 (ECR5) which was endorsed by the Executive Council in February 1993. The SIP involves some 900 existing schools and will be carried out in eight phases. The first phase commenced in mid-1994. Up to now, improvement works have been completed in 300 schools under phases 1 to 3, and work is in progress in a further 80 schools. We have completed feasibility studies for 114 schools in phase 4 (including 31 government and 83 aided schools) as well as 42 schools in phase 2A (formally phases 1 and 2 schools which were deferred because their scope for improvement was limited).

7. The average improvement cost per school has increased from \$11 million in phase 1 to \$18 million in phase 2 and \$28 million in phase 3. We estimate the comparable cost will be \$36 million in phase 4. Part of the reason for the increases over the years is that we have expanded the scope of works to provide for more improvement items. For example, starting from phase 2, access for disabled persons is provided wherever feasible, in compliance with the provisions of the Disability Discrimination Ordinance. Starting from phase 4, the scope of works has been further expanded as indicated in paragraph 3 above. However, we cannot rule out the possibility that some of the increases are related to other factors. In view of this, it is necessary to review the present steps and procedures of implementing the SIP to assess whether there are more cost-effective ways of carrying out the SIP to ensure that public money is properly spent. We commissioned a consultant in early 2000 to undertake the review.

8. Against this background, we consider it prudent to proceed only with schools in phases 2A and 4 which can be upgraded at a relatively low cost in the first instance. In selecting these schools, our basic yardstick is that the estimated cost of improvement works does not exceed one-third of the standard cost for constructing a new school¹. Nevertheless, a school will be included if

/early

¹ Standard costs for the construction of a primary school (30 classrooms) and a secondary school are respectively \$86.9 million and \$102.3 million in December 1999 prices.

early improvement works are necessary to implement such education initiatives as curriculum reform, abolition of floating classes, etc. even if the cost threshold is exceeded. On this basis, 35 aided schools (18 secondary schools and 17 primary schools) and 12 government schools have been selected to proceed with improvement works prior to the conclusion of the consultancy review. The subject of this paper concerns the 12 government schools. Funding approval to carry out improvement works for the aided schools will be sought under projects **19EC** and **20EC** (see PWSC paper referenced PWSC(2000-01)29).

9. The consultant has just completed the cost-effectiveness review and has given us a verbal report outlining its broad conclusions. The consultant is of the view that SIP can be delivered cost-effectively. Amongst various recommendations, the consultant considers that to allow for more effective cost control, a mechanism for determining the cost threshold of improvement works for individual schools should be established. The consultant has recommended adopting two criteria to help determine the scope of works for SIP. One criterion is the cost of improvement works as a percentage of the cost of building a new school. The consultant considers it reasonable that the cost of improvement works for a school should not exceed about 40% of the construction cost of a new school. The other criterion is the average construction cost per square metre for the additional net floor area to be provided through SIP. According to our preliminary assessment, it would be cost effective to proceed with the SIP for all of the remaining 81 schools in phases 2A and 4 for which improvement works are technically feasible, with over half undergoing the full scope of works. Adjustments will be made to the scope of works for the others. We shall shortly finalise the list of schools indicating which will undergo full scope and which will have adjustments, and are aiming to provide details in an information note to this Committee. We will seek funding support from this Committee to enable improvement works to these 81 schools to commence as soon as possible. As for the 28 schools which are technically non-feasible, we will explore other improvement options, including in-situ redevelopment or reprovisioning. If individual schools require urgent and small-scale improvement items, we will redeploy existing resources to carry out the necessary works for schools on a phased basis starting from this summer.

FINANCIAL IMPLICATIONS

10. We estimate the total capital cost of **85ET** to be \$382.1 million in MOD prices (see paragraph 11 below), made up as follows -

/(a)

	\$ million	
(a) Site formation	0.6	
(b) Piling	33.9	
(c) Building	168.3	
(d) Building services	90.5	
(e) Drainage and external works	20.8	
(f) Furniture and equipment	20.5	
(g) Cabling and computer relocation cost	1.4	
(h) Consultants' fees	7.8	
(i) Contingencies	15.2	
Sub-total	359.0	(in December 1999 prices)
(j) Provision for price adjustment	23.1	
Total	382.1	(in MOD prices)

A breakdown by man months of the cost estimate for consultants' fee is at Enclosure 3.

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

Year	\$ million (Dec 1999)	Price adjustment factor	\$ million (MOD)
2000 – 01	27.6	1.00000	27.6
2001 – 02	221.0	1.04500	230.9
			/2002 - 03

Year	\$ million (Dec 1999)	Price adjustment factor	\$ million (MOD)
2002 – 03	89.5	1.10770	99.1
2003 - 04	20.9	1.17416	24.5
	<hr/> 359.0 <hr/>		<hr/> 382.1 <hr/>

12. We derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period from 2000 to 2004. We will tender the contracts on a fixed-price lump-sum basis because we can clearly define the scope of works in advance, leaving little room for uncertainty. We consider the project cost of this proposal reasonable as compared with similar projects.

13. We estimate the additional annually recurrent expenditure of the project to be \$12.0 million.

PUBLIC CONSULTATION

14. The SIP is one of the recommendations of ECR5 and has been implemented since 1994. The programme has generated considerable public interest in the past year. LegCo Members and the education sector have been urging Government to proceed with improvement works for schools in the remaining phases of the programme. The 12 schools concerned in this paper have been involved in the planning and design stages of the proposed works.

ENVIRONMENTAL IMPLICATIONS

15. The project will not cause any long-term environmental adverse impact. For those additional rooms in schools that will be subject to adverse noise impact, we will provide window insulation and air conditioning as recommended in the "Noise Abatement Measure in School Programme" at an estimated cost of \$12.5 million. We have included these requirements in the overall project estimate.

16. During construction, we will control noise, dust and site run-off nuisances through the implementation of pollution control measures recommended by the Director of Environmental Protection for SIP. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, as well as frequent cleaning and watering of the site, etc.

17. We estimate that some 3 650 cubic metres of public fill will be delivered to public filling areas and 500 cubic metres of construction and demolition (C&D) waste will be disposed of at landfills. Ways of minimizing the generation of C&D materials were considered at the planning and design stages. We will require the contractor to implement necessary measures to minimize the generation of C&D materials and to reuse and recycle C&D materials. We will control the disposal of C&D materials to designated public filling facilities and/or landfills through a trip ticket system, and record the disposal, reuse and recycling of C&D materials for monitoring purposes.

LAND ACQUISITION

18. The project does not require any land acquisition.

BACKGROUND INFORMATION

19. We upgraded this project to Category B in September 1996. In February 1998, Finance Committee approved the upgrading of part of **85ET** as **87ET**, entitled "Improvement works to existing government schools based on the recommendations of the Education Commission Report No. 5 – phase 4 – site investigation and consultants' fees" to Category A at an estimated cost of \$ 161.7 million in MOD prices. We appointed a project management consultant in June 1998 to undertake the associated project management works. We then appointed project design consultants in October 1998 to carry out site investigations, feasibility studies, detailed design and contract documents for the improvement works. The consultants completed the feasibility studies for all the schools in April 1999. Against the background mentioned in paragraphs 7 and 8 above, the consultants were instructed to conduct a further feasibility study for each of the 12 selected schools in November 1999 for completion in January 2000. The consultants started detailed design and contract documentation in February 2000 and April 2000 for completion in August 2000 and June 2001 by phases respectively.

20. We estimate that the proposed works will create some 535 jobs with a total of 8 490 man months, comprising eight professional staff, 22 technical staff and 505 labourers during the construction period.

Education and Manpower Bureau
May 2000

(PWSC0277/WIN11)

**85ET -Improvement works to existing government schools
based on the recommendations of the
Education Commission Report No. 5 – phase 4**

List of government schools under phase 4 of SIP

(A) Secondary School (10)

1. Kwun Tong Government Secondary School
2. Sha Tin Government Secondary School
3. Helen Liang Memorial Secondary School (Shatin)
4. Clementi Secondary School
5. Sir Ellis Kadoorie Secondary School (Shatin)
6. Tseung Kwan O Government Secondary School
7. Shau Kei Wan Government Secondary School
8. Tsuen Wan Government Secondary School
9. Chiu Lut Sau Memorial Secondary School
10. South Tuen Mun Government Secondary School

(B) Primary Schools (2)

1. Li Cheng Uk Government Primary School
2. Sir Ellis Kadoorie (Sookunpo) Primary School

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DETAILS OF CONSULTANTS' FEES

Breakdown of estimates of consultants' fees

Category of works/items			Estimated man months	Average MPS* salary point	Multiplier factor	Estimated fee (\$ million)
(I) Contract administration						
(a) Architectural discipline	Professional		15.9	40	2.4	2.4
	Technical		19.8	16	2.4	1.0
(b) Building services discipline	Professional		4.6	40	2.4	0.7
	Technical		5.9	16	2.4	0.3
(c) Structural engineering discipline	Professional		4.6	40	2.4	0.7
	Technical		5.9	16	2.4	0.3
(d) Quantity surveying discipline	Professional		11.3	40	2.4	1.7
	Technical		13.9	16	2.4	0.7
					Total	7.8

* 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 including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. (At 1.4.1999, MPS pt. 40 = \$62,780 p.m. and MPS pt. 16 = \$21,010 p.m.).
2. The consultants' fees for the work during the construction stage formed an optional part of the lump sum price quoted by the consultants selected to carry out the feasibility study, project design and tender documentation mentioned in paragraph 19 of the paper. Subject to Members' approval to upgrade **85ET** to Category A, the Director of Architectural Services will direct the necessary works to be carried out.