

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 - CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Education Subventions

30EC - Construction works for schools in the final phase of the School Improvement Programme

Members are invited to recommend to Finance
Committee -

- (a) the upgrading of part of **30EC**, entitled
“Construction works for schools in the final phase
of the School Improvement Programme (second
batch)”, to Category A at an estimated cost of
\$1,223.5 million in money-of-the-day prices; and
- (b) the retention of the remainder of **30EC** in
Category B.

PROBLEM

Many of the existing public sector schools in Hong Kong were built to old planning standards which cannot meet the requirements arising from the changes in curriculum and teaching methods in recent years. These schools require additional space and facilities in order to meet the current standards.

/PROPOSAL

PROPOSAL

2. The Director of Education, on the advice of the Director of Architectural Services (D Arch S) and with the support of the Secretary for Education and Manpower, proposes to upgrade part of **30EC** to Category A at an estimated cost of \$1,223.5 million in money-of-the-day (MOD) prices to carry out improvement works for 40 aided schools (18 secondary, 16 primary and six special schools) in the final phase of the School Improvement Programme (SIP).

PROJECT SCOPE AND NATURE

3. We propose to upgrade facilities of schools in the final phase of the SIP to the year 2000 school design as far as practicable within a budget ceiling. As a general guide, the budget ceiling¹ for each school (inclusive of consultancy fees, furniture and equipment, and other related costs) is set at 42% of the average cost of construction of a new school of the same type and size, based on a consultancy review on the cost effectiveness of the SIP conducted in 2000. However, the budget ceiling for a school may in exceptional cases exceed the 42% limit to take account of such considerations as land issues (e.g. cost of site formation for additional land grant), age and condition of existing buildings, and educational factors.

4. The full scope of works for schools² in the final phase of the SIP includes the following facilities -

(a) Core items

These are items required by statute or are essential to maintaining quality teaching and learning activities and should be fully covered in all the SIP projects as far as practicable. The core items include additional classrooms to meet various policy objectives, a computer-assisted learning room, a language room, staff rooms, library (for primary schools) and, if necessary, a transformer room. A school which cannot include all core items will be classified as a special case for individual consideration.

/(b)

¹ The current budget ceiling in September 2001 prices for the SIP purposes for a secondary school with 30 classrooms is \$41.9 million while that for a primary school of 30 classrooms is \$34.9 million.

² Facilities provided to special schools will follow the same principles as those for both secondary and primary schools. As the needs for special schools will vary depending on the nature of their respective services, we have consulted the special schools to agree on the facilities to be provided.

(b) Other items

Schools will be allowed to prioritise, within the budget ceiling, their requirements for other items in the schedule of accommodation for the year 2000 school design, on top of the facilities mentioned in (a) above. These items can include additional classrooms, a preparation room for computer-assisted learning, a multi-purpose room, small group teaching rooms, a student activity centre, a guidance activity room, interview rooms, a conference room, a staff common room, a deputy principal's office, a school social worker's office, a discipline master's office, and a multi-purpose area.

5. The scope of work for each of the 40 schools is shown at Enclosure 1. We plan to start construction works for a majority of the second batch of schools before the end of 2002. Works will be staggered over time with the majority to be completed by early 2005.

JUSTIFICATION

6. The SIP was one of the recommendations in the Education Commission Report No. 5. It involves some 850 existing schools. The proposed improvement works, when completed, will provide additional space and updated facilities to meet current requirements of teaching, out-of-class and supporting activities for both teachers and students.

7. Improvement works for 370 schools have already been completed with works in progress for another 137 schools, under phases 1 to 4 of the SIP. On 9 February 2001, Finance Committee gave approval under **28EC** for the engagement of consultants to carry out pre-construction works for the remaining 342 schools in the final phase of the SIP. Since then, 21 schools have withdrawn from the programme and one school previously considered non-feasible for improvement works was reinstated, leaving a total of 322 schools in the final phase.

8. Architectural Services Department (Arch SD) will continue to act as the works agent for 265 schools in the final phase. The other 57 schools have chosen to carry out the works themselves under a self-delivery mode. On 27 February 2002, this Subcommittee recommended the upgrading of part of

30EC to Category A so as to proceed with the first batch of schools (59 schools) in the final phase of the SIP under the Arch SD delivery mode. The feasibility studies of the second batch of schools (40 schools) under the Arch SD delivery mode have now been completed and improvement works for them are considered technically feasible. Detailed designs are in progress. We now seek funding to proceed with the improvement works for these 40 schools.

9. Feasibility studies for the remaining schools are in progress. We will seek funding in batches within 2002 for those schools at which improvement works are found to be technically feasible. Our target is to complete all improvement works under the SIP by the end of the 2004/05 school year.

FINANCIAL IMPLICATIONS

10. We estimate the capital cost of implementing the works, including consultants' fees for the construction stage, to be \$1,223.5 million in MOD prices (see paragraph 11 below), made up as follows -

	\$ million
(a) Site formation	28.7
(b) Sub-structure	137.2
(c) Building	479.2
(d) Building services	295.6
(e) Drainage and external works	78.0
(f) Furniture and equipment ³	61.2
(g) Cabling and computer relocation	7.3
(h) Consultants' fees -	88.6
(i) Contract administration	21.9
(ii) Project management	12.4
(iii) Site supervision staff cost	54.3

/(i)

³ Based on the standard furniture and equipment to be provided for the additional rooms.

		\$ million	
	(i) Contingencies	67.8	
	Sub-total	1,243.6	(in September 2001 prices)
	(j) Provision for price adjustment	(20.1)	
	Total	1,223.5	(in MOD prices)

We consider the above project cost estimate reasonable as compared with similar projects implemented under previous phases of the SIP. A breakdown of the estimate for consultants' fees by man-months is at Enclosure 2.

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 – 03	18.6	0.98625	18.3
2003 – 04	422.1	0.98378	415.3
2004 – 05	504.1	0.98378	495.9
2005 – 06	235.4	0.98378	231.6
2006 – 07	54.2	0.98378	53.3
2007 – 08	9.2	0.98378	9.1
	1,243.6		1,223.5

12. We derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period from 2002 to 2008. We will deliver the works through fixed-price lump-sum contracts because we can clearly define the scope of works in advance, leaving little room for uncertainty.

13. We estimate the additional annual recurrent expenditure for these schools to be \$25.1 million which includes staff costs of additional janitors, and costs of maintenance and electricity of additional lifts and rooms.

PUBLIC CONSULTATION

14. At a motion debate in May 2000, Legislative Council Members urged the Government to complete improvement works for all schools remaining in the SIP as soon as possible. At a workshop held by Education Department in August 2000, most of the major school sponsoring bodies welcomed the implementation of the final phase of the SIP and supported the proposal to give schools an option to appoint their own consultants and contractors to carry out the improvement works with government subventions.

ENVIRONMENTAL IMPLICATIONS

15. Improvement works for the schools in the second batch of **30EC** will not cause any long-term adverse environmental impact. For those additional rooms in schools 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 \$9.5 million. We have included this amount as part of the building services in the project estimate.

16. 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 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.

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

18. D Arch S will require the 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. D Arch S will ensure that day-to-day operations on sites comply with the approved WMPs. D Arch S 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 contractors will be required to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes. We estimate that the proposed works will generate about 9 389 cubic metres (m³) of C&D materials. Of these, we will reuse about 1 878 m³ (20%) on site, 6 103 m³ (65%) as fill in public filling areas⁴, and dispose of 1 408 m³ (15%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$176,000 (based on a notional cost⁵ of \$125/m³).

LAND ACQUISITION

19. The proposed works do not require land acquisition.

BACKGROUND INFORMATION

20. A consultancy review on the cost-effectiveness of the SIP was completed in 2000. The review concluded that the SIP could be delivered cost-effectively. It recommended two guidelines for determining whether a school should be included in the SIP. First, the cost of improvement works should not normally be more than 42% of the average construction cost of a new school of the same type and size. Secondly, the average construction cost per square metre for the additional net floor area (NFA) to be provided through the SIP should not be higher than a “trend line” as illustrated below -

/1 400 m²

⁴ 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.

⁵ This estimate has taken into account the cost for developing, operating and restoring the landfill 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/m³), 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.

Additional NFA provided	Cost per m² (at 2000 price level)
1 400 m ²	\$30,000
1 000 m ²	\$42,000
600 m ²	\$52,000

If the SIP project estimate exceeds the 42% threshold or if the average cost per NFA is way above the “trend line”, it will be necessary to bring down the project cost by adjusting the scope of works. In exceptional circumstances, we may exceed the threshold to take account of such considerations as land issues, age and condition of buildings, and educational factors.

21. We estimate that the proposed works will create some 1 430 jobs with a total of 28 200 man-months, comprising 45 professional staff, 100 technical staff and 1 285 labourers.

Education and Manpower Bureau
March 2002

30EC - Construction works for schools in the final phase of the School Improvement Programme (second batch)

(a) Improvement works to be provided to 18 aided secondary schools

School Name	Core items				Other items													Other Y2K facilities (no. of rooms)
	Classroom	Computer-assisted learning (CAL) room	Language room	Staff room	Additional classroom	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Guidance activity room	Interview room	Conference room	Staff common room	Deputy principal's office	School social worker's office	Discipline master's office	Multi-purpose area	
1 Bishop Hall Jubilee School	0	1	1	1	2	1	1	1	1	0	2	0	1	1	0	1	1	0
2 Buddhist Wong Fung Ling College	0	1	1	2	0	1	1	3	1	1	2	1	1	2	1	1	1	0
3 Chan Sui Ki (La Salle) College	0	1	1	1	0	1	1	3	1	1	2	1	1	2	0	1	1	1
4 Christian Alliance Cheng Wing Gee College	1	1	1	1	2	1	1	3	1	1	2	1	1	1	1	1	0	0
5 Henrietta Secondary School	0	1	1	1	4	1	1	1	1	0	2	1	1	1	1	0	1	0
6 Ho Fung College (Sponsored by Sik Sik Yuen)	1	1	1	1	0	1	1	3	1	1	2	1	1	2	1	1	0	1
7 Hoi Ping Chamber of Commerce Secondary School	0	1	1	1	5	0	1	2	1	0	2	0	1	0	1	0	1	0
8 Holy Family Canossian College	0	1	1	1	3	1	1	0	0	1	1	1	0	0	0	1	1	0
9 Holy Trinity College	0	1	1	1	2	1	1	2	1	1	2	1	1	2	0	1	0	1
10 Lions College	4	0	0	1	0	0	1	3	1	0	1	1	0	2	0	0	0	0
11 Ma On Shan St. Joseph's Secondary School	0	1	1	1	0	1	1	3	1	0	2	1	1	1	1	1	1	0
12 Maryknoll Fathers' School	0	1	1	1	0	1	1	0	1	0	2	1	1	2	0	0	1	1
13 Munsang College	0	1	1	0	6	1	1	3	1	1	0	0	0	0	0	0	1	0
14 Our Lady's College	0	1	1	1	2	1	1	0	1	1	0	1	1	0	0	0	0	1
15 Precious Blood Secondary School	0	1	1	2	0	1	1	0	1	1	2	1	1	0	0	1	1	0
16 San Wui Commercial Society Chan Pak Sha School	0	1	0	1	3	1	1	2	1	0	1	1	1	0	1	1	1	0
17 St. Teresa Secondary School	0	1	1	0	2	1	0	0	1	1	2	1	1	0	0	1	0	1
18 Tang King Po School	0	1	1	1	0	1	1	3	1	1	1	0	0	0	0	0	1	1

(b) Improvement works to be provided to 16 aided primary schools

School Name	Core items					Other items													
	Classroom	Computer-assisted learning (CAL) room	Language room	Staff room	Library	Additional classroom	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Guidance activity room	Interview room	Conference room	Staff common room	Deputy headmaster's office	Student guidance officer's room	Discipline master's office	Multi-purpose area	Other Y2K facilities (no. of rooms)
1 Buddhist Lam Bing Yim Memorial School (Sponsored by HKBA)	0	1	1	1	1	0	1	1	0	0	0	0	1	0	0	1	0	0	0
2 Buddhist Lau Tin Sang Primary School	0	1	1	1	1	0	1	1	1	1	0	2	1	0	0	0	0	0	1
3 Ching Chung Hau Po Woon Primary School	0	1	1	0	0	0	1	1	3	1	1	2	1	1	1	0	1	1	1
4 CNEC Ta Tung School	0	1	1	1	1	0	1	1	2	1	0	1	1	0	0	0	1	0	1
5 Fresh Fish Traders' School	0	1	1	1	1	0	1	0	0	0	1	1	1	1	1	0	0	0	0
6 Ho Shun Primary School (Sponsored by Sik Sik Yuen)	0	1	1	1	1	2	0	1	2	1	0	2	1	1	0	0	1	0	1
7 Hok Shan School	0	1	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1
8 HKTA Yuen Yuen Primary School	0	1	1	1	1	0	1	0	1	1	0	1	1	1	1	0	1	0	0
9 Hung Hom Kaifong Association Primary School	0	1	1	1	1	0	0	0	2	0	0	0	0	1	0	1	0	1	0
10 Islamic Primary School	0	1	1	1	1	0	1	1	2	1	0	2	1	1	1	1	1	1	2
11 Li Sing Tai Hang School	0	1	1	1	0	0	1	0	2	0	0	0	1	0	1	0	1	0	0
12 Po On Comm Assn Wan Ho Kan Primary School	0	1	1	1	0	0	1	1	1	1	1	2	1	1	1	0	1	1	1
13 SKH St. Timothy's Primary School	0	1	1	1	1	0	0	0	2	0	0	0	0	1	1	0	1	0	0
14 SKH Yat Sau Primary School	0	1	1	1	1	0	1	1	3	1	1	1	1	1	1	0	0	0	2
15 San Wui Commercial Society Kowloon School	0	1	1	2	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0
16 St. Basil's Primary School	0	1	1	1	1	0	1	1	3	1	1	2	1	1	1	1	1	1	4

(c) Improvement works to be provided to six aided special schools

School Name		Core items				Other items in standard schedule of accommodation								
1	Jockey Club Elaine Field School - The Spastic Assn of HK	Computer-assisted learning (CAL) room	Library	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Staff room	Interview room	Conference room	Staff common room	Workshop for artisan	Printing room	
		1	1	1	1	1	1	1	1	2	1	1	1	1
2	Hong Chi Morninghill School Tsui Lam	CAL room	Library	Medical inspection room	Preparation room for CAL	Small group teaching room	Student activity centre	Interview room	Conference room	Staff common room	Multi-purpose area	Hall		
		1	1	1	1	1	1	2	1	1	1	1		
3	Hong Chi Morninglight School Wah Fu	CAL room	Library	Medical inspection room		Conference room								
		1	1	1		1								
4	Caritas Resurrection School	CAL room	Library	Preparation room for CAL	Multi-purpose room	Small group teaching room	Hall	Staff room	Interview room	Conference room	Staff common room	Printing room		
		1	1	1	1	1	1	1	2	1	1	1		
5	Rhenish Church Grace School	CAL room	Library	Preparation room for CAL	Multi-purpose room	Small group teaching room	Student activity centre	Interview room	Conference room	Staff room	Multi-purpose area	Staff common room	Hall	Pantry
		1	1	1	1	1	1	2	1	1	1	1	1	1
6	HKSYC&IA Chan Nam Chong Memorial School (Special Section)	CAL room	Multi-purpose room	Preparation room for CAL		Small group teaching room	Student activity centre	Interview room	Conference room	Staff common room	Staff room	Resource room		
		1	1	1		1	1	2	1	1	1	1		

Note: The scope of works for special schools varies with the school types to meet the specific needs of the students.

30EC - Construction works for schools in the final phase of the School Improvement Programme (second batch)

Breakdown of the estimate for consultants' fees

Consultants' staff cost			Estimated man-months	Average MPS* salary point	Multiplier	Estimated fee (\$ million)
(a)	Contract administration	Professional	110.4	38	2.4	16.0
		Technical	126.0	14	2.4	5.9
					Sub-total	21.9
(b)	Project management	Professional	85.5	38	2.4	12.4
					Sub-total	12.4
(c)	Site supervision by resident site staff of the consultants	Professional	374.0	38	1.7	38.4
		Technical	479.4	14	1.7	15.9
					Sub-total	54.3
					Total	88.6

***MPS = Master Pay Scale**

Notes

- (1) A multiplier of 2.4 is applied to the average MPS point to estimate the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier of 1.7 is applied in the case of site staff supplied by the consultants. (At 1 April 2001, MPS point 38 is \$60,395 per month and MPS point 14 is \$19,510 per month.)
- (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 pre-construction works mentioned in paragraph 7 of the paper. Subject to Members' approval to part upgrade 30EC, the Director of Architectural Services will direct the necessary works to be carried out.