

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) to upgrade part of **30EC**, entitled “Construction works for schools in the final phase of the School Improvement Programme (first batch)”, to Category A at an estimated cost of \$1,758.4 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 \$1,758.4 million in money-of-the-day (MOD) prices to carry out improvement works for 59 aided schools (27 secondary, 27 primary and five 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 it is 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 59 schools is shown at Enclosure 1. We plan to start construction works in mid-2002. Works will be staggered over time with majority of the schools in the first batch to be completed by mid-2004.

JUSTIFICATION

6. The SIP was one of the recommendations contained 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 367 schools have already been completed, with works in progress for another 140 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, 20 schools have withdrawn from the programme and one school previously considered non-feasible for improvement works was reinstated, leaving a total of 323 schools in the final phase.

/8.

8. Architectural Services Department (Arch SD) will continue to act as the works agent for 266 schools in the final phase. The other 57 schools have chosen to carry out the works themselves under a self-delivery mode. Feasibility studies for 59 schools under the Arch SD delivery mode have 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 59 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 school year 2004/05.

FINANCIAL IMPLICATIONS

10. We estimate the capital cost of implementing the works, including consultants' fees for the construction stage, to be \$1,758.4 million in MOD prices (see paragraph 11 below), made up as follows -

	\$ million
(a) Site formation	19.3
(b) Sub-structure	205.7
(c) Building	665.6
(d) Building services	409.0
(e) Drainage and external works	119.3
(f) Furniture and equipment ³	98.0
(g) Cabling and computer relocation	10.8
(h) Consultants' fees -	124.5
(i) Contract administration	31.6
(ii) Project management	14.6

/(iii)

³

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

		\$ million	
(iii) Site supervision staff cost	78.3		
(i) Support services ⁴		10.2	
(j) Contingencies		84.2	
	Sub-total	1,746.6	(in September 2001 prices)
(k) Provision for price adjustment		11.8	
	Total	1,758.4	(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	239.7	0.99700	239.0
2003 – 04	816.0	1.00398	819.2
2004 – 05	497.0	1.01101	502.5
2005 – 06	154.4	1.01808	157.2
2006 – 07	39.5	1.02521	40.5
	1,746.6		1,758.4

/12.

⁴ Support services to the entire SIP final phase are provided through the employment of non-civil service contract staff in the Buildings Department. Six professional and six technical staff will be required from 2004 - 05 to 2005 - 06.

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 2007. 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 \$41.4 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 organisations 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 first 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 \$24.1 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 13 700 cubic metres (m³) of C&D materials. Of these, we will reuse about 2 740m³ (20%) on site, 8 905m³ (65%) as fill in public filling areas⁵, and dispose of 2 055m³ (15%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$256,875 (based on a notional cost⁶ of \$125/m³).

LAND ACQUISITION

19. The proposed works do not require land acquisition.

/BACKGROUND

⁵ 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.

⁶ 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.

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. Firstly, 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 -

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 2 212 jobs with a total of 39 888 man-months, comprising 86 professional staff, 156 technical staff and 1 970 labourers.

Education and Manpower Bureau
February 2002

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

(a) Improvement works to be provided to 27 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	

1	Aberdeen Baptist Lui Ming Choi College	0	1	1	1	0	1	1	3	1	1	2	1	1	1	1	1	1	0
2	Buddhist Hui Yuan College (Sponsored by HKBSA)	0	1	1	1	2	1	1	3	1	0	2	1	1	2	0	1	1	0
3	Buddhist Leung Chik Wai College	0	1	1	1	2	1	1	3	1	1	2	1	1	2	1	1	0	0
4	Buddhist Ma Kam Chan Memorial English Secondary School	0	1	1	1	0	1	0	2	1	1	2	1	1	2	1	1	1	1
5	Confucian Ho Kwok Pui Chun College	0	1	1	2	3	1	1	3	1	0	1	1	1	2	0	1	1	0
6	Fung Kai Liu Man Shek Tong Secondary School	0	1	1	1	4	1	1	1	1	1	2	1	1	0	0	0	1	0
7	Hong Kong Teachers Assn Lee Heng Kwei Secondary School	0	1	1	2	2	1	1	3	1	0	0	1	1	0	0	0	0	1
8	Hong Kong True Light College	0	1	1	0	0	1	1	2	1	1	2	1	1	1	1	1	0	0
9	Ju Ching Chu Secondary School (Yuen Long)	0	1	1	1	4	1	1	0	1	1	2	1	1	2	1	1	1	3
10	Law Ting Pong Secondary School	0	1	1	1	0	1	1	3	1	1	2	1	1	2	1	1	1	0
11	Lingnan Hang Yee Memorial Secondary School	0	1	1	1	1	1	1	0	1	1	0	1	1	2	1	1	1	1
12	Ma On Shan Tsung Tsin Secondary School	0	1	1	1	3	1	1	3	1	1	2	1	1	2	1	1	0	0

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	

13	Maryknoll Convent School (Secondary Section)	0	1	0	1	0	1	1	1	1	1	2	0	0	1	1	1	1	0
14	Nam Wah Catholic Secondary School	0	1	1	2	0	1	0	3	1	0	2	1	1	0	1	1	1	1
15	New Asia Middle School	0	1	1	1	0	1	1	1	1	1	2	1	0	1	0	1	1	1
16	Po On Comm Assn Wong Siu Ching Secondary School	0	1	1	1	0	1	1	3	1	0	2	1	1	2	1	1	1	0
17	QES Old Students Association Secondary School	0	1	1	1	4	1	1	1	1	1	2	1	1	2	0	0	1	0
18	San Wui Commercial Society Secondary School	0	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	0	0
19	SKH Li Fook Hing Secondary School	0	1	1	3	1	1	1	0	1	1	1	1	1	1	0	1	1	1
20	St. Francis of Assisi's College	0	1	1	1	4	1	1	2	1	1	2	1	1	1	0	0	1	1
21	AD&FDPOH Leung Sing Tak College	0	1	1	1	0	1	1	1	1	0	2	1	1	1	1	1	1	0
22	HKSYC&IA Wong Tai Shan Memorial College	0	1	1	1	0	1	0	2	1	0	2	1	1	0	1	0	1	0
23	The Y.W.C.A. Hioe Tjo Yoeng College	0	1	1	1	3	1	1	0	1	0	2	1	1	0	0	0	0	0
24	Tin Ka Ping Secondary School	0	1	1	1	2	1	1	1	1	1	2	1	1	2	1	1	1	0
25	Tsuen Wan Public Ho Chuen Yiu Memorial College	0	1	1	1	0	1	1	3	1	0	2	1	1	1	0	1	1	0
26	YCH Lan Chi Pat Memorial Secondary School	0	1	1	1	4	1	1	0	1	0	2	1	1	2	0	0	1	0
27	Yuen Long Merchants Association Secondary School	1	1	1	1	2	1	1	3	1	1	2	1	1	1	1	1	1	0

(b) Improvement works to be provided to 27 aided primary schools

School name	Core items					Other items											Other Y2K facilities (no. of rooms)
	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	

1	Bishop Paschang Memorial School	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Buddhist Bright Pearl Primary School	0	1	1	0	1	0	1	1	4	1	1	2	1	1	1	1	1	1	1	1	3
3	Buddhist Wong Cho Sum School	0	1	1	1	1	0	1	1	2	1	1	0	1	1	1	0	1	0	1	0	2
4	Buddhist Wong Sewai Memorial School	0	1	1	0	1	0	0	1	1	1	0	2	1	1	0	1	0	0	0	0	1
5	Chan Sui Ki Primary School	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
6	GCC&ITKD Cheong Wong Wai Primary School	0	1	1	1	1	0	1	1	4	1	1	2	1	1	1	1	1	1	1	1	3
7	Ho Lap Primary School (Sponsored by Sik Sik Yuen)	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Hoi Ping Chamber of Commerce Primary School	0	1	1	0	1	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0
9	HKTA Shun Yeung Primary School	0	1	1	1	1	0	1	1	1	1	1	2	1	1	1	0	1	1	1	1	1
10	HKWCA Wong Ming Him Memorial School	0	1	1	1	1	0	1	0	4	1	1	2	1	1	1	1	1	1	1	1	4
11	Iu Shan School	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
12	Man Kiu Association Primary School	0	1	1	1	1	0	1	0	2	1	0	0	1	1	0	0	0	0	1	0	0
13	SKH Lee Shiu Keung Primary School	0	1	1	1	1	0	1	1	1	1	1	2	1	1	1	0	1	1	1	1	1
14	Sai Kung Central Lee Siu Yam Memorial School	0	1	1	1	1	0	1	1	1	1	1	2	1	1	1	0	1	1	1	2	2

School name	Core items					Other items											Other Y2K facilities (no. of rooms)
	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	

15	Sha Tau Kok Central Primary School	0	1	1	0	1	0	0	1	0	0	1	0	1	1	0	0	0	0	0	
16	St. Bonaventure Catholic Primary School	0	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	2
17	St. Edward's Catholic Primary School	0	1	1	1	1	0	1	1	1	1	1	2	1	1	1	0	1	1	1	
18	The Hong Kong Taoist Association School	0	1	1	1	1	0	1	1	2	0	0	2	1	1	1	1	1	1	1	0
19	The Salvation Army Sam Shing Chuen Lau Ng Ying School	0	1	1	0	1	0	1	1	1	1	1	2	1	1	1	1	1	1	0	1
20	The Salvation Army Tin Ka Ping Primary School	0	0	1	1	1	0	0	1	4	1	1	2	1	1	1	1	1	0	1	
21	Tin Shui Wai Catholic Primary School	0	1	1	0	1	0	1	1	1	1	1	2	1	1	1	0	1	1	0	
22	Tin Sum Valley Public School	0	0	1	1	1	0	0	0	2	1	0	2	1	1	0	0	0	0	1	
23	Toi Shan Association Wong Tat To Memorial School	0	1	1	0	1	0	1	1	1	1	1	2	1	1	0	0	0	1	3	
24	Tsang Shing District Citizens' Assn Siu Leun School	0	1	1	1	1	0	1	1	3	1	0	2	0	1	0	1	0	0	1	
25	Wanchai School	0	1	1	1	0	0	0	1	1	1	0	1	0	1	1	1	1	0	1	
26	YCH Ho Sik Nam Primary School	0	1	1	0	1	0	1	1	3	1	0	2	1	1	0	1	1	0	1	
27	YPI&CA Lee Ng Sui Oi Memorial School	0	1	1	0	1	0	1	1	2	1	0	2	1	1	0	1	1	0	1	

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

School name	Core items			Other items in standard schedule of accommodation								
1 Buddhist To Chi Fat She Yeung Yat Lam Memorial School	Computer-assisted learning (CAL) room	Library		Multi-purpose room	Preparation room for CAL	Student activity centre	Interview room	Conference room	Staff common room	Hall	Printing room	
	1	1		1	1	1	3	1	1	1	1	
2 Ebenezer School				Student activity centre	Discipline master's office	Staff common room						
				1	1	1						
3 Hong Kong Christian Service Pui Oi School	Computer-assisted learning (CAL) room			Multi-purpose room	Preparation room for CAL	Conference room	Interview room	Resource room	Staff common room	Staff room	School social worker's office	Printing room
	1			1	1	1	2	1	1	1	1	1
4 The Salvation Army Shek Wu School	Computer-assisted learning (CAL) room	Library	Preparation room for CAL	Staff room	Conference room	Multi-purpose room	Student activity centre	Interview room	Resource room	Staff common room	Small group teaching room	Hall
	1	1	1	1	1	1	1	2	1	1	1	1
5 The Society of Boys' Centre – Shing Tak Centre School	Small group teaching room			Music/general purpose room	Art and design room	Resource room	Interview room	Staff room	Staff common room			
	1			1	1	1	3	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 (first 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	159.4	38	2.4	23.1
		Technical	181.5	14	2.4	8.5
Sub-total						31.6
(b)	Project management	Professional	100.7	38	2.4	14.6
		Technical				
Sub-total						14.6
(c)	Site supervision by resident site staff of the consultants	Professional	228.9	38	1.7	23.5
		Technical	1,652.2	14	1.7	54.8
Sub-total						78.3
Total						124.5

***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 site investigations and feasibility studies 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.