For discussion **PWSC(2008-09)59**
on 7 January 2009

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Education Subventions
29EA – Redevelopment of Sheng Kung Hui St. James' Primary School at Kennedy Road, Wan Chai

Members are invited to recommend to Finance Committee the upgrading of **29EA** to Category A at an estimated cost of $200.8 million in money-of-the-day prices for in-situ redevelopment of Sheng Kung Hui St. James' Primary School at Kennedy Road, Wan Chai.

PROBLEM

We need to redevelop Sheng Kung Hui (SKH) St. James' Primary School (the School) in Wan Chai district to improve the teaching and learning environment.

PROPOSAL

2. The Secretary for Education, on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **29EA** to Category A at an estimated cost of $200.8 million in money-of-the-day (MOD) prices for in-situ redevelopment of the School.

/PROJECT …..

PROJECT SCOPE AND NATURE

3. The proposed scope comprises the demolition of the existing substandard school premises and the construction of a new 30-classroom school premises, with the following facilities –

(a) 30 classrooms;

(b) six special rooms, including a computer-assisted learning room, a language room, a music room, a general studies room, a multi-purpose room and a visual arts room;

(c) three small group teaching rooms;

(d) a guidance activity room;

(e) two interview rooms;

(f) a staff room;

(g) a staff common room;

(h) a student activity centre;

(i) a conference room;

(j) a library;

(k) an assembly hall (which can also be used for a wide range of physical activities such as badminton, gymnastics and table-tennis);

(l) a multi-purpose area;

(m) a basketball court;

(n) a 35-metre (m) running track[1] on podium;

(o) a green corner[2]; and

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[1] Making optimal use of the space of the campus, a 35-m running track is 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.

(p) ancillary accommodation, including a lift and relevant facilities for the handicapped.

4. The redeveloped school premises 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. The school sponsor plans to start the demolition works in March 2009 and commence the construction works in October 2009 for completion in August 2012.

JUSTIFICATION

5. The School is currently a 24-classroom primary school with an enrolment rate of 87% in the 2008/09 school year. It is at present operating in mixed mode with 16 whole-day classes and 12 bi-sessional classes.

6. The existing school premises, being a standalone building, is co-located on the same private lot with SKH St. James' Church and St. James' Settlement. The school premises per se, occupying a small site area of about 2 300 m^2 with a building age of over 45 years, falls short of the current standard. Certain essential facilities for effective teaching and learning, such as general studies room, language room and student activity centre, are lacking. The current open space provision of about $1m^2$ per student also falls short of the latest planning standard. Besides, the school premises is dilapidated and requires frequent repair in recent years. The School was not included under the School Improvement Programme since any improvement works would be limited due to site constraints. In-situ redevelopment is considered to be the most cost-effective way to provide a quality teaching and learning environment for the teachers and students of the School. During the redevelopment period, the School will be decanted for operating in a vacant school premises in Wan Chai district.

7. To maximize site utilization, the school sponsoring body plans to carry out a comprehensive redevelopment of the co-located school premises, SKH St. James' Church and St. James' Settlement by adopting an integrated design approach. While the school premises will be redeveloped with Government subvention, SKH St. James' Church and St. James' Settlement will be redeveloped with private fund. Upon completion, **29EA** will provide 30 classrooms and other facilities for accommodating the School.

/**FINANCIAL** …..

FINANCIAL IMPLICATIONS

8. The school sponsor estimates the capital cost of the project to be $200.8 million in MOD prices (see paragraph 9 below). D Arch S has examined and endorsed the cost estimate which is made up as follows –

(a)	Demolition		5.5	
(b)	Site formation		19.6	
(c)	Piling		13.4	
(d)	Building		81.9	
(e)	Building services		28.0	
(f)	Drainage		0.8	
(g)	External works		5.1	
(h)	Additional energy conservation measures		1.9	
(i)	Furniture and equipment (F&E)		3.0	
(j)	Consultants' fees for –		3.5	
	(i) Contract administration	1.9		
	(ii) Site supervision	1.5		
	(iii) Out-of-Pocket Expenses	0.1		
(k)	Contingencies		15.6	
	Sub-total		178.3	(in September 2008 prices)
(l)	Provision for price adjustment		22.5	
	Total		200.8	(in MOD prices)

The school sponsor proposes to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the

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estimate for consultants' fees by man-months is at Enclosure 3. The construction floor area (CFA) of the new school premises under **29EA** is about 11 074 m^2. The estimated construction unit cost for the new school premises is $9,924 per m^2 of CFA in September 2008 prices. D Arch S considers this comparable to similar school projects built by the Government. A comparison of the reference cost for a 30-classroom primary school based on an uncomplicated site with no unusual environmental or geotechnical constraints with the estimated cost of **29EA** is at Enclosure 4.

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

Year	$ million (Sept 2008)	Price adjustment factor	$ million (MOD)
2009 – 10	9.2	1.04000	9.6
2010 – 11	28.5	1.08160	30.8
2011 – 12	94.1	1.12486	105.8
2012 – 13	42.9	1.16986	50.2
2013 – 14	3.6	1.21665	4.4
	178.3		200.8

10. 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 2009 to 2014. The school sponsor will deliver the demolition works of the existing school premises, the site formation and piling works, and the superstructure works of the new building complex through three lump-sum contracts as the school sponsor can clearly define the scope of works in advance. The contracts will provide for price adjustment to reflect market fluctuations in labour and material costs.

11. The cost of F&E, estimated to be $3.0 million, will be borne by the Government. This is in line with the existing policy.

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12. We estimate the annual recurrent expenditures for **29EA** to be $27.1 million.

PUBLIC CONSULTATION

13. We consulted the Wan Chai District Council on **29EA** on 15 July 2008. Members of the Council have no objection to the project.

14. We consulted the Legislative Council Panel on Education on 24 October 2005 on our review of the School Building Programme. Members noted our plan to proceed with reprovisioning and redevelopment projects. **29EA** is a project to redevelop an existing school which is operating in substandard premises.

ENVIRONMENTAL IMPLICATIONS

15. The school sponsor engaged a consultant to conduct a Preliminary Environmental Review (PER) for **29EA** in October 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 are as follows –

	Mitigation measures	**Estimated cost $ million (in September 2008 prices)**
	Insulated windows and air-conditioning for the following rooms –	
(a)	27 classrooms, one small group teaching room and three special rooms from 3/F to 7/F at the northern façade	3.1
(b)	three classrooms, one small group teaching room and one special room on 3/F, 4/F and 6/F at the eastern façade	0.4
(c)	one small group teaching room on 6/F at the western façade	0.1

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With such mitigation measures in place, the project would not be exposed to long term environmental impacts. The school sponsor has included the cost of the above mitigation measures as part of the building services in the project estimate at paragraph 8 above.

16. 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 sites, and the provision of wheel-washing facilities.

17. The school sponsor has considered measures (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects) in the planning and design stages to reduce the generation of construction waste where possible. In addition, the school sponsor 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[3]. The school sponsor 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.

18. The school sponsor 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. The school sponsor will ensure that the day-to-day operations on site comply with the approved plan. The school sponsor will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively will be controlled through a trip-ticket system.

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[3] 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.

19. The school sponsor estimates that the project will generate in total about 20 325 tonnes of construction waste. Of these, about 5 252 tonnes (25.8%) of inert construction waste will be used on site and 13 059 tonnes (64.3%) of inert construction waste will be delivered to public fill reception facilities for subsequent reuse. In addition, 2 014 tonnes (9.9%) of non-inert construction waste will be disposed at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $604,343 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[4] at landfills).

ENERGY CONSERVATION MEASURES

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

(a) occupancy and daylight sensors for lighting control;

(b) variable refrigerant volume air-conditioning units;

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

(d) light-emitting diode (LED) type exit signs; and

(e) automatic on/ off switching of lighting and ventilation fan inside the lift.

21. For renewable energy technology, the project has adopted photovoltaic system for generation of the electricity.

22. The project has incorporated greening features in the design of the school premises. Apart from features like planters, lawn, timber decking, potted plants, shrubs etc., the project will provide a landscape area on 9/F of the school building for environmental benefit.

23. For recycled feature, the project has adopted rainwater collection system for irrigation purpose.

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[4] 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.

24. The total estimated additional cost for adoption of the above features is around $1.9 million, which has been included in the cost estimate for this project. There will be about 8.1% energy savings in the annual energy consumption.

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

26. The project does not require any land acquisition.

BACKGROUND INFORMATION

27. We upgrade **29EA** to Category B in November 2005. The school sponsor engaged consultants to carry out the detailed design in June 2007, topographical survey and ground investigation work in January 2008, and PER in October 2008. We have charged the Government's contribution of $4.2 million to block allocation **Subhead 8100QX** "Alterations, additions, repairs and improvements to education subvented buildings". The consultants have carried out these services except for the preparation of tender documents which are being finalized.

28. Renovation works for the decanting vacant school premises are being carried out at an estimated cost of $3.3 million to bring the premises, which were constructed more than 40 years ago and vacated since 2007, up to the minimal standards required for temporary occupation by the School during its redevelopment. The works include conversion and fitting-out works for classrooms, special rooms and administrative area, renovation of existing lavatories, staircase and corridors, replacement of worn-out wiring, etc. We will charge this amount to block allocation **Subhead 8100QX**. After the School has moved into its new premises after redevelopment under **29EA**, the renovated decanting premises may be used to meet the accommodation needs of other schools.

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29. The proposed redevelopment will involve transplantation of five trees within the project site. All trees to be transplanted are not important trees[5].

30. We estimate that the proposed works will create about 165 jobs (149 for labourers and another 16 for professional/technical staff) providing a total employment of 2 900 man-months.

Education Bureau
December 2008

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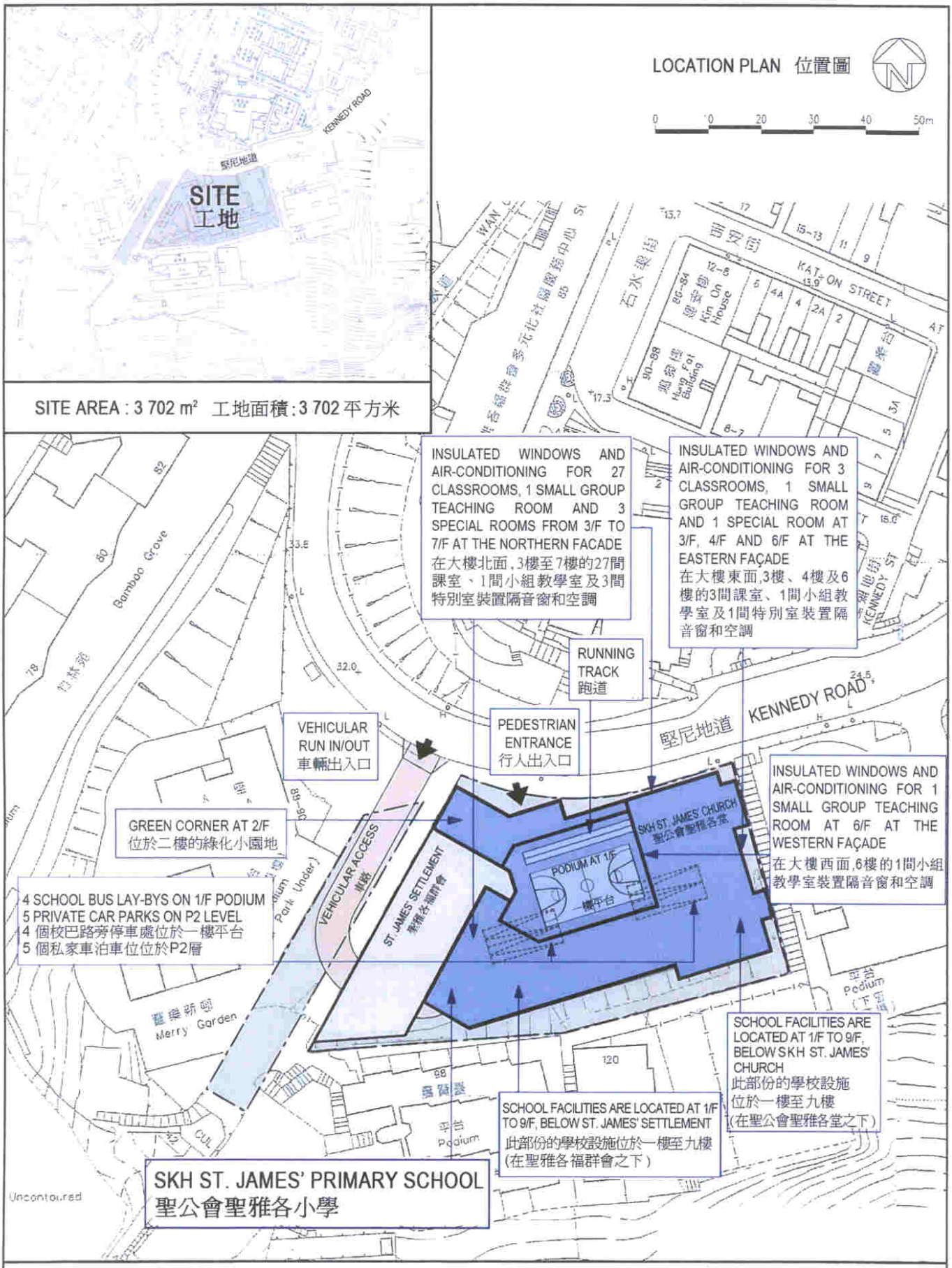
[5] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, trees as landmark of monastery or heritage monument, and trees in memory of an important person or event;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metres above ground level), or with height/canopy spread equal or exceeding 25 metres.



29EA - REDEVELOPMENT OF SHENG KUNG HUI ST. JAMES' PRIMARY SCHOOL AT KENNEDY ROAD, WAN CHAI

灣仔堅尼地道聖公會聖雅各小學重建計劃

從北面望向新建校舍的構思圖
VIEW OF THE NEW SCHOOL PREMISES FROM NORTHERN DIRECTION (ARTIST'S IMPRESSION)

從西面高處望向新建校舍的構思圖
AERIAL VIEW OF THE NEW SCHOOL PREMISES FROM WESTERN DIRECTION (ARTIST'S IMPRESSION)

29EA - REDEVELOPMENT OF SHENG KUNG HUI ST. JAMES' PRIMARY SCHOOL AT KENNEDY ROAD, WAN CHAI
灣仔堅尼地道聖公會聖雅各小學重建計劃

29EA – Redevelopment of Sheng Kung Hui St. James' Primary School at Kennedy Road, Wan Chai

Breakdown of the estimate for consultants' fees

				Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' staff costs						
	(i)	Contract administration (Note 2)	Professional	–	–	–	1.9
	(ii)	Site supervision (Note 3)	Technical	46	14	1.6	1.5
(b)	Out-of-pocket expenses (Note 4)						0.1
						Total	3.5

* 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 April 2008, MPS point 14 = $19,835 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 **29EA**. The assignment will only be executed subject to Finance Committee's approval to upgrade **29EA** 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.

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4. 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(2008-09)59

A comparison of the reference cost of a 30-classroom primary school project with the estimated cost of 29EA

$ million (in Sept 2008 prices)

		Reference cost*	**29EA**	
(a)	Demolition	–	5.5	(See note A)
(b)	Site formation	–	19.6	(See note B)
(c)	Piling	16.5	13.4	(See note C)
(d)	Building	92.5	81.9	(See note D)
(e)	Building services	21.5	28.0	(See note E)
(f)	Drainage	4.0	0.8	(See note F)
(g)	External works	15.0	5.1	(See note G)
(h)	Additional energy conservation measures	–	1.9	(See note H)
(i)	Furniture and equipment	–	3.0	(See note I)
(j)	Consultants' fees	–	3.5	(See note J)
(k)	Contingencies	15.0	15.6	
	Total	164.5	178.3	
(l)	Construction floor area	10 727 m^2	11 074 m^2	
(m)	Construction unit cost {[(d) + (e)] ÷ (l)}	\$10,630 / m^2	\$ 9,924 / m^2	

/* Assumptions

*** 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 112 steel H-piles at an average depth of 30 m, 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 standard 30-classroom primary school site area of 6 200m^2 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 for meeting new demand of school places.

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. Additional cost is required for demolition of the existing school premises.

B. Site formation works are required to form the platform level for construction of the screen wall for the new school premises because portions of the building area at levels L1, P3, P2 and P1 will cut into existing slope and therefore existing screen/ retaining wall at these levels will no longer be used. Hence, temporary and permanent site formation / excavation lateral support (ELS) works are necessary.

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C. The piling cost is lower because of shorter pile length in average, and the use of pre-bored socketted steel H piles due to shallow rock head level.

D. The building cost is lower because of sharing some of the costs, such as substructure, structural frame and external walls etc., with non-school portions.

E. The building services cost is higher because of shared provision of automatic sprinkler system, street fire hydrant system and generator set due to development requirement; and provision of air-conditioning as noise mitigation measures.

F. The cost of drainage works is lower because of smaller site area.

G. The cost of external works is lower because of smaller external area.

H. The additional cost is required for the provision of energy conservation measures.

I. The cost of furniture and equipment, estimated to be $3.0 million, will be borne by the Government. This is in line with the existing policy.

J. Consultants' fees are required for contract administration, site supervision and out-of-pocket expenses.