

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

### **HEAD 703 - BUILDING**

#### **Education - Primary**

**270EP - Primary school at Yee Shun Street, Chai Wan**

**271EP - Primary school in area 44, Fanling**

Members are invited to recommend to Finance Committee the upgrading of **270EP and 271EP** to Category A at estimated cost of \$96.7 million and \$104.2 million respectively in money-of-the-day prices for the construction of two 24-classroom primary schools in Chai Wan and Fanling.

### **PROBLEM**

There are not enough primary schools to meet the increase in demand for new school places and to implement the whole-day primary schooling policy.

### **PROPOSAL**

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Education and Manpower, proposes to upgrade the following projects to Category A at an estimated total cost of \$200.9 million in money-of-the-day (MOD) prices -

/(a).....

	<b>Project Estimate \$ million (MOD)</b>
(a) <b>270EP</b> - Primary school at Yee Shun Street, Chai Wan	96.7
(b) <b>271EP</b> - Primary school in area 44, Fanling	104.2
Total	<hr/> 200.9 <hr/>

### **PROJECT SCOPE AND NATURE**

3. The two primary schools are standard design 24-classroom school buildings as set out in Information Note PWSCI(98-99)12 submitted to Members in September 1998. Each school will have the below facilities. Site plans for **270EP** and **271EP** are attached at Enclosures 1 and 2 respectively for Members' reference.

- (a) 24 classrooms;
- (b) six special rooms, including a computer-assisted learning room and a language room;
- (c) four remedial teaching rooms;
- (d) a guidance activity/interview room;
- (e) two interview rooms;
- (f) two staff rooms and a staff common room;
- (g) a student activity centre;
- (h) a conference room;
- (i) a library;

/(j) .....

- (j) an assembly hall (which, together with the roof of the assembly hall block, can also be used for a wide range of physical activities such as badminton, gymnastics and table-tennis);
- (k) a multi-purpose area;
- (l) two basketball courts (one at ground level and the other at the rooftop of the assembly hall block); and
- (m) ancillary accommodation including a lift and relevant facilities for the handicapped.

D Arch S plans to start the construction works for **270EP** and **271EP** in January 2000 for completion in June 2001.

#### JUSTIFICATION

4. To meet the increase in demand for primary school places and to help achieve the policy target of enabling 60% of pupils in public sector schools to study on a whole-day basis by the commencement of the 2002/03 school year, the Director of Education (D of E) planned to build an additional 73 primary schools for completion between August 1998 and August 2002. To date, 18 of these schools have been completed, 38 schools are at various stages of construction<sup>1</sup>. Another three projects (five schools), **258EP**, **265EP** and **269EP** will be considered by Members at this meeting (see composite paper PWSC(1999-2000)58).

5. Eastern District currently has 27 public sector primary schools providing 562 classrooms. D of E forecasts that an additional 66 classrooms will be required to meet the increase in demand for school places by the school year 2002/03. Two primary schools projects **246EP** and **262EP** providing 54 classrooms have already been upgraded to Category A for completion by the start of the 2002/03 school year. **270EP** will eliminate the remaining shortfall and will also facilitate the conversion of an existing bi-sessional school into whole-day schools by administrative measures. The latter can be achieved, for instance, by diverting more primary one students through the Primary One Admission System to the new school, thus vacating more classrooms in the bi-sessional schools for

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<sup>1</sup> Among these 38 schools, 33 were approved by Finance Committee and five are funded by the Housing Authority.

conversion into whole-day operation.

6. North District currently has 34 public sector primary schools providing 483 classrooms. Whilst D of E forecasts that no additional classrooms are required to meet the increase in demand for school places by the 2002/03 school year, **271EP** will enable an existing bi-sessional primary school in the district to convert into whole-day operation.

### FINANCIAL IMPLICATIONS

7. We estimate the capital costs of **270EP** and **271EP** to be \$96.7 million and \$104.2 million respectively in MOD prices (see paragraph 8 below), made up as follows -

	<b>270EP</b>	<b>271EP</b>	
	<b>\$ million</b>		
(a) Demolition	0.4	-	
(b) Piling	13.3	11.3	
(c) Building	48.5	48.8	
(d) Building services	11.5	14.9	
(e) Drainage and external works	7.5	8.2	
(f) Furniture and equipment	-	4.5	
(g) Contingencies	8.1	8.3	
	<hr/>	<hr/>	
Sub-total	89.3	96.0	(at December 1998 prices)
(h) Provisions for price adjustment	7.4	8.2	
	<hr/>	<hr/>	
Total	96.7	104.2	(in MOD prices)
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The construction floor areas of **270EP** and **271EP** are 9 129 square metres each. The respective construction unit costs are shown in Enclosure 3. D Arch S considers the estimated construction unit costs reasonable. A comparison of the standard cost of a 24-classroom primary school with the estimated costs for these projects is at Enclosure 3.

8. Subject to approval, we will phase the expenditure for **270EP** and **271EP** as follows –

Year	\$ million (Dec 1998)		Price adjustment factor	\$ million (MOD)	
	<b>270EP</b>	<b>271EP</b>		<b>270EP</b>	<b>271EP</b>
1999 – 2000	1.0	1.0	1.02625	1.0	1.0
2000 – 2001	45.4	45.7	1.06217	48.2	48.5
2001 – 2002	34.8	35.9	1.09934	38.3	39.5
2002 – 2003	8.1	13.4	1.13782	9.2	15.2
	89.3	96.0		96.7	104.2

9. We derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period 1999 to 2003. We will tender the works under fixed-price lump-sum contracts because we can clearly define the scope of works in advance, leaving little room for uncertainty.

10. The cost of furniture and equipment for **270EP**, estimated to be \$4.5 million, will be borne by the school sponsor as the school will be allocated to meet increase in demand for school places. We estimate the additional annually recurrent expenditure for each school to be \$16.0 million.

## PUBLIC CONSULTATION

11. We consulted the Community Building Committee of the Eastern Provisional District Board on **270EP** in July 1999, and the Social Service

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Committee of the North Provisional District Board on **271EP** in September 1999. Members of both committees supported the projects.

## **ENVIRONMENTAL IMPLICATIONS**

12. We have conducted Preliminary Environmental Reviews (PERs) for the two projects and will implement the required mitigation measures in accordance with the findings. The PERs concluded that **270EP** would not be subject to adverse environmental impacts. For **271EP**, we will provide insulated windows and air-conditioning to keep the road traffic noise impact on the school within the limits stipulated in the Hong Kong Planning Standards and Guidelines. These measures will cover all 24 classrooms and four remedial teaching rooms from the 1/F to the 6/F at the south-western façade of the classroom block as well as four special rooms from the 2/F to 3/F at the north-western façade of the special room block. We have included a total of \$3.7 million in the project estimate for implementing the above mitigation measures.

13. During the construction period, we will control noise, dust and site run-off nuisances to comply with the established standards through the implementation of mitigation measures in the relevant contracts.

## **LAND ACQUISITION**

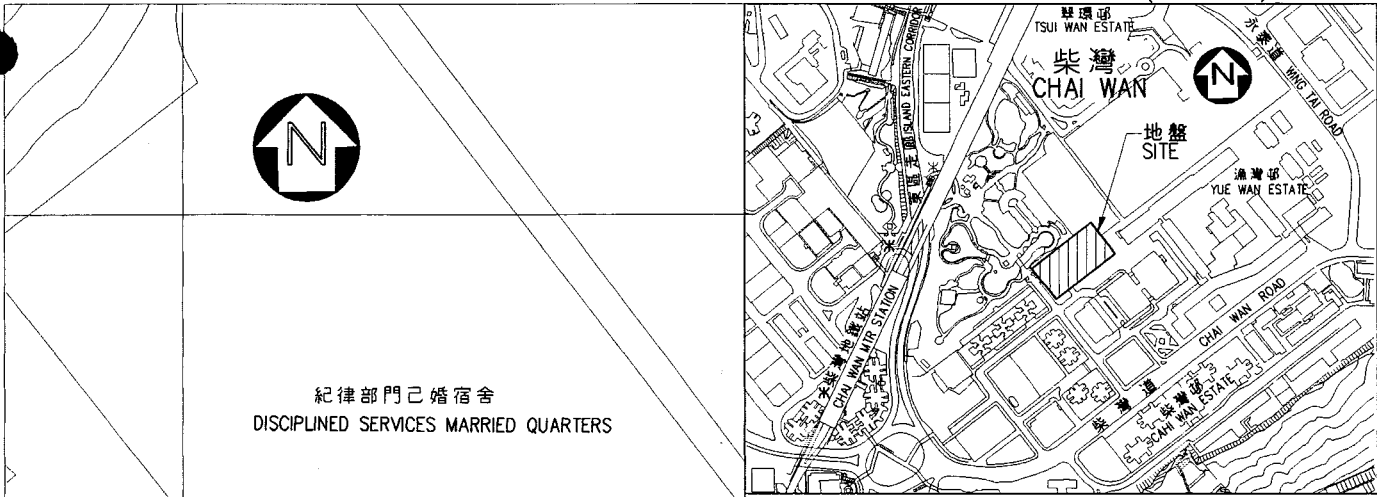
14. The two projects do not require land acquisition.

## **BACKGROUND INFORMATION**

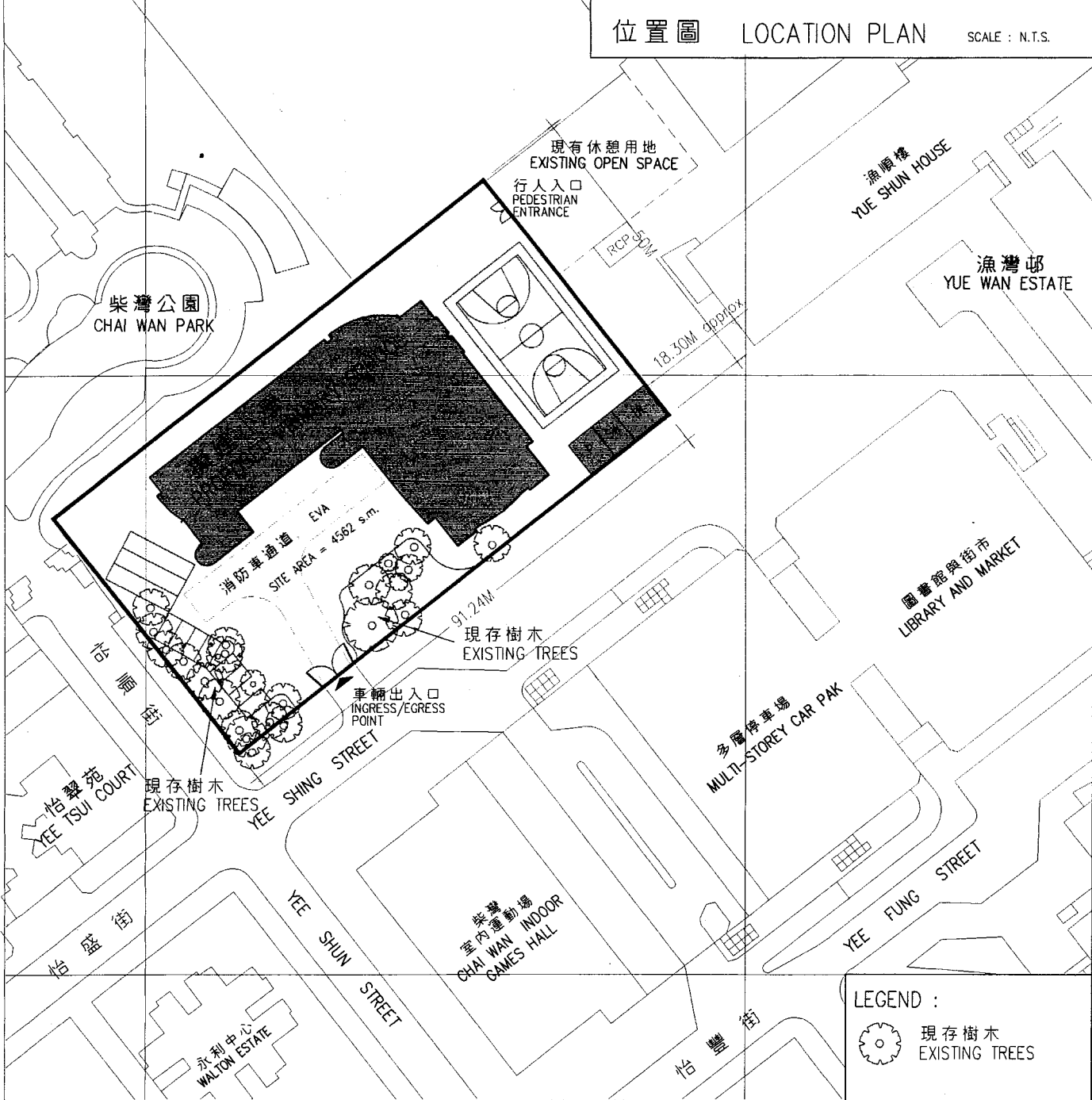
15. We upgraded **270EP** and **271EP** to Category B in September 1999. D Arch S has completed the site investigations and detailed design for the two projects and is preparing the tender documents using in-house staff resources.


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Education and Manpower Bureau  
October 1999



位置圖 LOCATION PLAN SCALE : N.T.S.



LEGEND :  
 現存樹木  
 EXISTING TREES

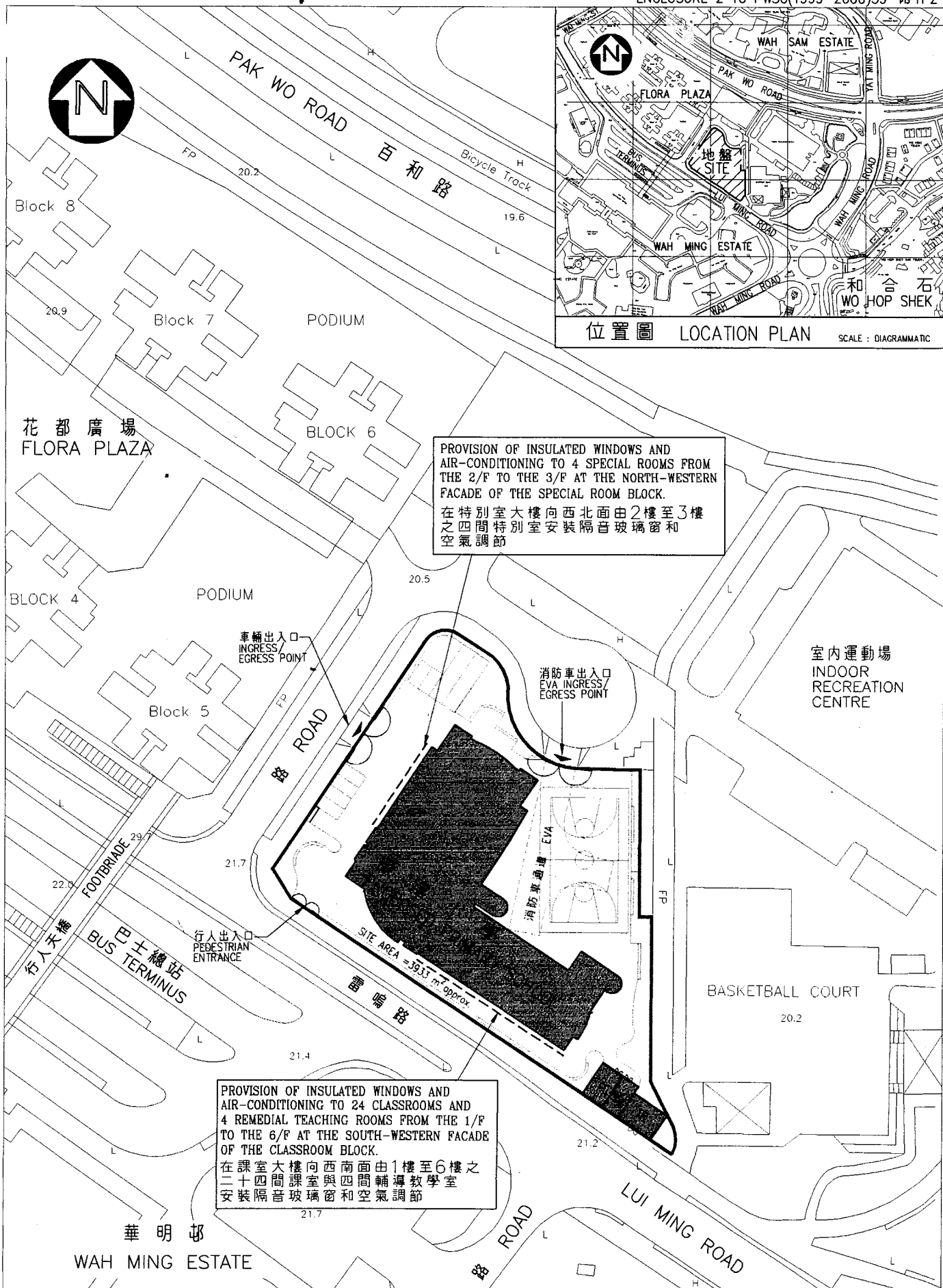
title 270EP  
 柴灣怡順街一所  
 二十四間課室小學  
 A 24-CLASSROOM  
 PRIMARY SCHOOL AT  
 YEE SHUN STREET, CHAI WAN

drawn by	TOMMY LEE M.F. WONG (黃文奎)	date	22.9.99
approved	JUANA CHAN	date	22.9.99
office	ARCHITECTURAL BRANCH		

drawing no.	scale
AB/6141/XB106	1:1000

 ARCHITECTURAL SERVICES DEPARTMENT

CAD Ref. 6141XB106-1:1000




PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 4 SPECIAL ROOMS FROM THE 2/F TO THE 3/F AT THE NORTH-WESTERN FACADE OF THE SPECIAL ROOM BLOCK.  
 在特別室大樓向西北面由2樓至3樓之四間特別室安裝隔音玻璃窗和空氣調節

PROVISION OF INSULATED WINDOWS AND AIR-CONDITIONING TO 24 CLASSROOMS AND 4 REMEDIAL TEACHING ROOMS FROM THE 1/F TO THE 6/F AT THE SOUTH-WESTERN FACADE OF THE CLASSROOM BLOCK.  
 在課室大樓向西南面由1樓至6樓之二十四間課室與四間輔導教學室安裝隔音玻璃窗和空氣調節

位置圖 LOCATION PLAN SCALE : DIAGRAMATIC

CAD Ref: 6143XC104-1:1000

title 271EP 粉嶺第四十四區 一所二十四間課室小學 A 24-CLASSROOM PRIMARY SCHOOL IN AREA 44, FANLING	drawn by 李潤華 (TOMMY LEE) 黃文奎 (M.F. WONG)	date 8.10.99	drawing no. AB/6143/XC104	scale 1:1000
	approved LOUISA MENG	date 8.10.99		
	office ARCHITECTURAL BRANCH			 ARCHITECTURAL SERVICES DEPARTMENT



**Enclosure 3 to PWSC(1999-2000)59**

**A comparison of the standard cost of a 24-classroom primary school project  
with the estimated costs of the proposed school projects**

	<b>Standard cost*</b>	<b>270EP</b>	<b>271EP</b>	
<b>\$ million (at Dec 1998 prices)</b>				
(a) Demolition	-	0.4	-	(See note A)
(b) Piling	8.6	13.3	11.3	(See note B)
(c) Building	48.5	48.5	48.8	(See note C)
(d) Building services	11.5	11.5	14.9	(See note D)
(e) Drainage and external works	7.5	7.5	8.2	(See note E)
(f) Furniture and equipment	-	-	4.5	(See note F)
(g) Contingencies	7.6	8.1	8.3	
Total	83.7	89.3	96.0	
(h) Construction floor area	9 129m <sup>2</sup>	9 129m <sup>2</sup>	9 129m <sup>2</sup>	
(i) Construction unit cost {[(c)+(d)]÷(h)}	\$6,572/m <sup>2</sup>	\$6,572/m <sup>2</sup>	\$6,978/m <sup>2</sup>	

**\* Assumptions for standard cost**

1. The estimation is based on the assumption that the school site is uncomplicated and without abnormal environmental restrictions. No allowance is reserved for specific environmental restrictions such as the provision of insulated windows, air-conditioning and solid 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 the handing-over of the project site for school construction.
3. Piling cost is based on the use of 101 numbers of steel H-piles at an average depth of 30 metres, on the assumption 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 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 greenfield site).
5. No consultancy services are required.
6. Furniture and equipment costs are excluded as they are usually borne by the sponsoring body.
7. The standard cost for comparison purpose is subject to review regularly. We will review, and revise if necessary, the standard cost which should be adopted for future projects.

### Notes

- A. For **270EP**, \$0.4 million is required to demolish an existing 2-storey government office building at the site which is to be vacated prior to the commencement of the construction works.
- B. Piling costs for the schools are adjusted to suit individual site conditions and are based on the following -

	<b>270EP</b>	<b>271EP</b>
Type	Bored pile of 2.5m diameter	Bored pile of 2.5m diameter
Number	22	22
Depth (metres)	38	29

- (i) For **270EP**, the site is on reclaimed land and ground investigation shows evidence of large boulders which is not conducive to steel H-pile system. Moreover, as the site is in close proximity to nearby residential estates, the use of a bored pile system instead of percussive piling will have less environmental impact on nearby residential blocks.
  - (ii) For **271EP**, detailed ground investigation shows that the underlying soil of the site is generally weak and the rockhead is steeply sloping. Hence, the use of H-piles is considered unsuitable. The use of large-diameter bored piles is the most economic alternative. Moreover, as the site is in close proximity to nearby residential estates, the use of a bored pile system rather than percussive piling will have less environmental impact on nearby residential blocks.
- C. The building cost for **271EP** is higher because of the provision of insulated windows as a noise mitigation measure.
- D. The building services cost for **271EP** is higher because of the provision of air-conditioning as a noise mitigation measure.
- E. For **271EP**, the drainage and external works cost is higher partly due to the need to demolish the existing concrete paving covering the site and partly due to the import of fill required to raise the site level to match that of the surrounding area.
- F. For **271EP**, the cost of furniture and equipment, estimated to be \$4.5 million, will be borne by Government as the school will be allocated to an existing bi-sessional school for conversion into whole-day operation.