

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Education Subventions

91EB - Alteration and Conversion to St. Paul's Co-educational College at MacDonnell Road, Central

Members are invited to recommend to Finance Committee the upgrading of **91EB** to Category A at an estimated cost of \$150.6 million in money-of-the-day prices for alteration and conversion to St. Paul's Co-educational College at MacDonnell Road, Central.

PROBLEM

We need to improve the teaching and learning environment of the St. Paul's Co-educational College (the School) of The Council of St. Paul's Co-educational College (the School Sponsor), at MacDonnell Road, Central, which is housed in sub-standard school premises.

PROPOSAL

2. The Secretary for Education (SED), on the advice of the Director of Architectural Services (D Arch S), proposes to upgrade **91EB** to Category A at an estimated cost of \$150.6 million in money-of-the-day (MOD) prices for carrying out alteration and conversion works to the existing premises of the School.

/PROJECT

PROJECT SCOPE AND NATURE

3. The project involves alteration and conversion of four existing buildings of the School to provide the following facilities¹ –

- (a) 21 classrooms;
- (b) 17 special rooms, comprising a music room, a visual arts room, a computer assisted learning room, a preparation room for computer assisted learning, 3 multi-purpose rooms and 10 equipment-based multi-purpose rooms²;
- (c) an interview room;
- (d) two staff rooms;
- (e) a staff common room;
- (f) a conference room;
- (g) a library cum language room;
- (h) an assembly hall;
- (i) two covered playgrounds;
- (j) five multi-purpose areas;
- (k) three student activity centres;
- (l) a green corner³; and
- (m) ancillary accommodation including a lift tower and relevant facilities for the physically disabled.

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¹ The Government's subvention will not cover –
(a) facilities to be provided in a new block which is funded by the School Sponsor as a separate project and expected to be completed in July 2011; and
(b) the above-standard facilities and equipment which are funded by the School Sponsor under **91EB**.

² The equipment-based multi-purpose rooms are for holding various functions to meet the teaching and learning needs of the School. The proposed 10 such rooms are one design and technology workshop, two needlework rooms, four home management rooms, one geography room, one computer room and one campus television room.

³ 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 weather station and planting beds.

4. Alteration and conversion works will be carried out at the existing school premises. The overall layout will be modified to enhance spatial quality, natural ventilation and lighting by enlarging classrooms and corridors. Works will be carried out to complement the overall design and usage of the facilities with a view to enhancing the operational efficiency. A new lift tower will be provided in the School to improve access for the disabled. The building built in 2006 under the School Improvement Programme (SIP)⁴ will be retained and only interface works will be carried out.

5. A site plan of the existing school premises is at Enclosure 1. Artist's impressions of the school premises after the completion of alteration and conversion are at Enclosure 2. Subject to funding approval of the Finance Committee, works will commence by phases from July 2011 for completion in July 2013. During the works period, the School will arrange students to attend classes at the ex-premises of St. Paul's Co-educational (MacDonnell Road) Primary School at 26 Kennedy Road and the self-financed new block scheduled for completion in July 2011. Meanwhile, the existing school premises will continue to be in operation.

JUSTIFICATION

6. Most of the existing school facilities cannot meet the prevailing standards and the teaching and learning needs as imposed by changes in curriculum and pedagogy in recent years. Certain essential facilities for effective teaching and learning, such as classrooms, special rooms, covered playground, library and multi-purpose area, are substantially constrained. Some facilities are dilapidated and require frequent repair. The alteration and conversion works seek to upgrade the facilities of the School to the prevailing standards and improve the teaching and learning environment.

7. This project will provide the School with 21 classrooms and other school facilities as listed in paragraph 3 above. After the completion of the alteration and conversion works, there will be adequate facilities to meet the teaching and learning needs and to facilitate group teaching.

/FINANCIAL

⁴ Major facilities accommodated in the SIP building include one special room, one staff room, one guidance activity room, one library cum language room and one multi-purpose area.

FINANCIAL IMPLICATIONS

8. The capital grant for **91EB** is calculated having regard to the reference cost of a standard design public sector secondary school accommodating similar number of students, with appropriate downward adjustments taking into account the provision of the SIP block and facilities to be provided under the self-financed new block. Based on the site-specific requirements, we will also provide the School Sponsor with capital grant for demolition, energy conservation measures, noise mitigation measures and heritage works. We estimate the capital grant to be \$150.6 million in MOD prices (please see paragraph 12 below), broken down as follows –

	\$ million	
(a) Demolition	6.2	
(b) Piling	0.8	
(c) Building	67.8	
(d) Building services	16.1	
(e) Drainage	2.5	
(f) External works	2.8	
(g) Additional energy conservation measures	2.0	
(h) Noise mitigation measures	6.1	
(i) Heritage works	13.2	
(j) Consultants' fees for –	5.2	
(i) contract administration	2.9	
(ii) management of Resident site staff (RSS)	0.2	
(iii) remuneration of RSS	1.8	
(iv) out-of-pocket expenses	0.3	
(k) Contingencies	<u>11.8</u>	
	Sub-total	134.5 (in September 2010 prices)
(l) Provision for price adjustment	<u>16.1</u>	
	Total	<u>150.6</u> (in MOD prices)

9. The School Sponsor proposes to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimates for consultants' fees and RSS costs by man-months is at Enclosure 3.

10. The School Sponsor will, on top of Government's subvention, bear the costs for above-standard facilities of the project. Adding the School Sponsor's top-up contribution of \$21.4 million in MOD prices (or \$20.4 million in September 2010 prices) to the capital grant of \$150.6 million in MOD prices (or \$134.5 million in September 2010 prices) results in the total project cost of \$172 million in MOD prices (or \$154.9 million in September 2010 prices). The breakdown of the total project cost estimate is at Enclosure 4.

11. The capital grant to be provided by the Government will be capped at \$150.6 million in MOD prices. The School Sponsor will be responsible for all additional funding requirements, whether due to higher-than-expected tender outturn or other variations. The Government and the School Sponsor will share all savings arising from lower-than-expected tender outturn (excluding the grant for site specific construction works) on a pro-rata basis of their estimated contribution to the project (i.e. 83.5% for the Government and 16.5% for the School Sponsor). For site specific construction works under Government's subvention, the Government will retain all savings in case they arise.

12. Subject to funding approval, the School Sponsor will phase the expenditure as follows –

Year	\$ million (Sept 2010)		Price adjustment factor	\$ million (MOD)	
	Capital grant under 91 EB	Total construction cost		Capital grant under 91 EB	Total construction cost
2011 – 12	9.6	30.0	1.04525	10.0	31.4
2012 – 13	80.0	80.0	1.10143	88.1	88.1
2013 – 14	39.9	39.9	1.16201	46.4	46.4
2014 – 15	5.0	5.0	1.22592	6.1	6.1
	134.5	154.9		150.6	172.0

13. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2011 to 2015. The School Sponsor will deliver the alteration and conversion works through a single lump-sum contract as the School Sponsor can clearly define the scope of works in advance. The contract will provide for price adjustment.

14. The cost of furniture and equipment for **91EB** will be borne by the School Sponsor. The annual recurrent expenditure of the School was \$51.2 million in the 2009/10 school year.

PUBLIC CONSULTATION

15. 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 re-provisioning and redevelopment projects to upgrade sub-standard facilities in existing schools. **91EB** is a project to redevelop an existing school operating in sub-standard premises.

16. We provided an information paper on **91EB** to the Central and Western District Council on 21 January 2011. Members of the Council did not raise the need for discussion nor express concern about the project.

17. We provided an information paper on **91EB** to the Legislative Council Panel on Education on 4 March 2011. Members did not raise any concern about the project.

ENVIRONMENTAL IMPLICATIONS

18. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap.499). The School Sponsor engaged a consultant to conduct a Preliminary Environmental Review (PER) for **91EB** in December 2010. The PER recommended installation of insulated windows and air-conditioning for

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rooms exposed to traffic noise exceeding the limits recommended in the Hong Kong Planning Standards and Guidelines. With such mitigation measures in place, the School 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 and will implement these mitigation measures upon completion of the project.

19. During construction, the School Sponsor will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. 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.

20. At the planning and design stages, 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) 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 minimise the disposal of inert construction waste at public fill reception facilities⁵. The School Sponsor will encourage the contractor to maximize the use of recycled/recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

21. At the construction stage, the School Sponsor will 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 School Sponsor will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

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⁵ 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.

22. The School Sponsor estimates that the project will generate in total about 8 410 tonnes of construction waste. Of these, the School Sponsor will reuse about 1 700 tonnes (20%) of inert construction waste on site and deliver 5 490 tonnes (65%) of inert construction waste to public fill reception facilities for subsequent reuse. The School Sponsor will dispose of the remaining 1 220 tonnes (15%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$0.3 million for this project (based on an unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁶ at landfills).

ENERGY CONSERVATION MEASURES

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

- (a) Variable Refrigerant Volume (VRV) air-conditioning system;
- (b) heat recovery fresh air pre-conditioners in the air-conditioned spaces for heat energy reclaim of exhaust air;
- (c) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by occupancy sensors and daylight sensors;
- (d) light emitting diode (LED) type exit signs; and
- (e) automatic on/off switching of lighting and ventilation fan inside the lift.

24. For renewable energy technology, the project will install photovoltaic system for environmental benefits and educational purposes.

25. For greening features, appropriate areas on the main roofs will be landscaped for environmental and amenity benefits.

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⁶ 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 per m³), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

26. For recycled features, the project will install a rainwater recycling system for landscape irrigation with a view to conserving water.

27. The total estimated additional cost for adopting the energy conservation measures is around \$2 million (including \$0.43 million for energy efficient features), which has been included in the cost estimate for this project. The energy efficient features will achieve 7.7% energy savings in the annual energy consumption with a payback period of about 7 years.

HERITAGE IMPLICATIONS

28. The Main Building⁷ built in 1927 was accorded Grade 3 by Antiquities Advisory Board (AAB) in 1992 and subsequently reviewed and confirmed as Grade 2 historic building on 4 February 2010 in the recent historic building assessment exercise by AAB. The school redevelopment project presents an ideal opportunity for the historic building to continue with its original function and to ensure its ongoing maintenance.

29. The School has conducted a Heritage Impact Assessment (HIA) on the Grade 2 historic building and the Antiquities and Monuments Office (AMO) has no objection to the HIA report and the proposed protecting measures. The School also consulted the AAB on the HIA report on 22 February 2011 and received its support. The School will ensure that the construction works and future maintenance to be carried out will comply with the recommendations and requirements stipulated in the HIA report and adopted the mitigating measures recommended in the report.

TRAFFIC IMPLICATIONS

30. As **91EB** comprises alteration and addition works and does not involve construction of new buildings, the scope of works should not cause significant adverse impact to the traffic. Besides, under the School's self-financed project, a portion of MacDonnell Road would be widened. Also, the number of students using the premises at MacDonnell Road has been reduced after the relocation of the St. Paul's Co-educational (MacDonnell Road) Primary School to Wong Chuk Hang in September 2008. As such, the traffic condition in the area should have been improved. The Transport Department has assessed the traffic implications of **91EB** and has not expressed any comment and concern.

/LAND

⁷ The Main Building is built of red brickwork to a C-shaped plan enclosing a courtyard in the middle. The architectural style of the building has been described as Neo-Georgian, a stripped down classical style of late Renaissance period in England.

LAND ACQUISITION

31. The project does not require any land acquisition.

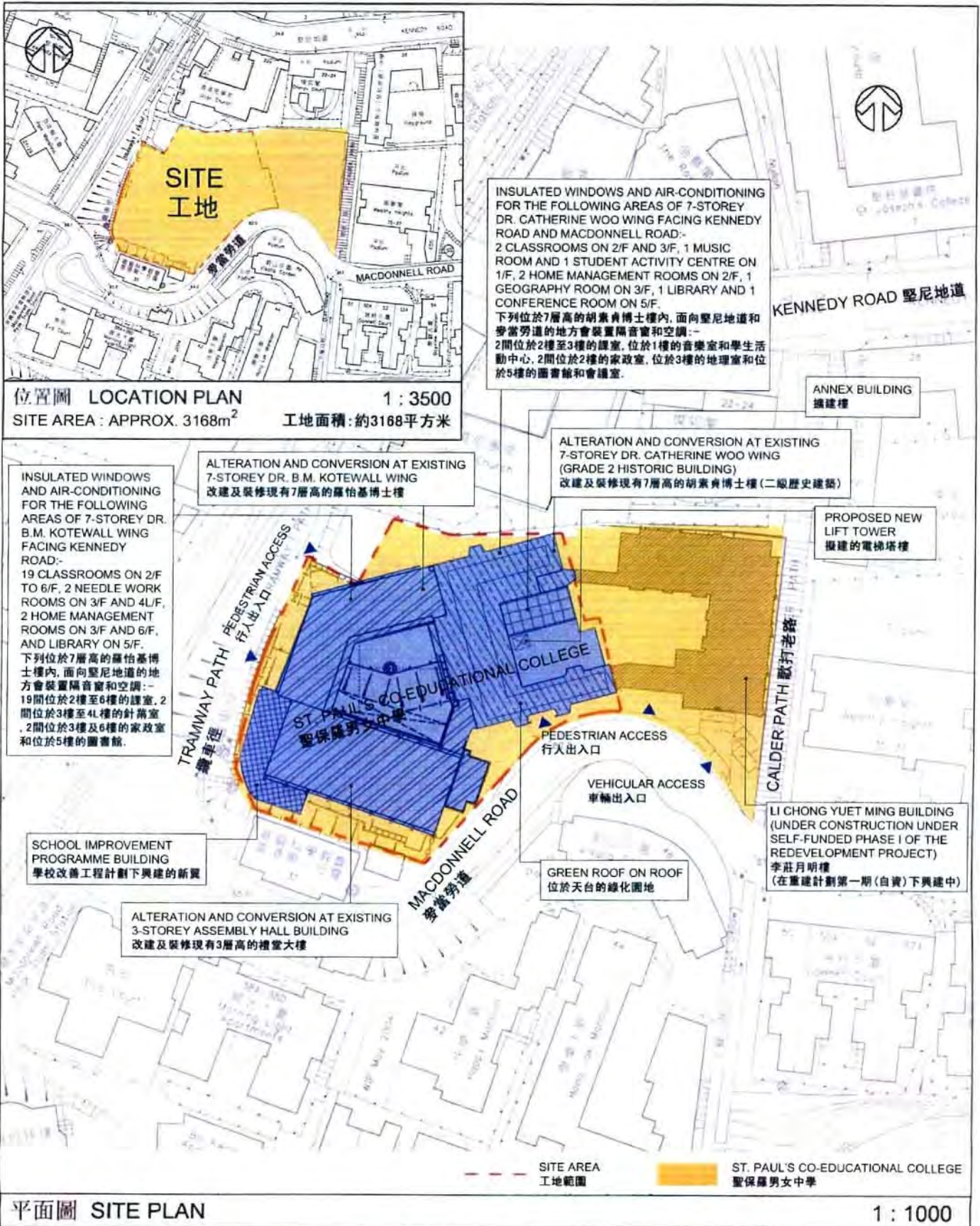
BACKGROUND INFORMATION

32. We upgraded **91EB** to Category B in December 2009. The School Sponsor engaged consultants to carry out detailed design and preparation of tender documents in March 2010, an HIA in July 2010, ground investigation in August 2010 and a structural survey in August 2010. The cost of the above consultancy services amounts to \$7.5 million. We have charged the subvented portion (i.e. \$6.4 million) to block allocation Subhead **8100QX** “Alterations, additions, repairs and improvements to education subvented buildings”. The School Sponsor bore the remaining non-subvented portion of \$1.1 million. The consultants have completed all services except for the preparation of tender documents which are being finalised.

33. The proposed works will not involve removal of trees within the project site.

34. We estimate that the proposed works will create about 118 jobs (105 for labourers and another 13 for professional/technical staff) providing a total employment of 2 550 man-months.

Education Bureau
April 2011



91EB - ALTERATION AND CONVERSION TO ST. PAUL'S CO-EDUCATIONAL COLLEGE AT MACDONNELL ROAD, CENTRAL
91EB-改建及裝修中環麥當勞道聖保羅男女中學計劃



AERIAL VIEW OF THE SCHOOL PREMISES FROM CALDER PATH
 從歌打老路望向校舍鳥瞰構思圖



91EB - ALTERATION AND CONVERSION TO
 ST. PAUL'S CO-EDUCATIONAL COLLEGE
 AT MACDONNELL ROAD, CENTRAL
 91EB - 改建及裝修中環麥當勞道聖保羅男女中學計劃

LI CHONG YUET MING BUILDING
 (UNDER CONSTRUCTION UNDER
 SELF-FUNDED PHASE I OF THE
 REDEVELOPMENT PROJECT)
 李莊月明樓
 (在重建計劃第一期(自資)下興建中)

VIEW OF THE SCHOOL PREMISES FROM MACDONNELL ROAD
 從麥當勞道望向校舍構思圖

**91EB - ALTERATION AND CONVERSION TO ST. PAUL'S
 CO-EDUCATIONAL COLLEGE AT MACDONNELL ROAD, CENTRAL**
 91EB-改建及裝修中環麥當勞道聖保羅男女中學計劃



VIEW OF PROPOSED NEW LIFT TOWER ADJOINING DR. CATHERINE WOO WING
望向連接着胡素貞博士樓的擬建電梯塔樓構思圖



VIEW OF DR. CATHERINE WOO WING AND DR. B.M. KOTEWALL WING FROM UNION CHURCH
從香港佑寧堂望向胡素貞博士樓及羅怡基博士樓構思圖

**91EB - ALTERATION AND CONVERSION TO ST. PAUL'S
CO-EDUCATIONAL COLLEGE AT MACDONNELL ROAD, CENTRAL**
改建及裝修中環麥當勞道聖保羅男女中學計劃

91EB – Alteration and Conversion to St. Paul’s Co-educational College at MacDonnell Road, Central

Breakdown of the estimates for consultants’ fees and resident site staff costs (in September 2010 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants’ fees for contract administration (Note 2)	Professional Technical				2.9
				Sub-total	2.9
(b) Resident site staff (RSS) costs (Note 3)	Technical	63	14	1.6	2.0
Comprising –					
(i) Consultants’ fees for management of resident site staff (RSS)					0.2
(ii) Remuneration of RSS					1.8
				Sub-total	2.0
(c) Out-of-pocket expenses (Note 4)					
Lithography and other direct expenses					0.3
				Sub-total	0.3
				Total	5.2

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As of now, MPS point 14 = \$19,945 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 **91EB**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade **91EB** to Category A.
3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. The actual man-months and actual costs will only be known after completion of the construction works.
4. Consultants will be reimbursed the actual amount of out-of-pocket expenses, and will not be entitled to any additional payment for overheads or profit in respect of these items.

91EB – Alteration and Conversion to St. Paul’s Co-educational College at MacDonnell Road, Central

Breakdown of total project cost estimate

	\$ million	
(a) Demolition	6.2	
(b) Piling	5.5	
(c) Building	79.0	
(d) Building services	18.4	
(e) Drainage	2.5	
(f) External works	3.2	
(g) Additional energy conservation measures	2.0	
(h) Noise mitigation measures	6.1	
(i) Heritage works	13.2	
(j) Consultants’ fees for –	5.2	
(i) Contract administration	2.9	
(ii) management of resident site staff (RSS)	0.2	
(iii) Remuneration of RSS	1.8	
(iv) Out of pocket expenses	0.3	
(k) Contingencies	13.6	

Sub-total	154.9	(in September 2010 prices)
(l) Provision for price adjustment	17.1	

Total	172.0	(in money-of-the-day prices)
