ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Education – Primary

353EP – A 30-classroom primary school at Site KT2b, Development at Anderson Road, Kwun Tong

Members are invited to recommend to the Finance Committee the upgrading of **353EP** to Category A at an estimated cost of \$351.1 million in money-of-the-day prices.

PROBLEM

We need to construct a primary school at the Development at Anderson Road of Kwun Tong for the reprovisioning of S.K.H. St. John's Primary School (St. John's Primary School).

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **353EP** to Category A at an estimated cost of \$351.1 million in money-of-the-day (MOD) prices for the construction of a primary school premises at site KT2b, Development at Anderson Road, Kwun Tong for reprovisioning St. John's Primary School.

/**PROJECT**

PROJECT SCOPE AND NATURE

3. The project site occupies an area of around 6 400 square metres (m^2) at the Development at Anderson Road, Kwun Tong. The proposed scope of works comprises –

- (a) 30 classrooms;
- (b) six special rooms, comprising a music room, a visual arts room, a general studies room, a multi-purpose room, a computer assisted learning room and a language room;
- (c) four small group teaching rooms;
- (d) a guidance activity room;
- (e) two interview rooms;
- (f) a staff room and a staff common room;
- (g) a student activity centre;
- (h) a conference room;
- (i) a library;
- (j) an assembly hall;
- (k) a multi-purpose area;
- (l) two basketball courts (on ground level);
- (m) a running track¹;
- (n) a green corner²; and

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¹ A 53-metre running track will be provided to make optimal use of campus space.

² A green corner is a designated area inside the campus to encourage students to develop an interest in horticulture and natural environment. The green corner may include planting beds.

(o) ancillary facilities, including an accessible/fireman's lift, facilities for the disabled, a tuck shop-cum-central portioning area, stores and toilets, etc.

4. The new school premises will meet the planning target of providing 2 m^2 of open space per student. A site plan, layout plans, a sectional plan, artist's impressions and a barrier-free access plan for the project are at Enclosures 1 to 6. Subject to the funding approval of the Finance Committee in this legislative session, we plan to commence construction in late 2016 for completion in late 2018.

JUSTIFICATION

5. It is the Government's plan to, based on the needs of the schools, improve the physical conditions and facilities of school premises not built according to the prevailing standards through the School Improvement Programme $(SIP)^3$ as well as reprovisioning and redevelopment projects. St. John's Primary School, currently occupying a site area of only about 1 900 m^2 at 16 Clear Water Bay Road in Kwun Tong, was built in 1969 according to the past planning standards. Due to site constraints, the school facilities could not be upgraded in a full scale through SIP. The school currently falls short of certain standard facilities such as visual arts room, general studies room, assembly hall and multi-purpose area, and many of the existing facilities such as small group teaching room, music room, library, student activity centre, covered playground and staff room are undersized according to prevailing standards. The school does not have any additional space for full-scale infrastructure upgrading or in-situ redevelopment. Reprovisioning is considered to be the most effective way to upgrade the facilities of the school and improve the teaching and learning environment for teachers and students.

6. Upon completion of the proposed capital works project, St. John's Primary School, which operates 24 classes in the 2015/16 school year, may operate 30 classes in the new school premises located in the same district. Under the Primary One Admission (POA) System, the 18 districts in the territory are divided into 36 school nets and there are two school nets, viz. Net 46 and Net 48, in Kwun Tong. After relocating to the new school premises, St. John's Primary School will change from School Net 46 to School Net 48 accordingly.

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³ SIP was carried out in five phases between 1994 and 2006. It was introduced at that time to progressively upgrade the teaching and learning environment of schools so as to provide additional space and facilities for teaching, out-of-class activities and supporting services for both teachers and students.

7. St. John's Primary School shall cease to occupy its existing premises at 16 Clear Water Bay Road, Kowloon after reprovisioning. The tenancy agreement in respect of the existing premises signed between the school and the Hong Kong Housing Authority shall be terminated in accordance with the terms and conditions thereof. The Government will handle the to-be-vacated existing premises following the established mechanism. In other words, the Education Bureau (EDB) will consider factors including the size, location, physical conditions etc. of the existing premises to assess the premises' suitability for educational use or whether the premises is needed to be re-allocated for school or other educational use. Once it is confirmed that the premises is no longer required by EDB for school or other educational uses, EDB would refer them to the Planning Department for consideration of suitable alternative uses in accordance with the central clearing house mechanism.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be \$351.1 million in MOD prices (please see paragraph 10 below), broken down as follows –

		\$ million
(a)	Foundation	20.5
(b)	Building works ⁴	146.4
(c)	Building services	35.2
(d)	Drainage	8.3
(e)	External works	33.1
(f)	Additional energy conservation, green and recycled features	4.8
(g)	Furniture and equipment (F&E) ⁵	2.7

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⁴ Building works cover construction of superstructure of the building.

⁵ The estimated cost of F&E is prepared with reference to the standard F&E reference list prepared by the Education Bureau for a new 30-classroom primary school adopting the standard schedule of accommodation. The actual cost will be subject to a survey on the conditions of the existing F&E.

		\$ million	
(h)	Consultants' fees for	7.3	
	(i) contract administration	7.0	
	(ii) management of resident site staff (RSS)	0.3	
(i)	Remuneration of RSS	8.7	
(j)	Contingencies	26.7	
	Sub-total	293.7	(in September 2015 prices)
(k)	Provision for price adjustment	57.4	1
	Total	351.1	(in MOD prices)

9. We propose to engage consultants to undertake contract administration and site supervision for the construction works of the project. A detailed breakdown of the estimate for consultants' fees and resident site staff costs by man-months is at Enclosure 7. The construction floor area (CFA) of **353EP** is about 10 033 m². The estimated construction unit cost, represented by the building and building services costs, is \$18,100 per m² of CFA in September 2015 prices. We consider this comparable to that of similar 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 and the estimated costs for the project is at Enclosure 8.

10. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2015)	Price adjustment factor	\$ million (MOD)
2016 – 17	3.0	1.05775	3.2
2017 – 18	64.0	1.12122	71.8
2018 – 19	163.0	1.18849	193.7
2019 – 20	40.0	1.25980	50.4

Year	\$ million (Sept 2015)	Price adjustment factor	\$ million (MOD)
2020 - 21	18.0	1.33539	24.0
2021 – 22	5.7	1.40549	8.0
	293.7		351.1

11. 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 2016 to 2022. We will deliver the construction works through a lump-sum contract because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

12. The cost of furniture and equipment for the project, estimated to be about \$2.7 million, will be borne by the Government according to the existing policy. We estimate the annual recurrent expenditure to be \$36.3 million upon full commissioning of the new school premises.

PUBLIC CONSULTATION

13. We consulted the Social Services Committee of the Kwun Tong District Council on 22 March 2016. Members of the Committee supported the project.

14. We consulted the Legislative Council Panel on Education on 9 May 2016. Panel Members supported the project and did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

15. The project is not a designated project under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). We engaged a consultant to conduct a Class Assessment Document for Standard Schools (CAD) for **353EP** in April 2016. The CAD recommended installation of insulated windows and air-conditioning for noise sensitive 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 adverse environmental impacts. The estimated cost of the above mitigation measures is \$1.0 million in September 2015 prices. We have included the cost of the above mitigation measures as part of the building works and 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 contract. These include the use of silencers, mufflers, acoustic lining or shields and the building of barrier wall 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 waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, we 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 facilities⁶. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

18. At the construction stage, we will require the contractor to submit a waste management plan (WMP) setting out the waste management measures for our approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved WMP. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at the appropriate facilities. We will monitor the contractor's compliance of construction waste disposal under the contract through a trip-ticket system and ensure that the disposal of inert construction waste and non-inert construction waste would be delivered to the designated public fill reception facilities and landfills respectively as specified in the tender documents. We will record the disposal, reuse and recycling of construction waste for monitoring purposes.

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⁶ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

19. We estimate that the project will generate total in 5 150 tonnes of construction waste. Of these, we will reuse 940 tonnes (18.3%) of inert construction waste on site and deliver 3 100 tonnes (60.2%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 1 110 tonnes (21.5%) of non-inert construction waste at The total cost for accommodating construction waste at public fill landfills. reception facilities and landfill sites is estimated to be \$0.2 million for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

21. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

22. This project will adopt various forms of energy efficient features and renewable energy technologies, including in particular –

- (a) heat recovery fresh air pre-conditioners in the airconditioned space for heat energy reclaim of exhaust air; and
- (b) photovoltaic system.

23. For greening features, there will be landscaping, vertical greening and roof greening in the appropriate area for environmental and amenity benefits.

24. For recycled features, we will adopt a rainwater harvesting system for landscape irrigation with a view to conserving water.

25. The total estimated additional cost for adoption of the above features is around \$4.8 million (including \$0.6 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 6.8% energy savings in the annual energy consumption with a payback period of about 10 years.

BACKGROUND INFORMATION

26. We upgraded **353EP** to Category B in September 2011. We engaged consultant in August 2015 to undertake various services, including topographical survey, utility survey, layout design, detailed design, preliminary environmental review, Building Environmental Assessment certification, and preparation of tender documentation, and a contractor in October 2015 to undertake site investigation at a total cost of about \$8.9 million. The services and works by the consultants are funded under block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The consultants and contractor have completed all the above consultancy services and works except the preparation of tender documentation which is in progress.

27. There are no trees within the project boundary. We will incorporate planting proposals as part of the project, including the planting of about five trees, 2 584 shrubs, 7 250 groundcovers and 300 m^2 of grassed area.

28. We estimate that the proposed works will create about 260 jobs (230 for labourers and 30 for professional or technical staff) providing a total employment of 3 100 man-months.

Education Bureau May 2016







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THIRD FLOOR	觀塘安達臣道發展區(地盤KT2b) 1所設有30 間課室的小學
PLAN	A 30-CLASSROOM PRIMARY SCHOOL AT SITE KT2b, DEVELOP

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四樓平面圖 FOURTH FLOOR PLAN	353EP 觀塘安達臣道發展區(地盤KT2b) 1所設有30 間課室的小學 A 30-CLASSROOM PRIMARY SCHOOL AT SITE KT2b, DEVELOP

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從西南望向小學的構思鳥瞰圖 AERIAL VIEW FROM SOUTH WESTERN DIRECTION

構思圖	
ARTIST'S IMPRESSION	

353EP

觀塘安達臣道發展區(地盤KT2b) 1所設有30 間課室的小學 A 30-CLASSROOM PRIMARY SCHOOL AT SITE KT2b, DEVELOPMENT AT ANDERSON ROAD, KWUN TONG

從安翠街望向小學的構思透視圖 PERSPECTIVE VIEW FROM ON CHUI STREET

構思圖	
ARTIST'S IMPRESSION	

353EP 觀塘安達臣道發展區(地盤KT2b) 1所設有30 間課室的小學 A 30-CLASSROOM PRIMARY SCHOOL AT SITE KT2b, DEVELOPMENT AT ANDERSON ROAD, KWUN TONG

353EP – A 30-classroom primary school at Site KT2b, Development at Anderson Road, Kwun Tong

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2015 prices)

			Estimated man- months	Average MPS [*] salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants' fees for	Professional	_	_	_	3.5
	contract administration (Note 2)	Technical	-	-	_	3.5
					Sub-total	7.0
(b)	Resident site staff	Professional	19	38	1.6	2.3
	(RSS) costs ^(Note 3)	Technical	164	14	1.6	6.7
					Sub-total	9.0
	Comprising -					
	(i) Consultants' fees for management of RSS				0.3	
	(ii) Remuneration of RSS				8.7	
					Total	16.0

* MPS = Master Pay Scale

Notes

- 1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = \$74,210 per month and MPS salary point 14 = \$25,505 per month).
- 2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the design and construction of **353EP**. The assignment will only be executed subject to Finance Committee's funding approval to upgrade **353EP** to Category A.
- 3. The actual man-months and actual costs will only be known after completion of the construction works.

Enclosure 8 to PWSC(2016-17)26

A comparison of the reference cost of a 30-classroom primary school project with the estimated cost of 353EP

\$ million (in Sept 2015 prices)

		Reference cost*	353EP	
(a)	Foundation/Piling	18.8	20.5	(See note A)
(b)	Building works	139.4	146.4	(See note B)
(c)	Building services	41.6	35.2	(See note C)
(d)	Drainage	7.2	8.3	(See note D)
(e)	External works	24.7	33.1	(See note E)
(f)	Additional energy conservation, green and recycled features	_	4.8	(See note F)
(g)	Furniture and equipment	-	2.7	(See note G)
(h)	Consultants' fees	_	7.3	(See note H)
(i)	Remuneration of RSS	_	8.7	(See note H)
(j)	Contingencies	23.2	26.7	
	Total	254.9	293.7	
(k)	Construction floor area	11 260 m ²	10 033 m ²	
(1)	Construction unit cost $\{[(b) + (c)] \div (k)\}$	\$16,075/m ²	\$18,100/m ²	

/Assumptions

Enclosure 8 to PWSC(2016-17)26

* 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 118 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 6 200 square metres built on an average level site without complicated geotechnical conditions, utility diversions, etc. (i.e. a "green-field" site).
- 5. Assuming no consultancy services are required.
- 6. Assuming furniture and equipment costs are excluded as they are usually borne by the sponsoring bodies of new schools.
- 7. The reference cost for comparison purpose is subject to review regularly.

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Notes

- A. The foundation cost is higher because of rock excavation, construction of pad footing and tie beam for this project.
- B. The building cost is higher because of building block layout to suit the D-shaped site geometry, and the provision of insulated windows to satisfy the noise abatement requirements under the Preliminary Environmental Review as approved by the Environmental Protection Department for this project.
- C. The building services cost is lower because of less construction floor area in this project.
- D. The drainage cost is higher because of larger site area and rock excavation is required for this project.
- E. The external works cost is higher because of larger site area and maintenance to adjacent slope is required for this project.
- F. The cost is required for the provision of energy conservation, green and recycled features for this project. Such provision has not been included in the reference project.
- G. The cost of furniture and equipment, estimated to be \$2.7 million, will be borne by the Government. This is in line with the existing policy in redevelopment and reprovisioning of schools.
- H. Consultants' fees and remuneration for resident site staff are required for this project.