

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Education Subventions

94EB – Redevelopment of Ying Wa Girls' School at Robinson Road, Hong Kong

Members are invited to recommend to Finance Committee to increase the approved project estimate of **94EB** by \$220.7 million from \$432.7 million to \$653.4 million in money-of-the-day prices.

PROBLEM

The approved project estimate (APE) of **94EB** is not sufficient to cover the costs of the works under the project.

PROPOSAL

2. The Secretary for Education (SED), on the advice of the Director of Architectural Services (D Arch S), proposes to increase the APE of **94EB** by \$220.7 million from \$432.7 million to \$653.4 million in money-of-the-day (MOD) prices.

/PROJECT

PROJECT SCOPE AND NATURE

3. In June 2012, the Finance Committee (FC) approved the upgrading of **94EB** to Category (Cat) A at an estimated cost of \$432.7 million in MOD prices. The approved scope of works under **94EB** includes demolition of the existing buildings of the School at 76 Robinson Road (Site A) and the buildings at 2 Breezy Path (Site B), and the construction of a 30-classroom secondary school premises on the cleared sites to provide the following facilities –

- (a) 30 classrooms;
- (b) 26 special rooms, comprising two music rooms, a visual arts room, three computer-assisted learning rooms, a preparation room for computer-assisted learning, two integrated science laboratories, a preparation room for integrated science laboratory, a multi-purpose room, and 15 other equipment-based multi-purpose rooms;
- (c) a library-cum-language room;
- (d) a guidance activity room;
- (e) two interview rooms;
- (f) three small group teaching rooms;
- (g) administration offices including a principal's office, two deputy principal's offices, a discipline master's office, a career master's office, a staff room, a staff common room, a general office, a conference room, a school social worker's office, a medical inspection room, a general store, a pantry, a printing room and a security store;
- (h) an assembly hall, a stage, a chair store and a dressing room;
- (i) areas for physical education including covered playgrounds, multi-purpose areas, a student activity centre, a physical education store and two changing rooms;
- (j) a green corner; and

(k)

- (k) ancillary facilities including disabled/fireman's lifts, facilities for the physically disabled, a tuck shop-cum-central food portioning area, a guard booth, a refuse store, caretakers' quarters and toilets.

———— A site plan showing the proposed works is at **Enclosure 1**.

PROGRESS OF THE PROJECT

4. Following the funding approval of the FC in June 2012, the School vacated the campus in Robinson Road in September 2012 and is now temporarily accommodated at the vacant school premises of ex-Tack Ching Girls' Middle School in Shamshuipo. The School invited tenders based on a two-contract arrangement: the demolition of the existing school, site formation, foundation and piling works for Site A were covered in the first contract while all the remaining works were grouped under the second contract. The first contract was put out to tender in December 2012 and returned in January 2013. Not only few tender returns were received but also the lowest returned tender much exceeded the relevant budgetary allowance in the APE, suggesting that contractors were not keen on pursuing the first contract, which was relatively small scale yet filled with technical complexities and site difficulties. The tender was not accepted as this would definitely leave the remaining funding insufficient to complete the whole project.

5. In order to eliminate the financial uncertainty and above all, to attract more contractors to submit tenders for the project with a view to lowering the tender price, all works in the project were combined into a single contract for tendering. The proposed project scope is prepared based on the Schedule of Accommodation (SoA) for a standard 30-classroom secondary school. There is no room to reduce the project scope as the facilities funded by the Government would just meet the prevailing standards. Any further reduction in project scope would fail to achieve the purpose of improving the teaching and learning environment of the School in full. The second contract was put out to tender in April 2013 and returned in June 2013. The School received more tender returns this time. However, despite that there is a reduction in piling costs as compared to the tender returns of the first contract, the costs are still much higher than the original estimate and all the tenders returned exceeded the APE.

6. As a further attempt to minimize the total cost of the project, the School conducted tender negotiation with the conforming tenderers whose tenders were clearly more advantageous. These tenderers were invited to submit the best discount offer of their tender prices. A further price reduction was achieved as a result.

JUSTIFICATION

JUSTIFICATION

7. Upon review of the financial position of **94EB**, and on the advice of D Arch S, we consider it necessary to increase the APE of **94EB** by \$220.7 million from \$432.7 million to \$653.4 million in MOD prices to cover the additional cost arising mainly from the following –

- (a) higher-than-expected tender prices; and
- (b) subsequent increase in provision for price adjustment, contingencies, consultants' fees and remuneration for resident site staff (RSS).

Details of the increases in the latest estimated cost of **94EB** are elaborated in paragraphs 8 to 14 below.

Higher-than-expected tender prices

8. We believe that the higher-than-expected tender prices are mainly due to the following factors –

- (a) general increase in the cost of building works; and
- (b) tenderers' higher risk evaluation due to site specific factors.

General increase in the cost of building works

9. There has been a general increase in the cost of building works in the last two years from 2011 (when the original project estimate was made) to now. The tender price index (TPI) over building works of the private sector has registered an increase of about 18%¹ in the last two years. Comparable trend is also observed in the building works undertaken by ArchSD (an increase of about 16% in the Building Works Tender Price Index).

/Tenderers'

¹ The Quantity Surveyor employed by the School has taken reference from the private sector TPIs published by two well-established quantity surveying firms in Hong Kong. The increase in private sector TPI published by Rider Levett Bucknall Ltd. is about 16% while that by Langdon & Seah Hong Kong Ltd. is about 20%. The average increase of the two TPIs is 18%.

Tenderers' higher risk evaluation due to site specific factors

10. Geologically, the project requires construction works on a congested steep slope with substantial level differences under a special geological zoning (scheduled Area No.1 under Schedule 5 of the Buildings Ordinance²). The project is also split into two separate sites (i.e. Site A at Robinson Road and Site B at Breezy Path), surrounded by narrow busy roads and two graded historic buildings (i.e. the adjacent Hop Yat Church and London Mission Building) in a residential neighbourhood. Furthermore, the former kindergarten block built in 1926 is a proposed Grade III historic building within Site A that is proposed to be conserved in this project. The presence of these historic buildings and nearby high-rise residential buildings left the School with limited space for implementation of works. Furthermore, the huge level differences and steep slopes also necessitate sizeable temporary supports to stabilize the slopes and Robinson Road during the demolition of the existing school buildings and the construction works. The separation of sites also requires more than one team of staff from the contractor, thereby duplicating contractor's resources and manpower.

11. Further, traffic restrictions at Robinson Road, Seymour Road and Breezy Path require loading and unloading to be done only within the sites, thus entailing construction of massive temporary platforms. The narrow and busy roads also restrict and slow down the manoeuvre of vehicles and require special traffic arrangements. Moreover, precautionary measures will be required to avoid damage to the three historic buildings and adjoining residential buildings. Noise and dust control measures will be needed to mitigate disturbance to the residents of the surrounding neighbourhood.

12. When the original APE was prepared, the project's site specific difficulties were known in general and as a result the original estimate was set at a level higher than that of an average 30-room secondary school building project³. However, it was difficult, if not impossible, to accurately estimate the tenderers' perception on the risks involved and their evaluation on the difficulties of the project's site conditions when we worked out the original project estimate. Based on the tender results, tenderers' risk evaluation turned

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² Scheduled Area No. 1 in the Fifth Schedule of the Buildings Ordinance (BO) refers to areas in the Mid-levels where, because of their special geological complexity, additional requirements are imposed under the BO and Regulations such that excavation and underground works would be duly controlled to avoid settlements, landslip and collapse of slopes. The contractor has to deploy additional site supervisory staff during the site construction works in order to comply with the legal requirements.

³ The reference cost for constructing a 30-classroom secondary school based on an uncomplicated site with no unusual environmental or geotechnical constraints was estimated to be about \$220.9 million in September 2011 when we worked on the original estimate of the project.

out to be much more conservative than our assessment. Our original allowance obviously fell short of their expectation, in particular, in respect of the cost for piling works included in our original APE.

13. As explained in paragraph 10 above, the project is geologically complicated. The original estimate for piling cost of **94EB** was prepared based on the best available data at the time of preparation in September 2011, which has already included over 80% additional allowance in piling cost when compared with an ordinary 30-classroom secondary school project, i.e. \$43.4 million vs \$23.5 million as stated in the PWSC paper PWSC(2012-13)16. Notwithstanding the above allowance, the returned tender price on piling works turned out to be much higher than the original estimate, mainly due to the exceptional difficulties and risks associated with this site as perceived by the tenderers, as well as the recent price escalation of the piling works in Hong Kong.

14. In comparison to **94EB**, contractors would prefer to bid for technically more straightforward projects, such as projects involving construction on flat terrains and without so many difficult site constraints and risks. We believe that contractors have adopted a more conservative pricing strategy in relatively more difficult projects as reflected in the response to the tender exercises, and the bidding prices for **94EB**.

15. The School Sponsor will, on top of Government subvention, bear the costs for additional piling works, which are required to cater for future expansion of the School to be funded by the School Sponsor, under the project. As the School's own additional piling works for future expansion were tendered out together with the Government-subvented works in one go, the School Sponsor's own top-up contribution is also adjusted upward from \$3.5 million in MOD prices to \$8.8 million in MOD prices. With the School Sponsor's own top-up contribution to the proposed capital grant of \$653.4 million, the total project cost will become \$662.2 million in MOD prices.

16. D Arch S has scrutinized the project and considered the option of re-tendering the contract with a view to securing a lower tender price not desirable. It is impossible to guarantee that the re-tendered prices will be lower than that of the original tender, especially under the current construction market trend. Re-tendering will also unduly delay the commencement of the project. If the project is to be re-tendered, the completion date would be further delayed by at least 4 to 6 months in addition to the longer than expected time already spent on the first and second tendering as well as the tender negotiations. Moreover, the School

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has already been relocated to their decanting campus at the ex-Tack Ching Girls' Middle School in Shamshuipo in September 2012. Since most of the students of the School live on Hong Kong Island, they need to travel a long distance to Shamshuipo every day. Further delay to the works programme of the redevelopment project would only prolong the students' stay at the decanting premises, which is not intended for long term secondary school use with only basic renovation carried out. Hence it is considered not desirable to further delay the commencement of the project.

Increase in Provision for Price Adjustment

17. A provision of \$70.9 million for price adjustment was allowed when FC's funding approval for APE of **94EB** was sought in June 2012. As a result of the increase in project cost of the building works and revised cash flow requirements, the provision for price adjustment will increase by \$36.7 million from \$70.9 million to \$107.6 million. The latest cash flow of the project and the detailed assessment of the latest provision for price adjustment are at **Enclosure 2**.

Revision in contingencies

18. As the latest estimate is derived based on the returned tender prices and the design of the works has been completed, the allowance for tender price uncertainty and design development can be reduced to 7% (instead of 10%) of the total project cost. The additional amount of contingencies is therefore \$2 million, increasing the total provision for contingencies from \$31.5 million to \$33.5 million.

Increase in consultants' fees and remuneration for resident site staff

19. The BO and Regulations have prescribed site supervision requirements of consultants and resident site staff during different stages of construction. These site supervision requirements are determined by a scale factor based on the costs of works including site formation, piling etc. Although the scope of the project remains unchanged, the increase in the costs of works have led to a corresponding increase in the level of site supervision required, thus adjusting the costs of consultant's fees and remuneration for resident site staff as well. As a result, there will be a total increase of \$2.9 million in the cost of consultants' fees and remuneration for resident site staff.

20. A summary of the proposed increase of \$220.7 million for **94EB** is as follows –

Factors	Proposed increase in MOD prices (\$ million)	% of the total increased amount
Additional costs associated with –		
(a) Higher-than-expected tender prices ⁴	179.1	81.2
(b) Provision for price adjustment	36.7	16.6
(c) Contingencies	2.0	0.9
(d) Consultants' fee and remuneration of RSS	2.9	1.3
(e) Total cost increase (e) = (a) + (b) + (c) + (d)	220.7	100

A comparison of the cost breakdown of the original APE and the revised cost estimates is at **Enclosure 3**. We expect that the revised project estimate, if approved, should be sufficient to cover the projected expenditure for implementation of the project and further increase in APE is unlikely to be required.

21. When the project was submitted to the Public Works Subcommittee (PWSC) for consideration in May 2012, the relevant PWSC paper (PWSC(2012-13)16) mentioned that the “capital grant to be provided by the Government will be capped at \$432.7 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.”, which is intended to cap the government subvention when higher project cost arises mainly due to variations or change of project scope initiated by the School beyond the provisions of the SoA. The upsurge in the project cost since the last PWSC submission is however not due to

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⁴ As explained in paragraph 8, we believe that the higher-than-expected tender prices are mainly due to (a) general increase in the cost of building works; and (b) tenderers' evaluation on higher risks due to site specific factors.

the School's fault or any variation or change of project scope initiated by the School beyond the provisions of the SoA. The two main teaching blocks of the School were constructed around 50 years ago, respectively in 1953 and 1967. From an educational perspective, the School has strong needs for redevelopment under the policy initiative for redeveloping sub-standard school premises. The proposal is in line with the prevailing policy of the Education Bureau to improve the teaching and learning environment of substandard school premises through in-situ redevelopment in accordance with prevailing SoA requirements and standards.

FINANCIAL IMPLICATIONS

22. Subject to approval of the FC, the School Sponsor will revise the phasing of the expenditure as follows -

Year	\$ million (MOD)
2013 – 14	3.4
2014 – 15	36.5
2015 – 16	155.1
2016 – 17	192.3
2017 – 18	216.9
2018 – 19	40.4
2019 – 20	8.8
	<hr/> 653.4 <hr/>

23. The proposed increase in the APE will not give rise to any additional recurrent expenditure.

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PUBLIC CONSULTATION

24. The proposed increase in APE does not involve any change in the scope of the project. We consider that further public consultation is not necessary.

25. We consulted the Legislative Council Panel on Education on the proposed increase in APE on 9 December 2013. Members raised no objection to the redevelopment but requested for detailed explanation of the proposed increase in APE in the PWSC submission.

ENVIRONMENTAL IMPLICATIONS

26. The proposed increase in the APE will not have environmental implications. There will not be any increase of construction waste generated.

ENERGY CONSERVATION MEASURES

27. The proposed increase in the APE will not necessitate any additional energy conservation measures.

HERITAGE IMPLICATIONS

28. The proposed increase in the APE will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

29. The proposed increase in the APE will not require any land acquisition.

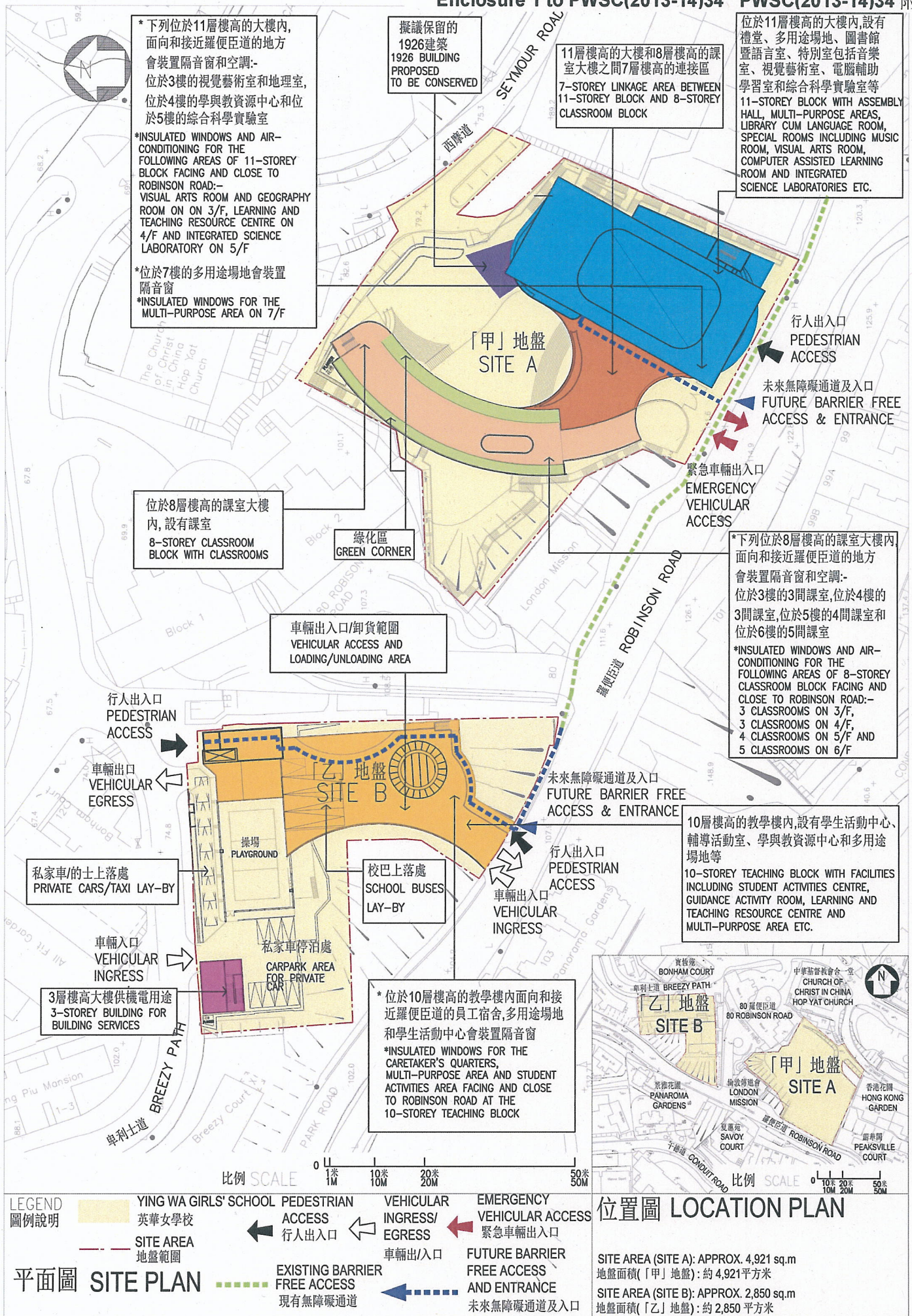
BACKGROUND INFORMATION

30. In June 2012, the Finance Committee approved the upgrading of **94EB** to Category A with an APE of \$432.7 million in MOD prices.

31. The proposed increase in the APE will not involve any additional tree removal or planting proposal.

32. The proposed increase in the APE will not create additional jobs.

**Education Bureau
January 2014**



94EB – Redevelopment of Ying Wa Girls’ School at Robinson Road, Hong Kong

Table 1 – Cash flow and provisions for price adjustment in PWSC(2012-13)16

Year	Original project estimate (\$ million, in September 2011 prices) A	Original price adjustment factors (September 2011)# B	Approved project estimate (\$ million, in MOD prices) C	Provision for price adjustment (\$ million) D = C – A
2012 – 2013	7.9	1.05325	8.3	0.4
2013 – 2014	87.8	1.11118	97.6	9.8
2014 – 2015	83.9	1.17229	98.4	14.5
2015 – 2016	148.0	1.23677	183.0	35.0
2016 – 2017	24.2	1.30479	31.6	7.4
2017 – 2018	10.0	1.37656	13.8	3.8
Total	361.8		432.7	70.9

Table 2 – Latest cash flow and provision for price adjustment due to latest project estimate (PE) and latest adjustment factors

Year	Latest PE (\$ million, in September 2013 prices) a	Latest price adjustment factors (September 2013) ## b	Latest PE (\$ million, in MOD prices) c	Latest provision for price adjustment (\$ million) d	Net increase in provision for price adjustment (\$ million) e
2013 – 2014	3.4	1.00000	3.4	d = c - a	e = d - D
2014 – 2015	34.4	1.06000	36.5		
2015 – 2016	138.0	1.12360	155.1		
2016 – 2017	161.5	1.19102	192.3		
2017 – 2018	171.8	1.26248	216.9		
2018 – 2019	30.4	1.32876	40.4		
2019 – 2020	6.3	1.39519	8.8		
Total	545.8		653.4	107.6	36.7

Notes:

Price adjustment factors adopted in September 2011 were based on the latest movement of prices for public sector building and construction output, which are assumed to increase by 5.3% per annum in 2012 and by 5.5% per annum from 2013 onwards

Price adjustment factors adopted in September 2013 were based on the latest movement of prices for public sector building and construction output, which are assumed to increase by 6.0% per annum from 2014 to 2017, by 5.0% per annum from 2018 onwards.

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Comparison between the approved project estimate (APE)
and the latest project estimate (PE)

	(A) Approved Estimate (\$ million)	(B) Latest Estimate (\$ million)	(C) = (B) - (A) Difference (\$ million)
(a) Demolition works	15.4	22.8	7.4
(b) Site formation	39.1	49.9	10.8
(c) Piling	43.4	141.9	98.5
(d) Building	128.7	174.1	45.4
(e) Building services	41.9	45.0	3.1
(f) Drainage	6.7	12.5	5.8
(g) External works	28.1	35.9	7.8
(h) Heritage works	2.7	3.5	0.8
(i) Additional energy conservation measure	2.4	2.6	0.2
(j) Noise mitigation measures	6.5	5.8	(0.7)
Total Works Cost (items (a) to (j))	314.9	494.0	179.1
(k) Furniture and equipment	6.8	6.8	0.0
(l) Consultants’ fees	5.3	6.5	1.2
(m) Remuneration of resident site staff	3.3	5.0	1.7
(n) Contingencies	31.5	33.5	2.0
Sub-Total	361.8	545.8	184.0

	(A) Approved Estimate (\$ million)	(B) Latest Estimate (\$ million)	(C) = (B) - (A) Difference (\$ million)
(o) Provision for price adjustment	70.9	107.6	36.7
	_____	_____	_____
Total	432.7	653.4	220.7
	_____	_____	_____

2. As regards items (a) to (j) (Total works cost), as explained in paragraphs 8 to 14, the total difference of \$179.1 million is attributable to general increase in cost of building works and tenderers' higher risk evaluation due to site specific factors. It should be noted that the original estimate was prepared by the consultant but the latest estimate is prepared based on returned tenders. There are invariably some variances in the distribution of the costs of individual items estimated.

3. As regards items (l) & (m) (Consultants' fees and remuneration of resident site staff), the adjustment is based on the increase in the revised estimated works cost.

4. As regards item (n) (Contingencies), we have correspondingly increased the contingency sum by \$2 million as a result of the increase in the total project cost.

5. As regards item (o) (Provision for price adjustment), an increase of \$36.7 million is based on the latest increase in the price adjustment factors promulgated by the Government, as well as the latest anticipated cash flow of the project. Details are given in paragraphs 17 of the main paper and **Enclosure 2**.