

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 711 – HOUSING

#### Transport – Roads

#### **645TH – Sai Sha Road widening between Kam Ying Road and future Trunk Road T7 junction**

Members are invited to recommend to Finance Committee to increase the approved project estimate of **645TH** by \$8.9 million from \$122.5 million to \$131.4 million in money-of-the-day prices.

### PROBLEM

The approved project estimate (APE) of **645TH** is not sufficient to cover the additional costs of the works under the project.

### PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to increase the APE of **645TH** by \$8.9 million from \$122.5 million to \$131.4 million in money-of-the-day (MOD) prices.

### PROJECT SCOPE AND NATURE

3. In February 2002, Finance Committee (FC) approved the upgrading of **645TH** to Category A at an estimated cost of \$110.5 million in MOD prices for the widening of the section of Sai Sha Road (SSR) between its junction with the Trunk Road T7 (currently named as Ma On Shan Bypass) and Kam Ying Road to cope with the traffic demand arising from residential developments in Ma On Shan (MOS).

/4. ....

4. The scope of works approved by FC in February 2002 under **645TH** with an APE of \$110.5 million comprises –

- (a) the widening of 650 metres (m) of SSR between its junction with the Trunk Road T7 and Kam Ying Road from a single two-lane to a dual two-lane carriageway;
- (b) the construction of a roundabout at the junction of SSR and Sha On Street;
- (c) the construction of a 100 m access road from SSR to Whitehead with associated footpaths;
- (d) the construction of two covered footbridges and two pedestrian/cyclist subways;
- (e) the modification of the existing junction of SSR and Kam Ying Road, including the addition of a ramp and a staircase to an existing pedestrian subway barrel across SSR;
- (f) the erection of some 890 m of noise barriers, including about 350 m of vertical barriers ranging from 3 to 5 m high and about 540 m of cantilever barriers of about 6 m in height along SSR; and
- (g) the associated electrical and mechanical, geotechnical, landscaping, lighting and drainage works.

With the exception of about 100 m out of the total 890 m noise barriers in paragraph 4(f) above, all the works under the approved scope of **645TH** were substantially completed in June 2005. A layout plan is at Enclosure 1.

5. Since FC's approval in February 2002, the APE for **645TH** has been increased by \$12 million, from \$110.5 million to \$122.5 million in MOD prices, under delegated authority from FC to cover higher-than-expected tendered prices for the main contract and increase in provisions for price adjustment during the project period. Following a review of the financial position of the project, we propose to further increase the APE of **645TH** by \$8.9 million, from \$122.5 million to \$131.4 million in MOD prices.

**/JUSTIFICATION .....**

**JUSTIFICATION**

6. We consider it necessary to increase the APE for **645TH** by \$8.9 million from \$122.5 million to \$131.4 million in MOD prices to cover the additional costs under the project arising from the following –

- (a) a claim by the SSR construction contractor for implementing a revised temporary traffic arrangement (TTA) scheme;
- (b) miscellaneous claims arising from minor variations to works;
- (c) modifications of drainage works; and
- (d) increased provision in price adjustment for the remaining noise barrier works.

7. When the project was under construction, our cost assessment showed that there was sufficient balance in the APE for covering the then estimated costs of the claims and modifications. As the latest cost assessment for the claims and modifications is significantly higher than that of the original assessment and the APE is expected to be exceeded as a result, approval from FC for increasing the APE of the project is required. Details of the claims and modifications, and project savings identified to offset the extra expenditure are set out in paragraphs 8 to 15.

**Claim arising from revisions to the TTA scheme**

8. To facilitate the completion of the SSR project, the SSR contractor was contractually obliged to carry out a TTA. Variations to the TTA scheme became necessary as a result of the following unexpected developments —

/(i) .....

- (i) the SSR project was carried out in a cramped site, which overlaps with and abuts those of the MOS Rail and Trunk Road T7 projects respectively. Noting the complex interface between these three projects in the early planning stage, the TTA scheme for the SSR project was developed in consultation with various parties concerned, including the Transport Department (TD) and the Hong Kong Police Force (HKPF), as well as the Kowloon Canton Railway Corporation (KCRC) and the then Territory Development Department (TDD), which were the project managers of the MOS Rail project and the Trunk Road T7 project respectively. Details of the TTA were incorporated into the contract for the SSR project. During construction, the TTA schemes for these three projects were adjusted from time to time to suit the prevailing traffic conditions and actual staging of works, and to address comments and suggestions from members of the public, including the then Sha Tin Provisional District Board. Such adjustments to the three TTA schemes had significant knock-on effects on each other because of the close proximity of the project sites, which in turn made it unexpectedly difficult to implement the original TTA scheme under the SSR project.
- (ii) An interdepartmental Traffic Arrangement Management Group<sup>1</sup> (TAMG) was formed to oversee the construction contractor's implementation of the TTA scheme for the SSR project. Having regard to the importance of SSR which was the only link between Shatin and Sai Kung and the then prevailing traffic conditions, the TAMG decided in October 2002 that an exclusive emergency traffic lane (EETL) would need to be provided under the SSR project. The EETL would serve to provide effective emergency relief in case of traffic accidents on SSR.

/(iii) .....

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<sup>1</sup> The TAMG for the SSR project was formed upon commencement of the SSR project and was responsible for vetting and approving all TTAs proposed by the SSR construction contractor prior to implementation. The TAMG comprised traffic authorities including HKPF and TD, as well as representatives from Highways Department, Home Affairs Department, the then TDD, the KCRC and contractors of the interfacing Trunk Road T7 and MOS Rail projects.

- (iii) As a result of the above developments, the TTA scheme for the SSR project had to be substantially revised. Opportunity was also taken to incorporate a suggestion from the owners' committee of a nearby residential plot, which was raised after the works for the SSR project had commenced, for a right turning movement from SSR eastbound to and from Sha On Street to minimise detouring.

9. As a result of implementing the revised TTA scheme, we assessed that the contractor should be entitled to claim a maximum of \$8.2 million from the Government. Having obtained legal advice and considered further substantiations provided by the contractor between mid-2005 and end-2009, the amount of the TTA-related claim was finalised and agreed with the contractor on a non-committal basis in end-2009. We will settle the amount with the contractor subject to the approval of FC to increase the APE.

#### **Claims arising from minor variations to works**

10. A number of minor variations to the works were ordered during the construction period to cover additional works, including perimeter fences and pedestrian facilities for enhancing the safety of pedestrians, road works for the nearby Wu Kai Sha Village, directional signs, electrical and mechanical works, landscaping works, etc. These variations had led to about 30 claims submitted by the contractor, which have been settled at a total cost of \$3.1 million.

#### **Modification of drainage works**

11. Owing to the changes in the project programme of the MOS Rail project which affected one of the sites needed for the SSR project, drainage works under the SSR project were modified. As a result, additional drainage works costing \$1.9 million were instructed to realign the drains to bypass the parts of the site affected, so that the SSR project could be completed in a timely manner.

/ **Increased.....**

**Increased provision in price adjustment for the remaining noise barrier works**

12. As mentioned in paragraph 4 above, construction of about 100 m of noise barriers is outstanding. The outstanding noise barriers aim to mitigate the traffic noise impact of SSR to a planned residential plot at Lok Wo Sha (Sha Tin Town Lot No. 502). Although they had been included in the main contract of **645TH**, the works for the about 100 m of noise barriers were temporarily put on hold in 2003<sup>2</sup> as there was no firm development programme for the plot at that time.

13. In September 2009, the development plan for the plot was firmed up after the relevant land exchange transaction was completed. Population intake for the plot is now scheduled for October 2012. The construction of the remaining 100 m of noise barrier works will commence in mid-2011 for completion in mid-2012.

14. The original project estimate for the remaining noise barrier works was prepared in 2001. Taking into account Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output, we consider that there is a need to allow an additional cost of \$0.3 million for the remaining noise barrier works in the project estimate.

**Offset by savings under the project**

15. The increase in cost due to reasons explained in paragraphs 8 to 14 above is partly offset by the following –

- (a) drawdown of \$3.6 million from contingencies, while retaining \$0.4 million in contingencies to cater for any unforeseen additional costs related to the construction of the remaining 100 m noise barrier;

/(b) .....

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<sup>2</sup> It has been the Administration's policy to adopt timely implementation of noise mitigation measures so as to tie in with development needs of the affected areas. The policy was discussed at the joint meeting of the Panel on Environmental Affairs and Panel on Transport of the Legislative Council on 23 January 2003.

- (b) with the exception of about 100 m out of a total of 890 m of noise barrier works mentioned in paragraph 4(f) above, all the works under the approved scope of **645TH** were substantially completed in June 2005. The contract price fluctuation payments for the works already completed were \$0.3 million less than the expected payment. As such, \$0.3 million may be released for offsetting purposes; and
- (c) for the footbridges and subways under paragraph 4(d), there was a slight reduction in the actual quantities of works, resulting in a saving of \$0.7 million.

### Review of financial position

16. Upon a review of the financial position of the project, we consider it necessary to increase the APE for **645TH** by \$8.9 million from \$122.5 million to \$131.4 million in MOD prices to cover the additional cost under the project. A breakdown of the proposed increase of \$8.9 million is as follows –

<b>Factors</b>		<b>Proposed increased amount/ savings in MOD prices (\$ million)</b>	<b>% of the total increased amount/ savings</b>
<b>Increase due to –</b>			%
(a)	claims on TTA and minor variations, and cost of modification to drainage works	13.2	97.8%
(b)	provision for price adjustment for remaining noise barrier works	0.3	2.2%
(c)	Total increase (c = a + b)	13.5	100%

/ **Factors.....**

	<b>Factors</b>	<b>Proposed increased amount/ savings in MOD prices (\$ million)</b>	<b>% of the total increased amount/ savings</b>
<b>Partly offset by –</b>			
(d)	drawdown from contingencies and less-than-expected contract price fluctuation payments	3.9	84.8%
(e)	saving from footbridge and subway works	0.7	15.2%
(f)	Total savings (f = d + e)	4.6	100%
(g)	Proposed increase (g = c – f)	8.9	

\_\_\_\_\_ The cashflows and provision for price adjustments of the project are given in  
 \_\_\_\_\_ Enclosure 2 whereas a comparison of the cost breakdown of the APE and the  
 revised project estimate is at Enclosure 3.

## FINANCIAL IMPLICATIONS

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

<b>Year</b>	<b>\$ million (MOD)</b>
Up to 31 March 2010	119.2 <sup>3</sup>
2010 – 2011	8.2
2011 – 2012	2.7
2012 – 2013	0.9
2013 – 2014	0.4

/ Year.....

3 Actual expenditure up to 31 March 2010.



Year	\$ million (MOD)
	—————
	131.4
	—————

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

### **PUBLIC CONSULTATION**

19. The proposed increase in the APE and the remaining noise barrier works do not involve any change in the approved scope of works. We consider that further consultation is not necessary.

20. We consulted the Legislative Council Panel on Housing (the Panel) on 5 July 2010 on the proposed increase in the APE for **645TH**. Members of the Panel raised no objection to the proposal.

### **ENVIRONMENTAL IMPLICATIONS**

21. The proposed increase in the APE does not have any environmental implications. As the project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO), we will construct the remaining 100 m noise barriers and implement environmental mitigation measures in accordance with the environmental permit issued under the EIAO for the project.

### **HERITAGE IMPLICATIONS**

22. The proposed increase in the APE and the remaining noise barrier works 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.....

**LAND ACQUISITION**

23. The proposed increase in the APE and the remaining noise barrier works do not require any land acquisition or clearance.

**BACKGROUND INFORMATION**

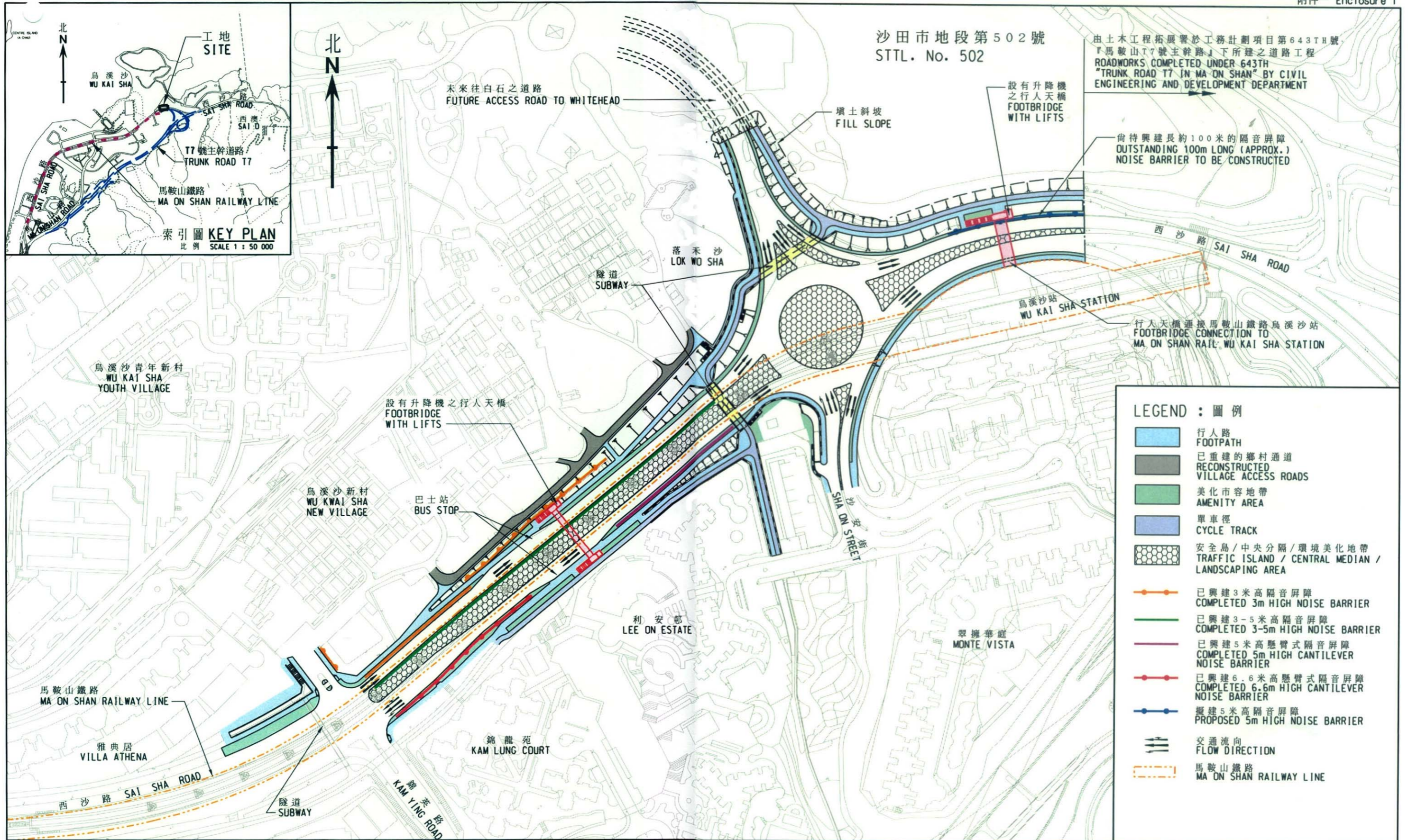
24. FC approved the upgrading of **645TH** to Category A at an estimated cost of \$110.5 million in MOD prices in February 2002.

25. Since FC's approval in February 2002, the APE for **645TH** has been increased by \$12 million, from \$110.5 million to \$122.5 million in MOD prices, under delegated authority from FC to cover higher-than-expected tendered prices for the main contract and increase in provisions for price adjustment during the project period. We propose to further increase the APE of **645TH** by \$8.9 million, from \$122.5 million to \$131.4 million in MOD prices. FC's approval is sought because the total increase in APE already approved under delegated authority, together with the proposed increase of \$8.9 million, exceeds the delegated amount of \$15 million.

26. With the exception of about 100 m out of a total of 890 m of noise barrier works mentioned in paragraph 4(f) above, all the works under the approved scope of **645TH** were substantially completed in June 2005.

27. The proposed increase in the APE and the remaining noise barrier works will not involve any tree removal or planting proposals.

28. The proposed increase in the APE and the remaining noise barrier works will not create any new jobs.



drawing title 圖則名稱  
工務計劃項目645TH  
介乎錦英路與日後的T7號主幹道路交界處的西沙路擴闊工程 - 位置圖  
PWP ITEM No. 645TH  
SAI SHA ROAD WIDENING BETWEEN KAM YING ROAD  
AND FUTURE TRUNK ROAD T7 JUNCTION - LOCATION PLAN

designed 設計  
W.C. LAU SIGNED  
date 日期  
2.11.2010

drawn 繪圖  
C.B. WONG SIGNED  
date 日期  
2.11.2010

office  
路政署(工程部)  
HIGHWAYS / WORKS DIVISION

drawing no. 圖號  
HWDST102B-SP0001

scale 比例  
1 : 2500  
OR  
AS SHOWN

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HIGHWAYS DEPARTMENT  
HONG KONG

路政署  
香港

**645TH – Sai Sha Road widening between  
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**Table 1 – Cash flow and provisions for price adjustment in PWSC(2001-02)85**

Year	Original project estimate (\$ million in September 2001 prices) X	Original price adjustment factors <sup>†</sup> Y	Approved project estimate (\$ million, in MOD prices) Z	Provision for price adjustment (\$ million) A = Z - X
2002 – 2003	37.4	0.99700	37.3	(0.1)
2003 – 2004	59.8	1.00398	60.0	0.2
2004 – 2005	8.8	1.01101	8.9	0.1
2005 – 2006	4.2	1.01808	4.3	0.1
<b>Total</b>	<b>110.2</b>		<b>110.5</b>	<b>0.3</b>

**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 2001 prices) a	Latest PE (\$ million in September 2010 prices) b	Latest price adjustment factors (September 2010)** c	Latest PE (\$ million, in MOD prices) d	Latest provision for price adjustment (\$ million) e	Net increase in provision for price adjustment (\$ million) f
Up to 31 March 2010	119.2	119.2 <sup>^</sup>	-	119.2	<b>e = d - a</b>	<b>f = e - A</b>
2010 – 2011	8.2	8.2 <sup>^^</sup>	1.00000	8.2		
2011 – 2012	2.4	2.6 <sup>*</sup>	1.04250	2.7		
2012 – 2013	0.7	0.8 <sup>*</sup>	1.09463	0.9		
2013 – 2014	0.3	0.3 <sup>*</sup>	1.14936	0.4 <sup>#</sup>		
<b>Total</b>	<b>130.8</b>	<b>131.1</b>		<b>131.4</b>	<b>0.6</b>	<b>0.3</b>

Notes –

<sup>†</sup> Price adjustment factors adopted in February 2002 were based on the then latest movement of prices for public sector building and construction output which were assumed to increase by 0.7% per annum over the period from 2002 to 2006.

<sup>\*</sup> The latest PE in September 2001 prices is multiplied by 1.08596 for conversion to September 2010 prices. The figure of 1.08596 represents the changes in price movement for public sector building and construction output between September 2001 and September 2010.

<sup>\*\*</sup> Price adjustment factors adopted in September 2010 are based on the latest movement of prices for public sector building and construction output which are assumed to increase by 2.0% per annum in 2010 and by 5.0% per annum over the period from 2011 to 2014.

<sup>^</sup> \$119.2 million is the actual expenditure in MOD prices up to 31 March 2010.

<sup>^^</sup> The estimated expenditure of \$8.2 million in 2010-11 relates to the TTA-related claim and is not subject to price adjustment.

<sup>#</sup> For expenditure in 2013-14, before rounding up, the latest PE in September 2001, September 2010 and MOD prices are about \$0.3195 million, \$0.347 million and \$0.399 million respectively.

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**Comparison between existing APE and the Latest Project Estimate**

A comparison of the existing APE and the latest project estimate is as follows –

	<b>(A) Existing APE*</b>  (\$ million)	<b>(B) Latest Project Estimate</b>  (\$ million)	<b>(B) – (A) Difference</b>  (\$ million)
(a) Roads and drains	43.4	45.3	1.9
(b) Two footbridges	21.5	21.1	(0.4)
(c) Two subways	22.9	22.6	(0.3)
(d) Noise barriers	18.7	18.7	0
(e) Contingencies	4.0	11.7	7.7
(f) Provision for price adjustment	12.0	12.0	0
<b>Total</b>	<b>122.5</b>	<b>131.4</b>	<b>8.9</b>

2. **As regards item (a) (road and drains)**, the increase of \$1.9 million was due to modifications of the drainage works to suit the actual site conditions.

3. **As regards item (b) and (c) (footbridges and subways)**, the decrease of \$0.7 million was due to a slight reduction in the actual quantities of footbridge and subway works as measured on site.

4. **As regards item (e) (contingencies)**, we need to retain a contingency sum of \$0.4 million to cater for the remaining noise barrier works. The latest estimate of \$11.7 million also comprises provisions for the TTA-related claim (\$8.2 million) and claims related to minor variations of works (\$3.1 million).

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\* This column shows the revised cost breakdown after the APE was revised from \$110.5 million to \$122.5 million under delegated authority subsequent to the Finance Committee's approval in February 2002.

5. As regards item (d) and (f) (noise barriers and provision for price adjustment), there was no change in the constant price cost estimate of the remaining 100 m noise barriers. Provision for price adjustment for works completed was lower than expected by \$0.3 million. However, there is a need to provide an additional \$0.3 million in provision for price adjustment for works related to the remaining noise barrier works. As such, there is no change to the sum of provision for price adjustment.