

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 - HIGHWAYS

Transport - Roads

464TH - Lung Cheung Road and Ching Cheung Road improvements

Members are invited to recommend to Finance Committee an increase in the approved project estimate of **464TH** from \$1,062.0 million by \$66.0 million to \$1,128.0 million in money-of-the-day prices.

PROBLEM

The approved project estimate of **464TH** is insufficient for the works under the project.

PROPOSAL

2. The Director of Highways (DH_y), with the support of the Secretary for Transport, proposes to increase the approved project estimate of **464TH** from \$1,062.0 million by \$66.0 million to \$1,128.0 million in money-of-the-day (MOD) prices.

PROJECT SCOPE AND NATURE

3. The scope of the project comprises -

- (a) the widening of Ching Cheung Road and the section of Lung Cheung Road between Ching Cheung Road and Lion Rock Tunnel Road from dual two-lane to dual three-lane;
- (b) the construction of an off-line link between Tai Po Road and Lung Cheung Road with new interchanges at Nam Cheong Street and Tai Po Road;
- (c) the realignment of the ramps at the Butterfly Valley interchange;
- (d) associated drainage, street lighting, landscaping and slope works and other ancillary works; and
- (e) the installation of noise barriers along sections of the proposed off-line link and sections of Lung Cheung Road and Ching Cheung Road that are to be widened.

JUSTIFICATIONS

4. Following a review of the financial position of the project, DHy considers it necessary to increase the approved project estimate of **464TH** from \$1,062.0 million, by \$66.0 million, to \$1,128.0 million in MOD prices (see paragraph 6 below) in order to complete the works.

5. There are four main reasons for the increase. The first reason is the increase in payments under the contracts due to price variations¹, as the original approved project estimate was at September 1993 prices, not in MOD prices. The second reason was that we need to undertake additional stabilisation works on steep natural roadside slopes which unexpectedly have poor geotechnical conditions that could only be identified after removal of the vegetation cover on site. We also needed to carry out remedial works on a Tai Po Road slope constructed under the project. The slope failed on 9 June 1998 due to the

¹ In accordance with the provision of the contract, we are required to adjust the sum payable to the contractor to reflect changes in the 'Index Numbers of the Costs of Labour and Selected Materials used in Government Contracts'. This is a standard practice set out in Works Bureau Technical Circular No. 14/95.

/tremendous ..

tremendous surface run-off from outside the site during an exceptionally severe rainstorm². Thirdly, upon remeasurement, the quantities of works were found greater than the original estimated quantities. The additions were mainly related to increase in pile lengths, quantities of excavation of unsuitable material, and minor modifications to bridge works. Lastly, we also incurred additional costs in the form of prolongation costs and increase in preliminaries as a result of the extended contract period with corresponding increases in consultants' fees and site staff costs.

FINANCIAL IMPLICATIONS

6. A summary of the proposed increase in the project estimate is as follows -

	Factor	Amount \$ million	%
(a)	Price variations	(9.6)	(14.5)
	(i) lower tender prices ³	(113.3)	
	(ii) price fluctuation payments under the contract for works mentioned in paragraph 5 above	103.7	
(b)	Specification changes	88.6	134.2
	(i) additional slope stabilisation and remedial works	27.7	

² The slope in question was completed in April 1998 and the failure occurred during the hoisting of black rainstorm warning signal on 9 June 1998 prior to the handing over of the slope to the maintenance authority. We have carried out a detailed investigation which indicated that the failure was due to the exceptionally heavy rainstorm.

³ The average of all tenders received, excluding those non-competitive ones, is 6% higher than our original estimates. The accepted tender, which is also the lowest of all tenders, is 11% less than our original estimates.

/(ii) ..

(ii) re-measured quantities of works	60.9		
(c) Prolongation costs and increase in preliminaries	32.3	48.9	
(d) Others	(45.3)	(68.6)	
(i) resident site staff cost	18.4		
(ii) consultants' fees (construction stage)	1.2		
(iii) contingencies	(64.9)		
Sub-total	66.0	100.0	(at December 1998 prices)
(e) Provision for price fluctuation	0.0		
Total	66.0		at MOD prices

7. A comparison of the cost breakdowns of the approved project estimate (at September 1993 prices) and the revised project estimate (at December 1998 prices) is at the Enclosure.

8. Subject to approval, we will phase the expenditure as follows -

/Up ..

Year	\$ million (Dec 1998)	Price adjustment factor ⁴	\$ million (MOD)
Up to 31 March 1999 ⁵	1,054.7	-	1,054.7
1999 - 2000	39.8	1.0	39.8
2000 - 2001	33.5	1.0	33.5
	1,128.0		1,128.0

9. The proposed increase in the approved project estimate will not give rise to additional annually recurrent expenditure.

PUBLIC CONSULTATION

10. As there is no change in the approved project scope, we consider that it is not necessary to carry out any further public consultation.

ENVIRONMENTAL IMPLICATIONS

11. We have substantially completed the works. The proposed increase in the approved project estimate does not have any environmental implications.

LAND ACQUISITION

12. The proposed increase in the approved project estimate does not have any implications in respect of land acquisition.

⁴ As we have substantially completed the works, the project is not subject to further adjustments for price fluctuation.

⁵ This is the actual expenditure incurred.

/BACKGROUND ..

BACKGROUND INFORMATION

13. Lung Cheung Road and Ching Cheung Road form part of Route 4 linking east and west Kowloon. The Second Comprehensive Transport Study recommended to upgrade the roads from dual two-lane to dual three-lane to meet traffic demand in the late 1990s. On 25 February 1994, we upgraded **464TH** to Category A entitled "Lung Cheung Road and Ching Cheung Road improvements".

14. The original programme for the project was to complete construction works in July 1997. We substantially completed the construction in August 1998. The delay of thirteen months was mainly due to the following reasons -

	Months delayed
(a) re-measured works and modifications to bridge works;	3
(b) additional stabilisation works on roadside slopes; and	4
(c) entrusted remedial works ⁶ on an existing slope at Ching Cheung Road which failed on 3 August 1997 during a rainstorm.	6

Transport Bureau
May 1999

⁶ As the concerned slope is adjacent to the project site of **464TH**, the Director of Civil Engineering entrusted the slope remedial works to this project for construction, and charged its estimated cost of \$42 million to **Head 705 Subhead 5001BX** "Landslip preventive measures".

(PWSC0142/WIN5)

464TH - Lung Cheung Road and Ching Cheung Road improvements

A comparison of the approved project estimate at September 1993 prices and the revised project estimate at December 1998 prices is as follows -

	Approved Estimate (Sept 1993) \$ million	Revised Estimate (Dec 1998) \$ million	Difference \$ million
(a) structural works	445.7	472.8	27.1
(b) ground level roads and slope works	391.0	426.9	35.9
(c) landscaping	10.0	10.3	0.3
(d) street lighting	7.0	8.5	1.5
(e) reprovisioning and diversion of water mains	42.0	25.9	(16.1)
(f) noise barriers	11.5	41.8	30.3
(g) resident site staff cost	46.8	65.2	18.4
(h) consultants' fees for construction stage	11.0	12.2	1.2
(i) prolongation cost and increase in preliminaries	-	32.3	32.3
(j) contingencies	97.0	32.1	(64.9)
Total	1,062.0	1,128.0	66.0

2. For better illustration, the table below explains the proposed increase in project estimate mentioned in paragraphs 1 (a) to (f) -

		Increase in cost (from Sept 1993 to Dec 1998)				
		Difference in actual tender prices	Price fluctuation from Sept 1993 to Dec 1998	Additional works	Re- measured works	Total
		\$ million				
(a)	structural works	(65.6)	49.3		43.4	27.1
(b)	ground level roads and slope works	(58.0)	46.1	27.7	20.1	35.9
(c)	landscaping	(1.5)	1.1		0.7	0.3
(d)	street lighting	2.9	0.8		(2.2)	1.5
(e)	reprovisioning and diversion of water mains	(18.3)	2.4		(0.2)	(16.1)
(f)	noise barriers	27.2	4.0		(0.9)	30.3
		(113.3)	103.7	27.7	60.9	79.0

3. As a reference, the Highways Construction Cost Index increased by about 39% from September 1993 to December 1998.

4. **As regards (g) (resident site staff cost)**, the increase of \$18.4 million is due to the salary revisions of the resident site staff in line with the increases of civil service salaries between September 1993 and December 1998 (\$14.6 million) and the additional site staff cost due to the belated completion of the project (\$3.8 million).

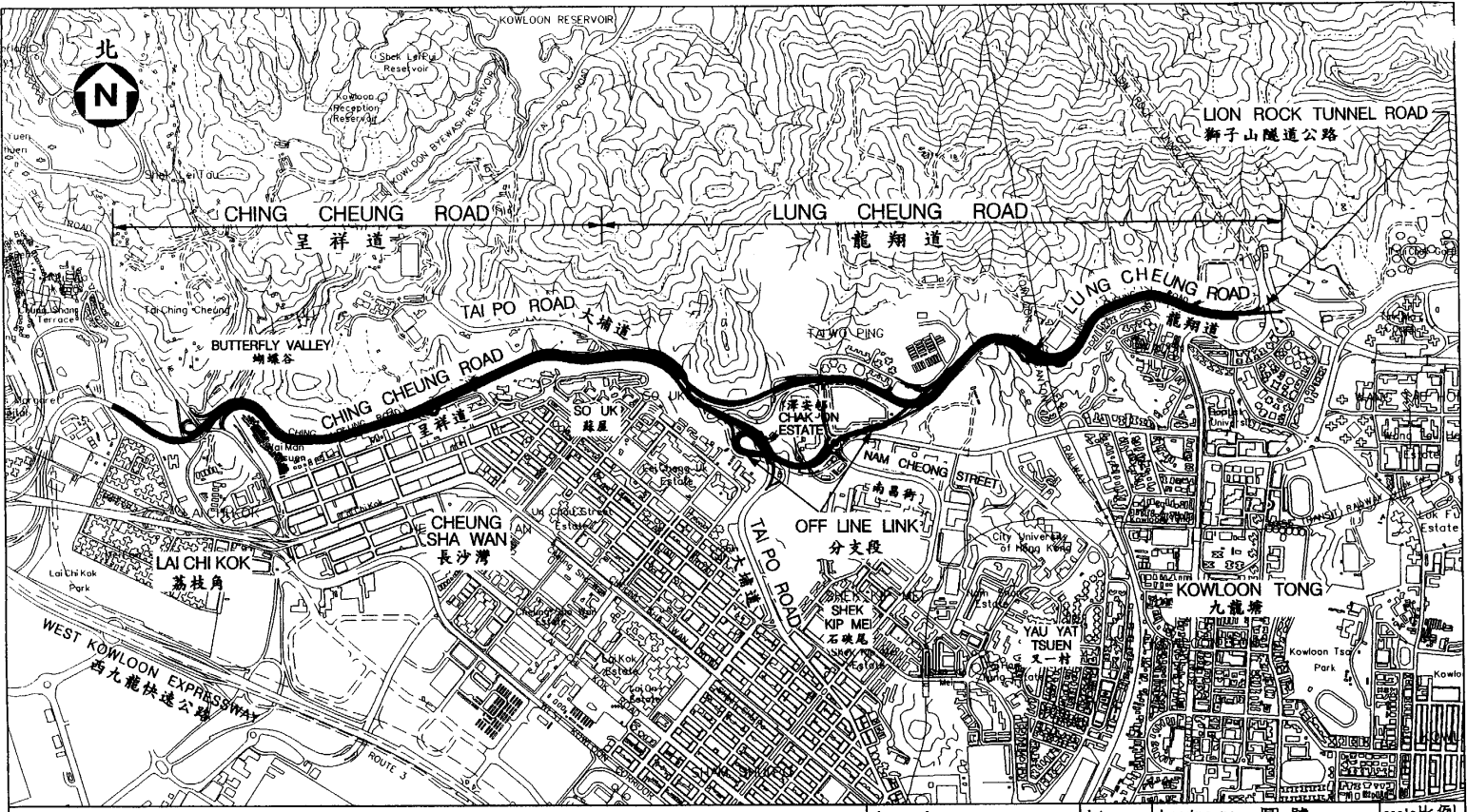
5. **As regards (h) (consultants' fees for construction stage)**, the increase of \$1.2 million is due to price fluctuation over the years.


6. As regards (i) (prolongation costs and increase in preliminaries), the additional cost of \$32.3 million is due to payments to cover the contractor's head and site office expenditure during the extended contract period.

7. As regards (j) (contingencies), the retention of \$32.1 million in the project contingencies is to allow for possible claims⁷ from the contractor.

(PWSC0142/WIN5)

⁷ Possible claims are related to valuation of slope works, foundation works and landscaping works.



title 圖則名稱 PWP ITEM No.464TH LUNG CHEUNG ROAD AND CHING CHEUNG ROAD IMPROVEMENTS - LOCATION PLAN 工務計劃項目第464TH號 龍翔道與呈祥道道路改善工程 - 位置圖	drawn by W K LEUNG	date 03/99	drawing no. 圖號 PMH6464/2PS/001	scale比例 1:20 000
	approved H Y SZETO	date 03/99	 HONG KONG HIGHWAYS DEPARTMENT 路香港政署	
	office MAJOR WORKS PROJECT MANAGEMENT OFFICE 主要工程管理處			