

For information

Legislative Council Panel on Development

148CD – Drainage improvement works in Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas

PURPOSE

This paper briefs Members on our proposal to increase the Approved Project Estimate (APE) of **148CD** by \$97.9 million from \$260.5 million to \$358.4 million in money-of-the-day (MOD) prices.

PROJECT SCOPE

2. In December 2006, the Finance Committee (FC) approved the upgrading of **148CD** to Category A at an estimated cost of \$260.5 million in MOD prices. There is no change to the approved scope of **148CD** which comprises -

- (a) construction of about 3.6 kilometres (km) of drainage channels with width ranging from 1.3 metres (m) to 30 m and about 0.5 km of box culverts with width ranging from 1.3 m to 20 m in Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas;
- (b) construction of about 0.84 km of drainage channels with width ranging from about 3 m to 17 m and about 0.21 km of box culverts of 4 m wide in Ping Kong areas;
- (c) construction and reprovisioning of vehicular/pedestrian access, and
- (d) ancillary works including reprovisioning of a public toilet and diversion of watermains.

_____ A site plan and typical cross-sections showing the works are at **Enclosure 1**.

3. We started the construction works in December 2006 and originally planned to complete the works in November 2010. However, the construction period has been prolonged due to various unexpected site situations as described

in paragraphs 5 and 6 below. We anticipate that the works will be substantially completed by June 2012. As at now, 80% of works were completed.

JUSTIFICATION

4. Following a review of the financial position of the project taking into account the proposed reduction in project contingencies, we consider it necessary to increase the APE of **148CD** by **\$97.9 million** in MOD prices to cover additional costs arising from the following –

- (a) increase in provision for price adjustment; and
- (b) unforeseen site constraints and local concern.

Increase in provision for price adjustment

5. According to existing Government practice, monthly payments to contractors for most construction contracts are adjusted to cover market fluctuation in labour and material costs, which are known as Contract Price Fluctuation (CPF) payment. The payment for the works of **148CD** is subject to CPF. A provision for price adjustment at an amount of \$7.9 million has been included in the APE of **148CD** which was estimated on the basis of the prevailing forecast of trend rate of change in the prices of public sector building and construction output for the period 2006 to 2011 and the anticipated project cash flow.

6. There has been a steady increase in construction material prices since 2004. But from mid-2007 onwards, there was an accelerated increase and followed by a steady increase since mid-2009 onwards. A chart showing the relevant trend of material costs is at **Enclosure 2**. For example, the July 2011 cost index for steel reinforcement, galvanized mild steel and sand has risen by 78.8%, 38.9% and 111.6% respectively from the December 2006 prices when the funding for the project was approved. In the light of the sharp increase in subsequent forecast on the trend rate of change in the prices of public sector building and construction output (the latest forecast is that there will be an increase of 5% per annum in 2011 and 5.5% per annum from 2012 to 2015) and the actual price deflators between 2007 and 2010 (the actual price deflators for 2007, 2008, 2009 and 2010 were 2.9%, 8.7%, 3.1% and 2.9% respectively), the CPF payments have been higher than expected. As a result, we anticipate that the provision for price adjustment will have to be increased by **\$62.9 million** from \$7.9 million to **\$70.8 million**. Details are at **Enclosure 3**.

Additional cost due to unforeseen site constraints and local concern

7. The actual site conditions are more constrained than originally envisaged due to presence of uncharted utilities, such as watermains, telecommunication cables and electricity cables. Provisions in the drainage channels and structural crossings were necessary to accommodate these utilities, which have incurred additional time and cost to the project. Further, we encountered local concerns unforeseen before the commencement of works including susceptible damage to village houses, transplanting of trees and maintaining of local vehicular and pedestrian access. In order to address these local concerns, design changes in the original drainage works were required resulting in additional time and cost to the project.

8. In addition, one of the workfronts had been suspended for more than a year due to vigorous objection and action by some villagers. Various measures had been taken with the assistance of District Office, District Lands Office, local Rural Committee and Villager Representatives with a view to settling the disputes and resuming the construction works but all our efforts made were in vain. Eventually, we made an application to the High Court, with the assistance of the Department of Justice, to issue an Injunction Order to prevent obstruction to the works by villagers. The construction works of this workfront resumed after the issue of the Injunction Order in July 2011. Hence additional contractor's site overheads including site supervisory staff and construction plants were incurred and the prolonged site works leads to an increase in project cost.

9. The total additional cost involved for the variations of works due to unforeseen site situations and local concerns mentioned in paragraph 7 and the increased site overheads due to prolonged site works mentioned in paragraph 8 is estimated to be **\$37.9 million**.

Offset by reduction in project contingencies

10. A provision of \$23.0 million in the original APE as contingencies has been reduced by \$7.1 million to account for the higher-than-expected tender prices. The original contingencies are further reduced by \$2.9 million to partly offset the increase in cost due to the reasons explained in paragraphs 5 to 9 above. The remaining contingencies of \$13.0 million are required to cater for further variations and possible claims during construction of the remaining works and valuation of works during finalization of the project account.

11. A summary of the proposed increase of **\$97.9 million** for **148CD** is as follows -

Factors	Proposed increased amount/ savings in MOD prices (\$ million)	% of the total increased amount/ savings
Increase due to –		
(a) Increase in provision for price adjustment	62.9	62.4
(b) Unforeseen site situations and local concern	37.9	37.6
(c) Total cost increase (c) = (a) + (b)	100.8	100.0
Partly Offset by -		
(d) Contingencies (part)	2.9	100.0
(e) Total savings	2.9	100.0
(f) Proposed increase (f) = (c) – (e)	97.9	

A comparison of the cost breakdown of the APE and the latest project estimate is given at **Enclosure 4**.

FINANCIAL IMPLICATIONS

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

Year	\$ million (in MOD prices)
Up to 31 March 2011	183.9
2011 – 2012	62.0

2012 – 2013	45.0
2013 – 2014	37.0
2014 – 2015	30.5
	<hr/>
Total	358.4
	<hr/>

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

PUBLIC CONSULTATION

14. As the proposed increase in APE does not involve any change in the scope of the project, we consider that further public consultation is not required.

ENVIRONMENTAL IMPLCATIONS

15. The proposed increase in APE does not have any environmental implication.

HERITAGE IMPLCATION

16. The proposed increase in APE does 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 ACQUISITION

17. The proposed increase in APE does not require any land acquisition.

BACKGROUND INFORMATION

18. In December 2006, we upgraded **148CD** to Category A at an estimated cost of \$260.5 million for the construction of drainage improvement works in Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas. The construction works commenced in December 2006 and was originally scheduled for completion in November 2010.

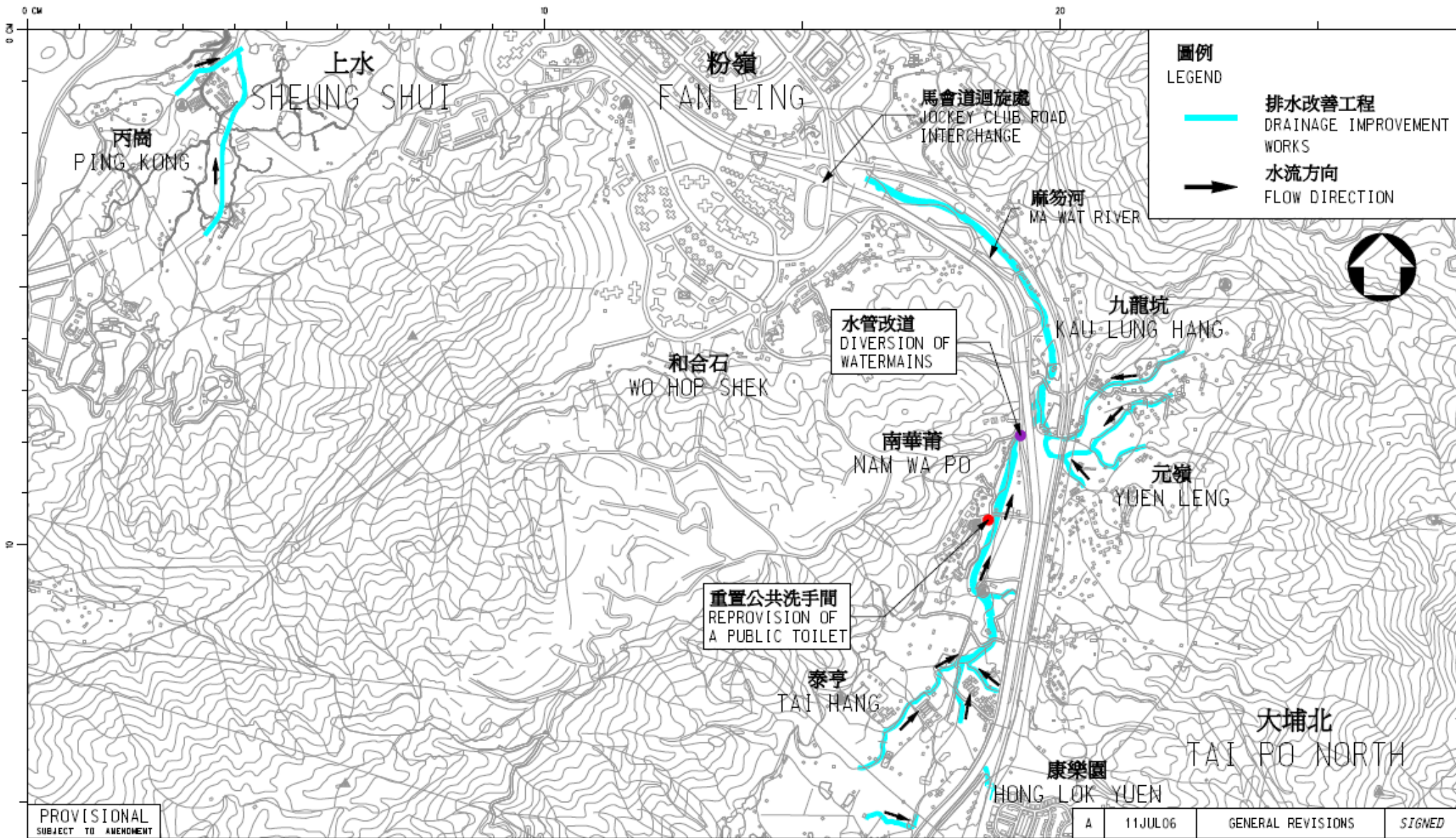
19. The proposed increase in APE will not involve any additional tree removal or planting proposals.

20. The proposed increase in APE will not create any new jobs.

WAY FORWARD

21. We plan to seek the support of Public Works Subcommittee for the increase in APE of **148CD** in December 2011 with a view to seeking the approval of FC in January 2012.

**Development Bureau
November 2011**



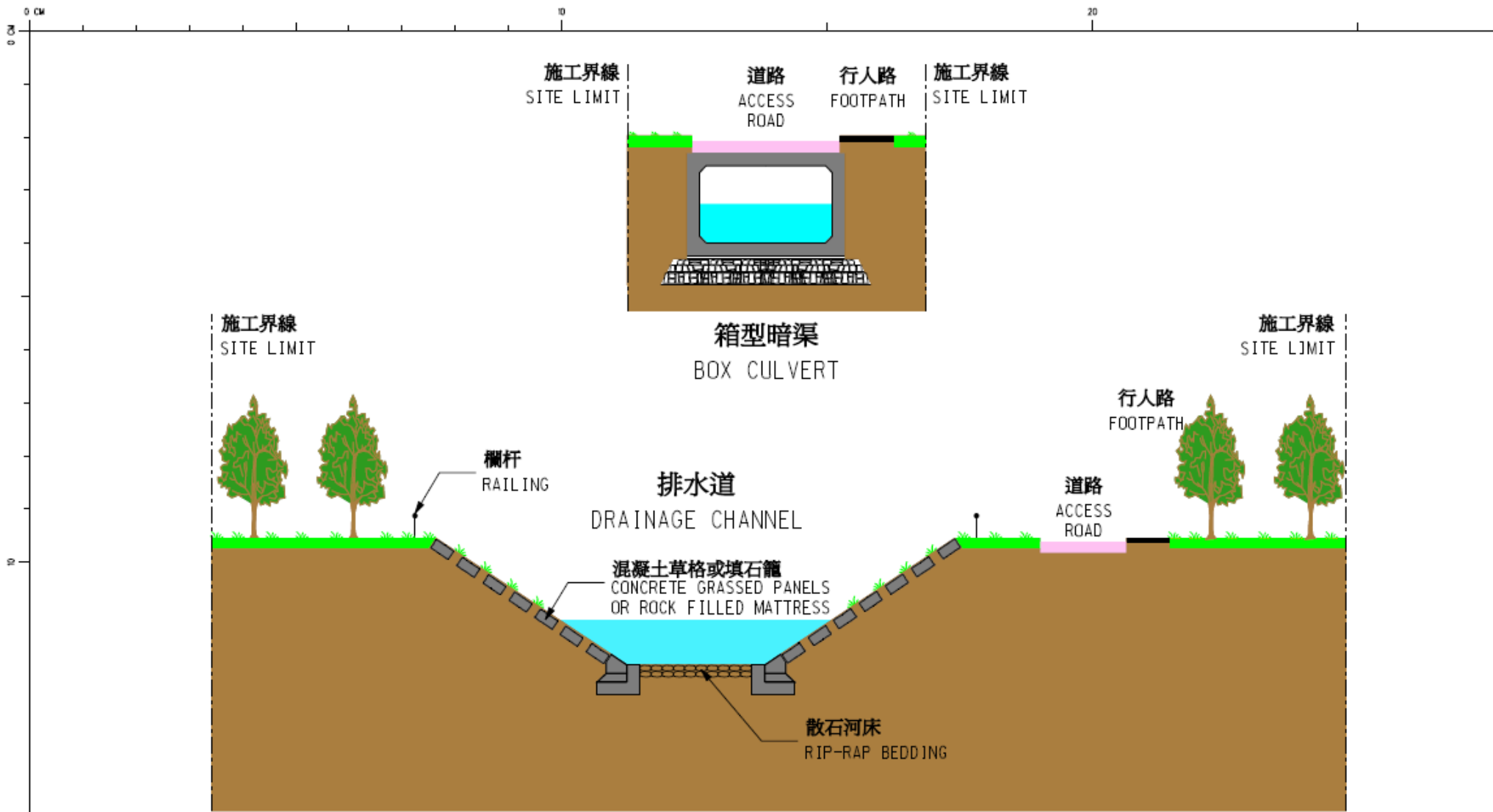
PROVISIONAL
SUBJECT TO AMENDMENT

圖則名稱 drawing title
丙崗、九龍坑、元嶺、南華莆及泰亨地區排水改善工程
- 分布圖
 DRAINAGE IMPROVEMENT IN PING KONG, KAU LUNG HANG,
 YUEN LENG, NAM WA PO AND TAI HANG AREAS
 - LAYOUT PLAN

繪畫 drawn	SIGNED C.K.LAM	日期 date	26MAY06
校對 checked	SIGNED W.C.SIU	日期 date	07JUN06
批核 approved	SIGNED C.M.CHUNG	日期 date	07JUN06
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION		

A	11JUL06	GENERAL REVISIONS	SIGNED
圖則編號 drawing no.		DPM/112CD/0098A	
比例 scale		1:20 000	
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附件一(頁一,共二頁) ENCLOSURE 1 (SHEET 1 OF 2)



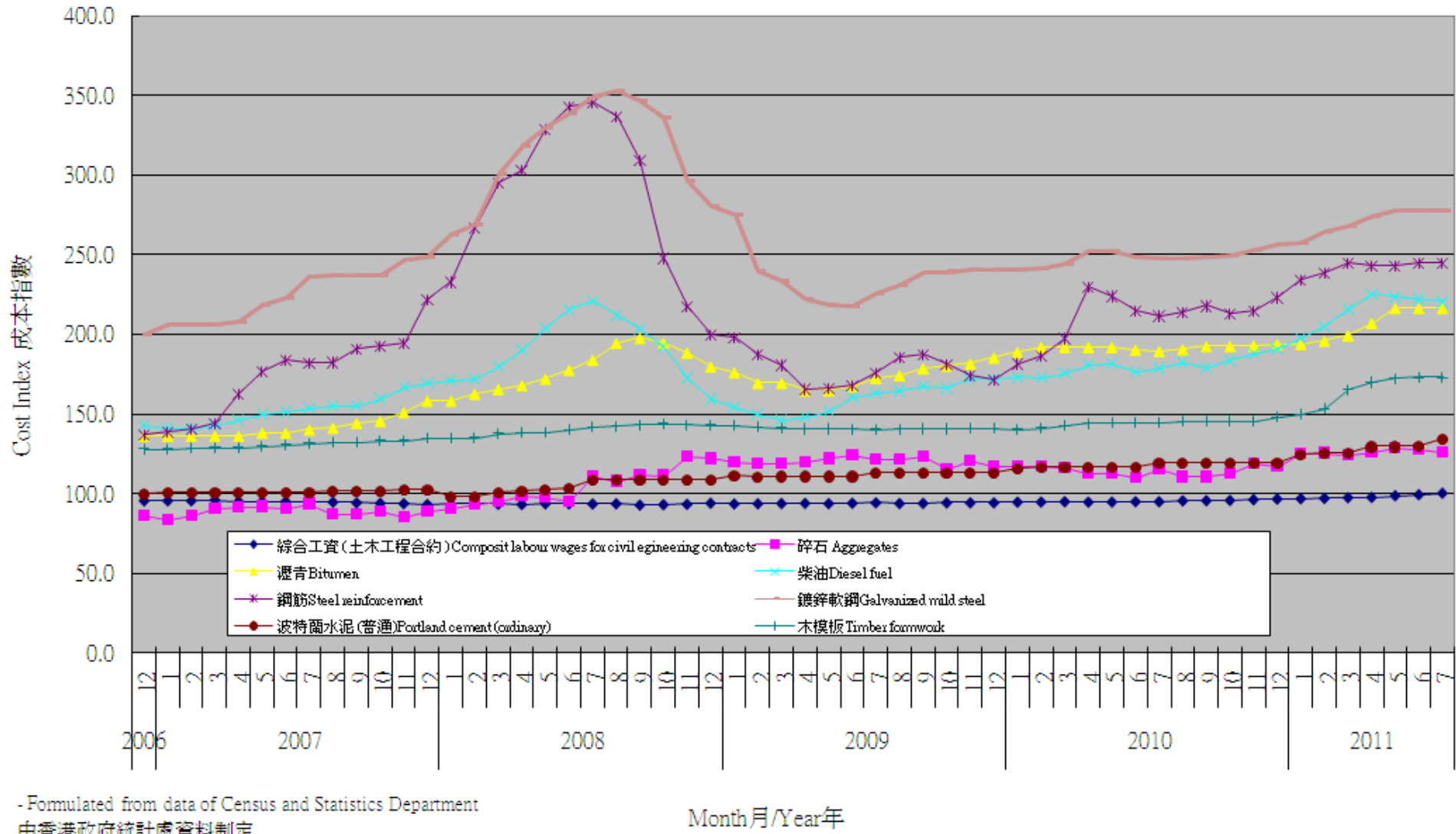
PROVISIONAL
SUBJECT TO AMENDMENT

圖則名稱 drawing title
丙崗、九龍坑、元嶺、南華莆及泰亨地區排水改善工程
- 河道及箱型暗渠典型切面圖
 DRAINAGE IMPROVEMENT IN PING KONG, KAU LUNG HANG,
 YUEN LENG, NAM WA PO AND TAI HANG AREAS - TYPICAL
 CROSS-SECTIONS OF DRAINAGE CHANNEL AND BOX CULVERT

繪畫 drawn	SIGNED C.K.LAM	日期 date	26MAY06
核對 checked	SIGNED W.C.SIU	日期 date	07JUN06
批核 approved	SIGNED C.M.CHUNG	日期 date	07JUN06
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A	27JUN06	GENERAL REVISIONS	SIGNED
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公營建築工程的工資及材料成本指數 (2003年4月 = 100)
 (2006年12月至2011年7月)
 Cost of Labour and Material Index (April 2003 = 100)
 (December 2006 - July 2011)



- Formulated from data of Census and Statistics Department
 由香港政府統計處資料制定

Month/Year年

**148CD – Drainage improvement works in Ping Kong, Kau Lung Hang,
Yuen Leng, Nam Wa Po and Tai Hang areas**

Table 1 – Cash flow and provisions for price adjustment in PWSC(2006-07)45

Year	Original project estimate (\$ million, in September 2006 prices) X	Original price adjustment factors (October 2006)# Y	Approved project estimate (\$ million, in MOD prices) Z	Provision for price adjustment (\$ million) A=Z – X
2006 - 2007	10.5	1.00000	10.5	0.0
2007 - 2008	59.8	1.01250	60.5	0.7
2008 - 2009	74.7	1.02769	76.8	2.1
2009 - 2010	74.8	1.04310	78.0	3.2
2010 - 2011	32.8	1.05875	34.7	1.9
Total	252.6		260.5	7.9

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

Year	Revised PE (\$ million, in September 2006 prices) a	Revised PE (\$ million, in September 2011 prices) b	Latest price adjustment factors (October 2011) ## c	Revised PE (\$ million, in MOD prices) d	Latest provision for price adjustment (\$ million) e	Net increase in provision for price adjustment (\$ million) f
Up to March 2011	154.5	183.9 [^]	1.00000	183.9 [^]	e = d – a	f = e – A
2011 – 2012	50.3	62.0 ^{^^}	1.00000	62.0		
2012 – 2013	34.7	42.7 ^{^^}	1.05375	45.0		
2013 – 2014	27.0	33.3 ^{^^}	1.11171	37.0		
2014 – 2015	21.1	26.0 ^{^^}	1.17285	30.5		
Total	287.6	347.9		358.4	70.8	62.9

Notes:

Price adjustment factors adopted in October 2006 were based on the projected movement of prices for public sector building and construction output at that time, which were assumed to increase by 0.5% per annum in 2006, increase by 1.5% per annum from 2007 to 2010 and by 2.5% per annum from 2011 onwards.

Price adjustment factors promulgated in October 2011 were based on the latest movement of prices for public sector building and construction output, which are assumed to increase by 5.0% per annum in 2011 and by 5.5% per annum from 2012 onwards.

[^] \$183.9 million was the actual expenditure up to March 2011.

^{^^} The latest project estimate (in September 2006 prices) was multiplied by 1.23228 for conversion to September 2011 prices. The figure of 1.23228 represented the changes in price movement for public sector building and construction output between September 2006 and September 2011.

**148CD – Drainage improvement works in Ping Kong,
Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang**

A comparison of the original APE and the latest project estimate is as follows -

	(A) Approved Project Estimate (\$ million)	(B) Revised Project Estimate ¹ (\$ million)	(C) Latest Project Estimate (\$ million)	(C) – (A) Difference (\$ million)
(a) Construction of drainage channels and box culverts in Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas	136.6	141.7	169.2	32.6
(b) Construction of drainage channels and box culverts in Ping Kong areas	40.2	42.2	50.5	10.3
(c) Construction and reprovisioning of vehicular/pedestrian access	33.1	33.1	33.1	0.0
(d) Ancillary works	9.2	9.2	11.3	2.1
(e) Environmental mitigation measures	10.5	10.5	10.5	0.0
Total value of contract works (sum of items (a) to (e))	229.6	236.7	274.6	45.0
(f) Contingencies	23.0	15.9	13.0	(10.0)
Sub-total (sum of items (a) to (f))	252.6	252.6	287.6	35.0
(g) Provision for price adjustment	7.9	7.9	70.8	62.9
Total	260.5	260.5	358.4	97.9

¹ Revised project estimate after contract award

2. As regards item **(a) (Construction of drainage channels and box culverts in Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang)**, the total increase of \$32.6 million is due to -

- (i) an increase of \$5.1 million due to higher-than-expected tender prices, and
- (ii) an increase of \$27.5 million due to unforeseen site constraints and local concern.

3. As regards item **(b) (Construction of drainage channels and box culverts in Ping Kong areas)**, the total increase of \$10.3 million is due to -

- (i) an increase of \$2.0 million due to higher-than-expected tender prices, and
- (ii) an increase of \$8.3 million due to unforeseen site constraints and local concern.

4. As regards item **(d) (Ancillary works)**, the total increase of \$2.1 million is due to the additional ancillary works in Tai Hang and Ping Kong.

5. As regards item **(f) (Contingencies)**, the net decrease of \$10.0 million is due to setting aside provision to meet (a), (b) and (d). We consider it necessary to retain the remaining sum of \$13.0 million as contingencies to cater for further variations and possible claims during construction and valuation of works during finalisation of project account.

6. As regards item **(g) (Provision for price adjustment)**, the increase of \$62.9 million is due to an increase in payment for actual and projected contract price fluctuation.