

For information

Legislative Council Panel on Development

**111CD - Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi -
Tsuen Wan drainage tunnel**

PURPOSE

This paper briefs Members on our proposal to increase the Approved Project Estimate (APE) of **111CD** by \$226.5 million from \$1,259.5 million to \$1,486.0 million in money-of-the-day (MOD) prices.

PROJECT SCOPE

2. In June 2007, the Finance Committee (FC) approved the upgrading of **111CD** to Category A at an estimated cost of \$1,259.5 million in MOD prices. There is no change to the approved scope of **111CD** which comprises –

- (a) a drainage tunnel of about 5 kilometres in length and of 6.5 metres (m) in diameter from Kwai Chung to Tsuen Wan;
- (b) an outfall portal, and
- (c) three intakes, about 80 m of associated connection adits and ancillary works.

———— A layout plan showing the location of the works is at **Enclosure 1**.

3. We started the construction works in December 2007 and originally planned to complete the works in September 2011. However, the completion date of the works has been deferred due to slower-than-expected progress. As at end September 2011, 60% of works were completed. We schedule to substantially complete the works by March 2013.

JUSTIFICATION

4. Following a review of the financial position of the project, it is necessary to increase the APE of **111CD** by \$226.5 million in MOD prices to cover the additional costs arising from the 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 **111CD** is subject to CPF, and the provision for price adjustment was allowed when FC's approval for the APE of **111CD** was sought in June 2007. At that time, we estimated the CPF payment on the basis of the forecast of trend rate of change in the prices of public sector building and construction output in March 2007. A provision of \$38.5 million was allowed for in the original APE for price adjustment based on the prevailing price adjustment factors and the projected 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 33.4%, 24.8% and 49.9% respectively from the June 2007 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. We anticipate that the provision for price adjustment will have to be increased by **\$226.5 million** from \$38.5 million to \$265.0 million. Details are at **Enclosure 3**.

7. A provision of \$100.0 million in the original APE as contingencies has been reduced to \$23.0 million to account for the higher-than-expected tender prices and site supervision cost. The remaining contingencies are required to cater for further variations to the works. As such, the additional CPF payment of \$226.5 million cannot be offset by the contingencies.

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

FINANCIAL IMPLICATIONS

9. Subject to FC's approval, we will phase the expenditure as follows –

Year	\$ million (in MOD prices)
Up to 31 March 2011	538.3
2011 – 2012	350.0
2012 – 2013	218.8
2013 – 2014	205.5
2014 – 2015	173.4
Total	1,486.0

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

PUBLIC CONSULTATION

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

ENVIRONMENTAL IMPLICATIONS

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

HERITAGE IMPLICATIONS

13. 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 interests and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

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

BACKGROUND INFORMATION

15. In June 2007, we upgraded **111CD** to Category A at an estimated

cost of \$1,259.5 million for the construction of Tsuen Wan drainage tunnel. The drainage tunnel aims to enhance the capacity of the existing drainage system and alleviate the flooding risks of some areas in Tsuen Wan and Kwai Chung. The construction works commenced in December 2007 and is expected to be substantially completed by March 2013.

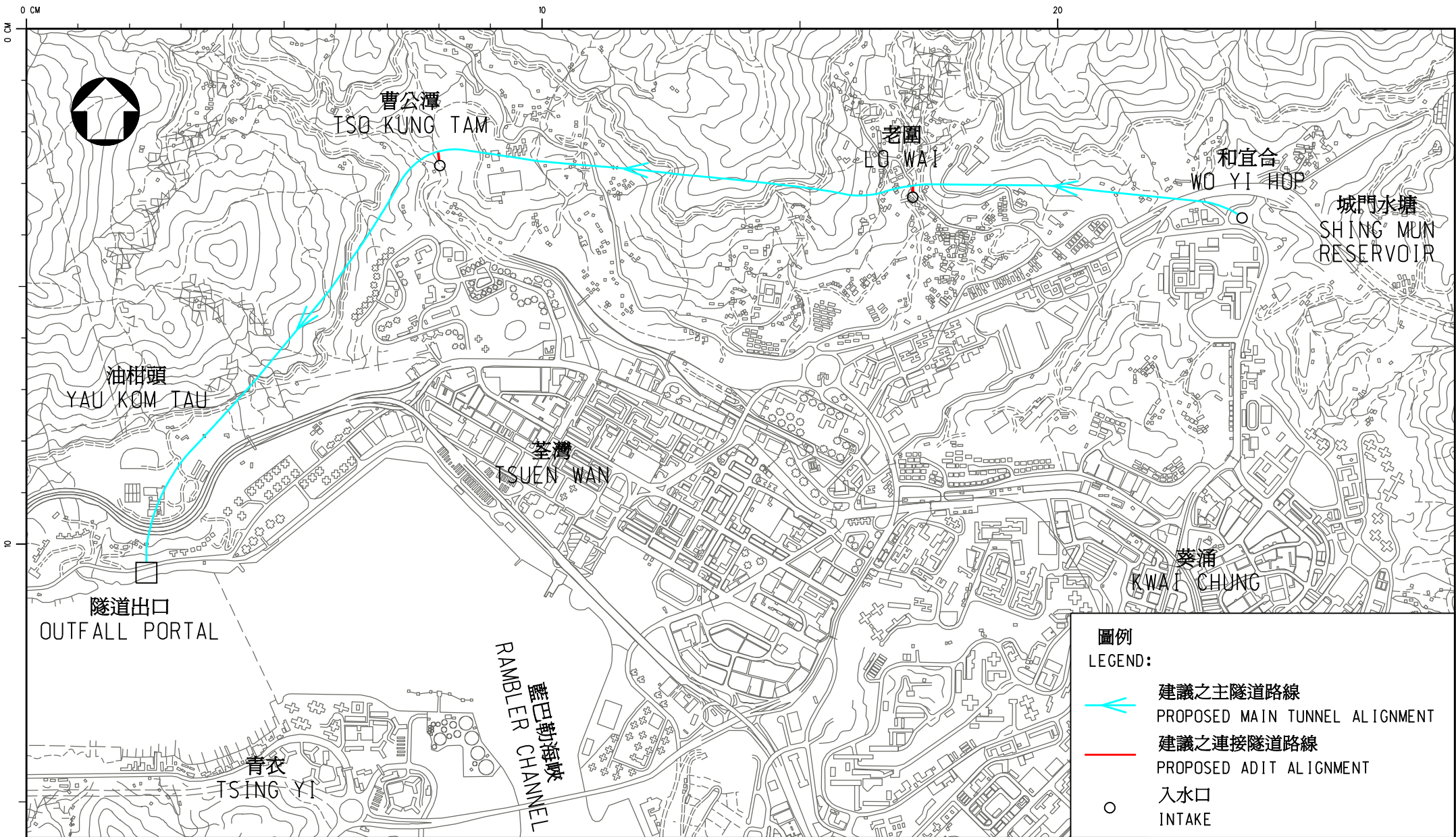
16. The proposed increase in APE will not involve any tree removal and planting proposal.

17. The proposed increase in APE will not create any new job.




WAY FORWARD

18. We plan to seek the support of Public Works Subcommittee for the increase in APE of **111CD** in December 2011 with a view to seeking funding approval from FC in January 2012.

Development Bureau
November 2011



圖例
LEGEND:

-  建議之主隧道路線
PROPOSED MAIN TUNNEL ALIGNMENT
-  建議之連接隧道路線
PROPOSED ADIT ALIGNMENT
-  入水口
INTAKE


圖則名稱 drawing title
工務計劃項目第111CD號
荃灣、葵涌及青衣雨水排放系統改善工程-荃灣雨水排放隧道
 PWP ITEM NO. 111CD
DRAINAGE IMPROVEMENT IN TSUEN WAN, KWAI CHUNG AND TSING YI - TSUEN WAN DRAINAGE TUNNEL

繪畫 drawn	SIGNED C.W. CHAN	日期 date	02FEB07
核對 checked	SIGNED K.K. UY	日期 date	02FEB07
批核 approved	SIGNED W.K. HO	日期 date	02FEB07
部門 office	顧問工程管理部 CONSULTANTS MANAGEMENT DIVISION		

圖則編號 drawing no.
DCM/2007/007

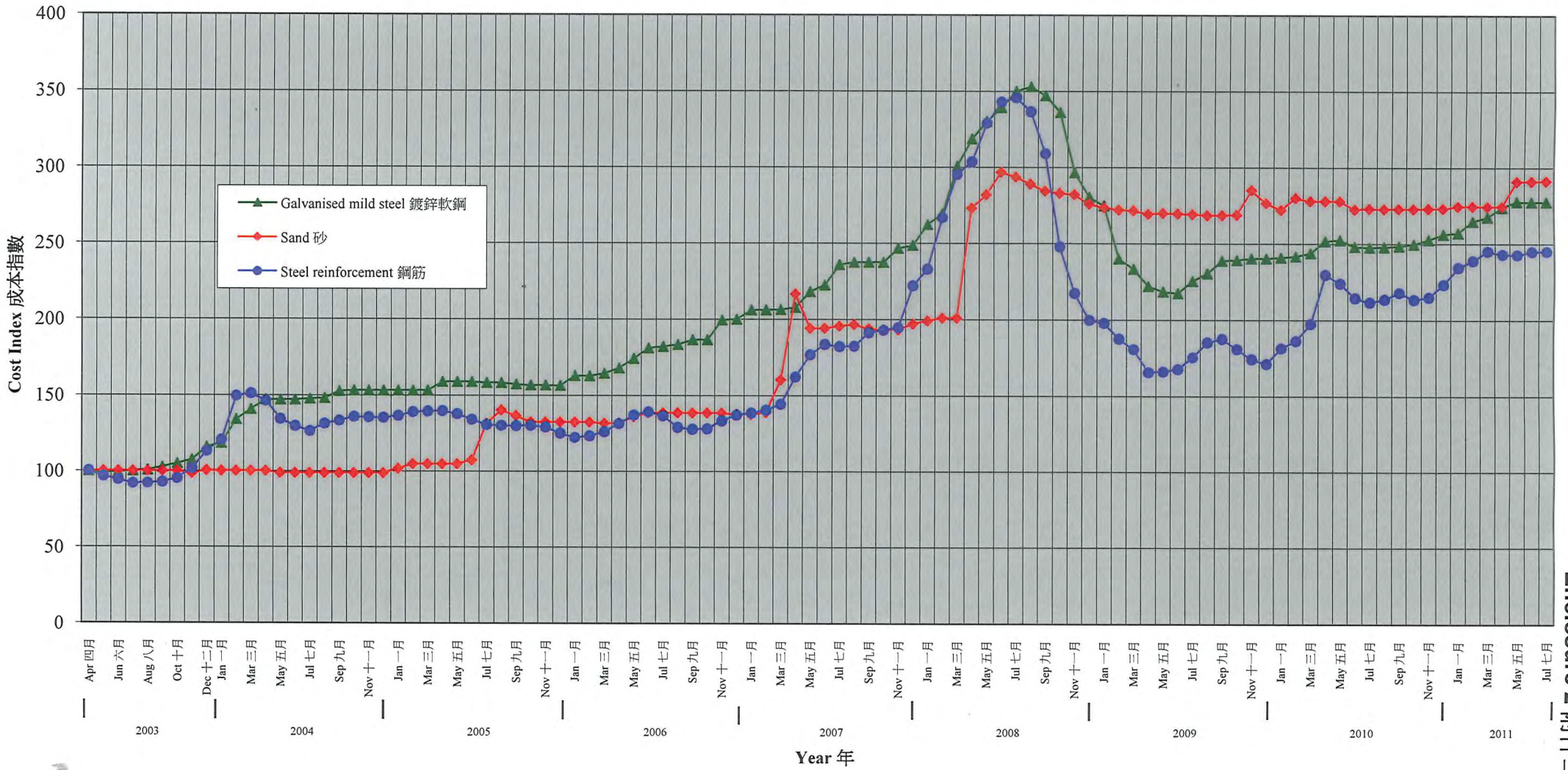
比例 scale
N.T.S.

保留版權 COPYRIGHT RESERVED

 **香港特別行政區政府渠務署**
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION

Index Numbers of Cost of Materials used in Public Sector Construction Projects (Apr 2003 = 100)
(Apr 2003 - Jul 2011)

公營建築工程的材料成本指數 (2003年4月=100)
(2003年4月至2011年7月)



**4111CD – Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi –
Tsuen Wan drainage tunnel**

Table 1 – Cash flow and provisions for price adjustment in PWSC(2007-08)18

Year	Original project estimate (\$ million, in September 2006 prices) A	Original price adjustment factor (March 2007)# B	Approved project estimate (\$ million, in MOD prices) C	Provision for price adjustment (\$ million) D = C – A
2007 - 2008	19.0	0.99900	19.0	0.0
2008 - 2009	189.0	1.00649	190.2	1.2
2009 - 2010	290.0	1.01656	294.8	4.8
2010 - 2011	319.0	1.02672	327.5	8.5
2011 - 2012	161.0	1.03699	167.0	6.0
2012 - 2013	98.0	1.05514	103.4	5.4
2013 - 2014	73.0	1.07624	78.6	5.6
2014 - 2015	72.0	1.09777	79.0	7.0
Total	1221.0		1259.5	38.5

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 2006 prices) a	Latest PE (\$ million, in September 2011 prices) ^{^^} b	Latest price adjustment factor (October 2011) ## 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 March 2011	498.5	538.3 [^]	1.00000	538.3 [^]	e = (d – a)	f = (e – D)
2011 – 2012	284.00	350.0	1.00000	350.0		
2012 – 2013	168.5	207.6	1.05375	218.8		
2013 – 2014	150.0	184.8	1.11171	205.5		
2014 – 2015	120.0	147.9	1.17285	173.4		
Total	1221.0	1428.6		1486.0	265.0	226.5

Notes:

Price adjustment factors adopted in March 2007 were based on the projected movement of prices for public sector building and construction output at that time, which were assumed to have no change in 2007 and to be increased by 1.0% per annum over the period from 2008 to 2011 and by 2.0% per annum from 2012 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 over the period from 2012 to 2021.

^ \$538.3 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 represents the changes in price movement for public sector building and construction output between September 2006 and September 2011.

**111CD – Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi –
Tsuen Wan drainage tunnel**

Comparison between original APE and the Revised Project Estimate

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

	(A) Approved Project Estimate (\$ million)	(B) Revised Project Estimate¹ (\$ million)	(C) Latest Project Estimate (\$ million)	(C) – (A) Difference (\$ million)
(a) Construction of drainage tunnel, outfall portal, intakes and the ancillary works	1,016.0	1,076.0	1,066.0	50.0
(b) Consultant's fee for contract administration and site supervision	93.0	93.0	120.0	27.0
(c) Environmental mitigation measures	12.0	12.0	12.0	(0.0)
(d) Contingencies	100.0	40.0	23.0	(77.0)
(e) Provision for price adjustment	38.5	38.5	265.0	226.5
Total	<u>1,259.5</u>	<u>1,259.5</u>	<u>1,486.0</u>	<u>226.5</u>

2. As regards (a) (**Construction of drainage tunnel, outfall portal, intakes and the ancillary works**), the net total increase of \$50.0 million is due to an increase of \$60.0 million for higher-than-expected tender price and a decrease of \$10.0 million for subsequent revision in works details.

¹ Revised project estimate after contract award

3. As regards **(b) (Consultant's fees for contract administration and site supervision)**, the total increase of \$27 million is due to adjustment on housing benefit, salary and extended construction period.
4. As regards **(d) (Contingencies)**, the net decrease of \$77.0 million is due to setting aside provision to meet (a) and (b).
5. As regards **(e) (Provision for price adjustment)**, the increase of \$226.5 million is due to unexpected increase in actual and projected provision for price fluctuation.