

For discussion  
on 27 April 2004

**Legislative Council Panel on Planning, Lands and Works**  
**110CD – Drainage improvement in Tsuen Wan, Kwai Chung and**  
**Tsing Yi – urban drainage improvement works**

**PURPOSE**

This paper seeks Members' view on the Administration's proposal to upgrade **110CD** "Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi – urban drainage improvement works" to Category A at an estimated cost of about \$72 million in money-of-the-day (MOD) prices.

**BACKGROUND**

2. In July 1999, we completed a comprehensive review of the drainage systems in Tsuen Wan, Kwai Chung and Tsing Yi under **76CD** "Stormwater Drainage Master Plan Study in Tsuen Wan, Kwai Chung and Tsing Yi" (the Study). According to the Study, the drainage system in Tsing Yi meets the current flood protection standards. As regards Tsuen Wan and Kwai Chung, the Study identified that the drainage systems are inadequate to meet the required flood protection standards and recommended the implementation of a package of drainage improvement works to alleviate the flooding problem in Tsuen Wan and Kwai Chung.

3. We included **111CD** "Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi – Tsuen Wan drainage tunnel" and **110CD** "Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi – urban drainage improvement works" in Category B in September 2000 for the construction a drainage tunnel<sup>1</sup> and upgrading and rehabilitation of urban drainage works respectively.

4. In April 2002, we included an item under block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme", at an estimated cost of \$3.5 million in MOD prices, for engaging consultants to undertake investigations and detailed design for **110CD**. The consultancy commenced in July 2002 and the

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<sup>1</sup> In March 2002, we upgraded part of **111CD** to Category A as **121CD** "Drainage improvement in Tsuen Wan, Kwai Chung and Tsing Yi – Tsuen Wan drainage tunnel – Investigation" for engaging consultants to investigate the tunnel alignment and to conduct an Environmental Impact Assessment study, ground investigation and physical model for the proposed tunnel. The consultancy commenced in October 2002 for completion in 2005-06.

detailed design was substantially completed in April 2004.

## **PROPOSAL**

5. The scope of the proposed works comprises -
- (a) structural rehabilitation of about 250 metres (m) stormwater drains with 1800 millimetres (mm) in diameter and of about 200 m box culvert with size of 4.0 m x 1.5 m to 3.7 m x 2.7 m around Kwok Shui Road and Ping Fu Path; and
  - (b) upgrading of about 1200 m stormwater drains by replacement of existing drains with larger drains or by addition of new drains ranging from 600 mm to 2100 mm in diameter around Tai Ha Street, Tsuen Wing Street, Sha Tsui Road and Lei Pui Street.

A site plan showing the location of the proposed works is at Enclosure.

6. We plan to start the construction of the proposed drainage works in November 2004 for completion in September 2006.

## **JUSTIFICATION**

7. Most of the existing stormwater drains in Tsuen Wan and Kwai Chung were designed and constructed more than 30 years ago to meet the flow requirements at that time. Rapid urbanisation and changes in land use over the past decades have turned the natural ground and slopes into paved areas. Rainwater which could previously dissipate naturally through ground filtration can no longer do so. This has led to significant increase in surface runoff and overloading of the existing drainage system. Although we have been making local improvements to the system to cater for developments from time to time, the overall drainage system as a whole is still inadequate to meet the required flood protection standards. Flooding occurs during severe rainstorms.

8. We need to improve the existing drainage systems in Tsuen Wan and Kwai Chung in order to alleviate flooding in the districts and to meet the community's increased expectation for higher flood protection standards. The main scheme of the drainage improvement works comprises a drainage tunnel to intercept and convey the upland flows directly to the sea, which is under **111CD**. With this drainage tunnel, the general standards of flood protection in Tsuen Wan and Kwai Chung can be raised to withstand a rainstorm with a return

period of one in 50 years<sup>2</sup> or more without the need to implement extensive pipelaying works in the busy streets of the Tsuen Wan and Kwai Chung districts. However, the areas along Tai Yuen Street and Kwok Shui Road, Ta Chuen Ping Street (near Ping Fu Path), Lei Pui Street, Tai Ha Street and Tai Wo Hau Road, will still be susceptible to flooding even with the proposed drainage tunnel in place. Therefore, we propose to carry out the drainage improvement works as described in paragraph 5 above so as to provide the required flood protection standards in these areas. These drainage improvement works would remove the capacity bottlenecks and would function independently even without the proposed drainage tunnel.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the proposed works to be about \$72 million<sup>3</sup> (in MOD prices). Breakdown of the cost is as follows -

Item	\$ million	
(a) Drainage works	60	
(b) Consultants' fees for	8	
(i) site supervision	1	
(ii) resident site staff	7	
(c) Contingency	7	
Sub-total :	75	(in September 2003 prices)
(d) Price adjustment	(3)	
Total :	72	(in MOD prices)

10. The proposed works will not give rise to additional recurrent expenditure.

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<sup>2</sup> "Return period" means the average number of years during which a certain severity of flooding will occur one, statistically. A longer return period means a rare chance of occurrence of a more severe flooding.

<sup>3</sup> This is the latest estimate. We are finalizing the cost estimates and there may be some adjustments in our submission to the Public Works Subcommittee for consideration.

## **PUBLIC CONSULTATION**

11. We consulted the Legislative Council (LegCo) Panel on Planning, Lands and Works in March 2001 on the overall drainage improvement scheme for Tsuen Wan and Kwai Tsing Districts. On 4 January 2002, we consulted the LegCo Panel again on our findings on the interception approach. Experts in hydraulics and representatives from various professional bodies also participated at the meeting, and discussed the causes of major flooding in recent years, the technical feasibility of the proposed drainage tunnel projects, the cost-effectiveness as well as cost and benefit of the interception approach. We consulted the Kwai Tsing District Council (KwTDC) and Tsuen Wan District Council (TWDC) on 11 and 30 March 2004 respectively on the proposed urban drainage improvement works. Both KwTDC and TWDC supported the implementation of the proposed works.

## **ENVIRONMENTAL IMPLICATIONS**

12. We completed a Preliminary Environmental Review (PER) for the project in March 2000, which concluded that the project would not result in long-term adverse environmental impacts. The Director of Environmental Protection agreed to the conclusions of the PER and the proposed work is not a designated project under the Environmental Impact Assessment Ordinance. We will implement appropriate environmental mitigation measures to minimize nuisances arising from the works during construction.

## **TRAFFIC IMPLICATIONS**

13. To minimize the traffic impacts caused by the construction works, we have carefully selected the alignment of the proposed drains so as to avoid the busy areas. We have also completed the traffic impact assessment for the works. The result shows that as most of the works are not constructed in busy areas, the impacts on traffic shall not be significant. Existing public transport routes will not be affected by the works, and the number of traffic lanes on main roads will be maintained, except for locations where road-crossing drains are to be constructed. All existing vehicular entry and exit points, pedestrian routes and pedestrian crossing facilities will be maintained, and temporary traffic arrangements will be designed according to prevailing site constraints and up to the required standards. Therefore, traffic impact at most locations of the works is expected to be minimal.

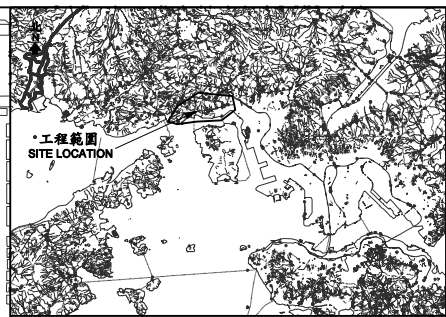
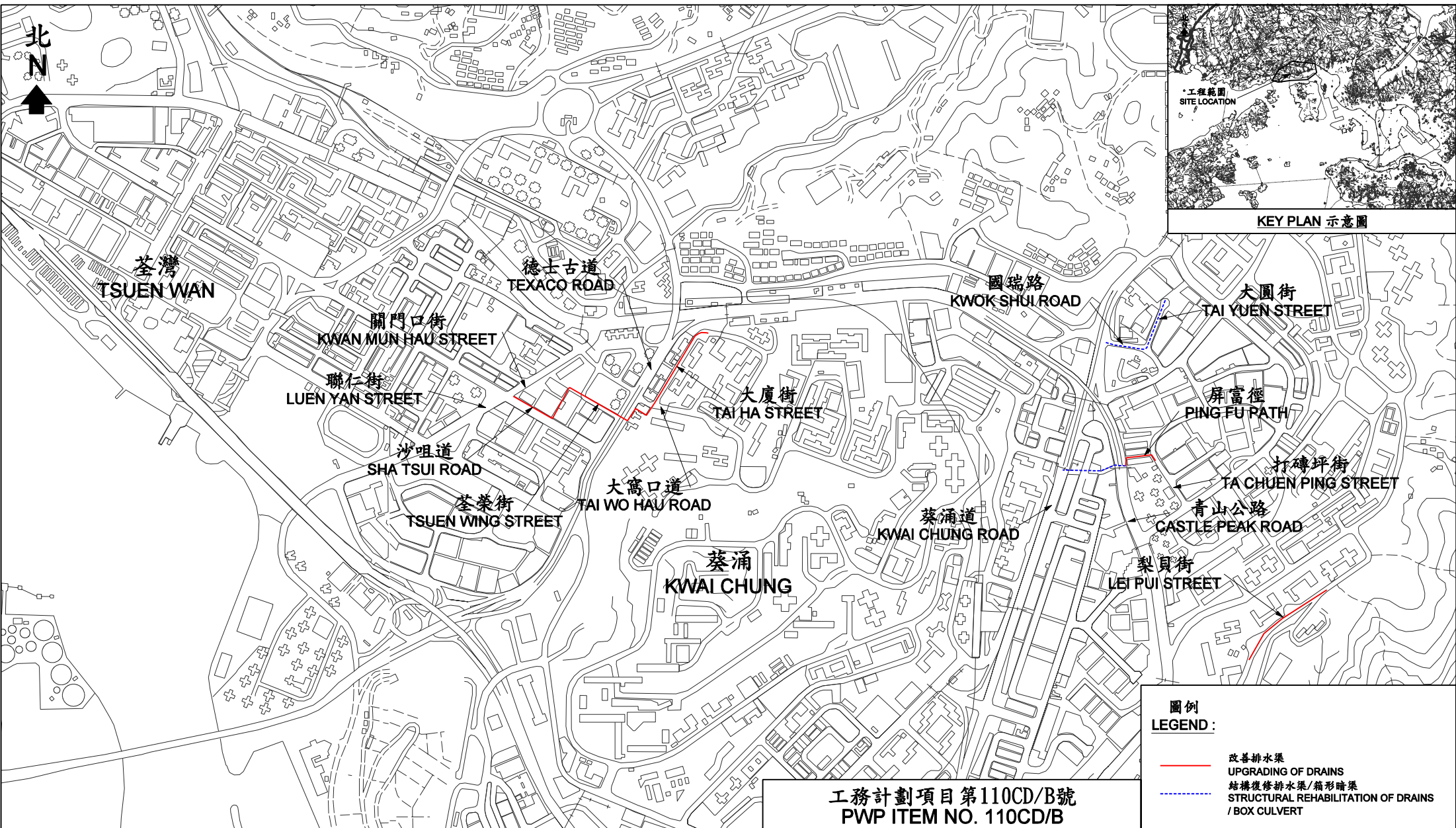
14. During the construction period, we will establish a Traffic Management Liaison Group to discuss, scrutinize and review on the proposed temporary traffic arrangement. We will maintain close contacts with the Transport Department, public transport operators, Police and relevant

government departments to review the situation so as to minimize any disruption caused.

**WAY FOWARD**

15. Subject to Members' views, we intend to submit **110CD** to the Public Works Subcommittee in June 2004 for consideration with a view to seeking funding approval from the Finance Committee in July 2004.

Environment, Transport and Works Bureau  
April 2004



KEY PLAN 示意圖

圖例 LEGEND:	
	改善排水渠 UPGRADING OF DRAINS
	結構復修排水渠/箱形暗渠 STRUCTURAL REHABILITATION OF DRAINS / BOX CULVERT

圖則名稱 drawing title		工務計劃項目第110CD/B號 PWP ITEM NO. 110CD/B		圖則編號 drawing no.	
荃灣、葵涌及青衣雨水排放系統改善計劃 市區雨水排放系統改善工程 DRAINAGE IMPROVEMENT IN TSUEN WAN, KWAI CHUNG AND TSING YI URBAN DRAINAGE IMPROVEMENT WORKS		繪畫 drawn	Original Signed C.W. CHAN	日期 date	24-02-2004
		核對 checked	Original Signed K.K. UY	日期 date	24-02-2004
		批核 approved	Original Signed K.W. MAK	日期 date	24-02-2004
		部門 office	顧問工程管理部 CONSULTANTS MANAGEMENT DIVISION		
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