

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT Transport – Roads**

#### **743TH – Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated junction improvement works**

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **743TH**, entitled “Tsuen Wan Bypass, widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated junction improvement works – detailed design” to Category A at an estimated cost of \$46.9 million in money-of-the-day (MOD) prices; and
- (b) to retain the remainder of **743TH** in Category B.

### **PROBLEM**

We need to engage consultants to undertake the detailed design for the proposed Tsuen Wan Bypass, widening of Tsuen Wan Road (TWR) between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated junction improvement works.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **743TH** to Category A at an estimated cost of \$46.9 million in MOD prices for the engagement of consultants to undertake the assignment for the proposed Tsuen Wan Bypass, widening of TWR between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated junction improvement works (the Project).

## PROJECT SCOPE AND NATURE

3. The scope of **743TH** comprises –
- (a) construction of two single-lane elevated flyovers, one on Tuen Mun bound and the other on Kowloon bound, and parallel to Tsuen Wan Road between Tuen Mun Road and Tai Chung Road Interchange, each of about 700 metres (m) long;
  - (b) construction of two two-lane elevated flyovers, one on Tuen Mun bound and the other on Kowloon bound, and parallel to Tsuen Wan Road between Tai Chung Road Interchange and Tsuen Tsing Interchange, each of about 1.4 kilometres (km) long;
  - (c) widening of a section of Tsuen Wan Road of about 700 m long from dual three-lane to dual five-lane between Tsuen Tsing Interchange and Kwai Tsing Interchange;
  - (d) construction of three single-lane slip roads of a total length of 850 m, connecting the vehicular flyovers mentioned in (a) and (b) above to Hoi Hing Road and Texaco Road respectively;
  - (e) provision of noise barriers/enclosures, including cantilevered noise barriers of about 8.0 m high and 2.2 km long and noise enclosures of about 6.0 m high and 700 m long;

/(f) .....

- (f) associated civil, structural, drainage, geotechnical and landscaping works, traffic control and surveillance systems, traffic aids and street lighting works; and
- (g) an environmental monitoring and audit (EM&A) programme for works mentioned in (a) to (f) above.

———— A plan showing the proposed works is at Enclosure 1.

4. The part of **743TH** (the Assignment) we now propose to upgrade to Category A comprises –

- (a) a review of the findings of the previous investigation and preliminary design (I&PD) assignment;
- (b) detailed design of the works described in paragraph 3(a) to (f) above; and
- (c) preparation of tender documents and assessment of tenders.

5. We plan to start the Assignment in September 2009 for completion by November 2011. We intend to commence the construction works in December 2011 for completion in December 2015.

## **JUSTIFICATION**

6. TWR is a dual 3-lane strategic trunk route connecting Kwai Chung Road and Tuen Mun Road. It also provides local links to the road network within Tsuen Wan via the Tai Chung Road Interchange, and to Tsing Yi via Tsuen Tsing and Kwai Tsing Interchanges.

7. To meet growing traffic demand resulting from developments in the north-western New Territories, the commissioning and operation of West Rail and its associated property developments as well as other planned developments in Tsuen Wan, we need to upgrade TWR to cater for the increase in through traffic as well as for local access to Tsuen Wan and Tsing Yi.

/8. ....

8. We estimate that TWR will be over-saturated and operating at critical volume/capacity (v/c) ratios<sup>1</sup> during the peak hours in 2016 if no improvement works are carried out. The v/c ratios of the road in 2016 and 2021, with and without the proposed works, are as follows –

Tsuen Wan Road	Year		
	2008	2016	2021
Without proposed works	1.1	1.3	1.3
With proposed works	-	0.8	0.9

9. We engaged consultants in July 2002 to undertake the I&PD assignment for carrying out the site investigation and preliminary design of the Project. The consultants have completed the preliminary design. Due to insufficient in-house resources, we propose to engage consultants to undertake the Assignment, including review of the findings of the I&PD assignment, detailed design, preparation of tender documents and assessment of tenders.

## FINANCIAL IMPLICATIONS

10. We estimate the cost of the Assignment to be \$46.9 million in MOD prices (see paragraph 11 below), made up as follows –

	\$ million
(a) Consultant's fees	40.3
(i) review of the findings of the I&PD assignment	4.5
/(ii) .....	

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<sup>1</sup> Volume to capacity (v/c) ratio is an indicator which reflects the performance of a road. A v/c ratio equal to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A v/c ratio above 1.0 indicates the onset of congestion; that above 1.2 indicates more serious congestion with traffic speeds deteriorating progressively with further increase in traffic.

		<b>\$ million</b>	
(ii) detailed design	32.5		
(iii) preparation of tender documents and assessment of tenders	3.3		
(b) Contingencies		4.0	
Sub-total		44.3	(in September 2008 prices)
(c) Provision for price adjustment		2.6	
Total		46.9	(in MOD prices)

A breakdown by man-months of the estimate for the consultants' fees is at Enclosure 2.

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

<b>Year</b>	<b>\$ million (Sept 2008)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2009 – 2010	2.1	1.03200	2.2
2010 – 2011	28.0	1.05264	29.5
2011 – 2012	14.2	1.07369	15.2
	44.3		46.9

/12. ....

12. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2009 to 2012. We will engage consultants on a lump sum basis with provision for price adjustment as the duration of the consultancy will exceed 12 months.

13. The Assignment will not give rise to any recurrent consequence.

### **PUBLIC CONSULTATION**

14. We consulted the Traffic and Transport Committee (T&TC) of the Tsuen Wan District Council (TWDC) on 4 September 2007, and the Environmental and Health Affairs Committee (E&HAC) of TWDC on 6 September 2007 and 5 May 2008. At the E&HAC meeting on 6 September 2007, while welcoming the Project on traffic grounds and noting that noise barriers/enclosures would be erected on the proposed new flyovers to mitigate traffic noise in accordance with the requirements of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499), Members were concerned about the traffic noise generated from the existing TWR currently affecting the nearby residents of Clague Garden Estate. At the E&HAC meeting on 5 May 2008, the Administration presented an outline design for providing additional noise barriers and other noise mitigation measures on the existing TWR and in the vicinity of Clague Garden Estate under the environmental protection policy on retrofitting noise mitigation measures on existing roads. Members supported the outline design. The Administration will implement the retrofitting measures under a separate Public Works Programme item as they are outside the scope of **743TH**.

15. We also consulted the T&TC of the Kwai Tsing District Council on the Project on 21 February 2008. Members had no objection to the Project. We will continue to keep the two District Councils and the community informed of the progress of the Project throughout the detailed design process and consult them again before applying for funding from the Legislative Council for construction.

16. We issued an information paper to the Legislative Council Panel on Transport for circulation on 23 February 2009. Members did not raise any objection to the Assignment.

**/ENVIRONMENTAL .....**

## ENVIRONMENTAL IMPLICATIONS

17. The Assignment will not have any adverse environmental implications. The Project is a designated project under Schedule 2 of the EIAO and an environmental permit is required for the construction and operation of the Project. The Environmental Impact Assessment (EIA) report, which was approved on 8 December 2008, concluded that the environmental impacts of the Project could be controlled to within the criteria under the EIAO and the Technical Memorandum on EIA Process through implementing appropriate mitigation measures. We will incorporate into the detailed design and relevant works contracts all the mitigation measures and an EM&A programme as recommended in the approved EIA Report to verify the effectiveness of recommended mitigation measures. To alleviate the traffic noise impact on sensitive receivers along TWR, which is the major environmental concern of the Project, we will implement measures including the installation of cantilevered noise barriers and noise enclosures.

18. The proposed design consultancy will not generate any construction waste. We will require the consultants to fully consider measures to minimise the generation of construction waste and to reuse/recycle construction waste as much as possible in the future implementation of the construction projects.

## HERITAGE IMPLICATIONS

19. The Assignment will 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

20. The Assignment does not require any land acquisition.

## BACKGROUND INFORMATION

21. In August 1998, we engaged consultants to carry out a feasibility study for **743TH**. We completed the feasibility study in December 1999 and charged the cost of \$3.0 million to the block allocation **Subhead 7100CX** "New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme".

22. We upgraded **743TH** to Category B in September 2000. In March 2002, we upgraded part of **743TH** to Category A as **771TH** “Tsuen Wan Road upgrading – site investigation and preliminary design” at an estimated cost of \$43.3 million in MOD prices to carry out site investigation and preliminary design for the Project.

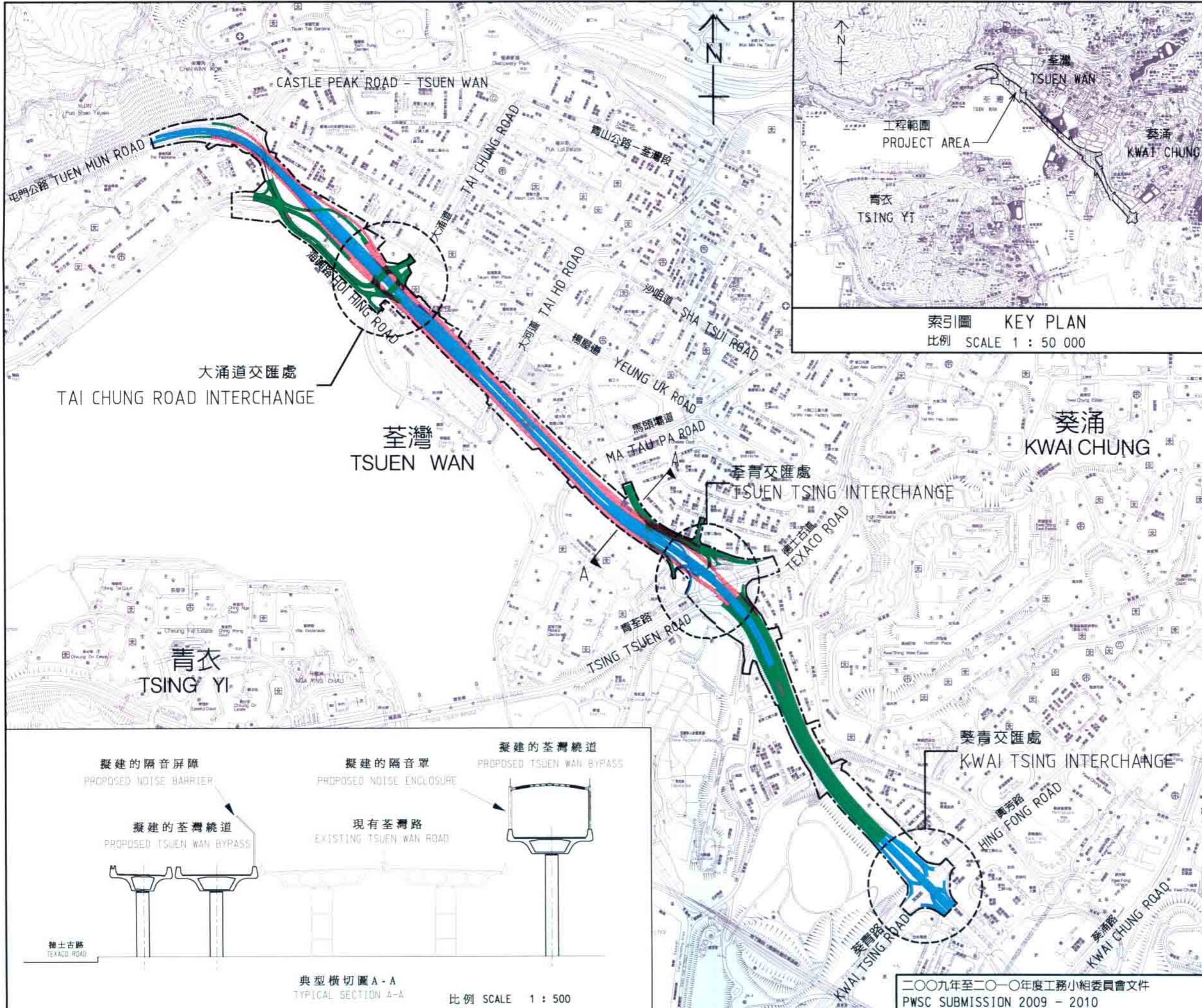
23. The Assignment will not directly involve any tree removal or planting proposals. We will require the consultants to take into consideration the need for tree preservation and formulate tree removal proposals during the detailed design stage of the Project. We will also incorporate tree planting proposals, where possible, in the construction phase.

24. We estimate that the proposed works will create about 42 jobs for professional/ technical staff providing a total employment of 570 man-months.

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Transport and Housing Bureau  
March 2009





索引圖 KEY PLAN  
比例 SCALE 1 : 50 000

- 註釋 NOTES :
- 圖例 LEGEND :
- 施工區界限  
LIMIT OF WORKS AREA
  - 現有荃灣路  
EXISTING TSUEN WAN ROAD
  - 擬建的荃灣繞道  
PROPOSED TSUEN WAN BYPASS
  - 擬擴闊的荃青交匯處至葵青交匯處的一段荃灣路、以及相關路口改善工程  
PROPOSED WIDENING OF TSUEN WAN ROAD BETWEEN TSUEN TSING INTERCHANGE AND KWAI TSING INTERCHANGE AND ASSOCIATED JUNCTION IMPROVEMENT WORKS

D	05.02.09	MINOR REVISED	SIGNED	SIGNED
C	14.01.09	MINOR REVISED	SIGNED	SIGNED
B	24.12.08	MINOR REVISED	SIGNED	SIGNED
A	22.12.08	MINOR REVISED	SIGNED	SIGNED

修訂 REVISION

編號 no.	日期 date	內容描述 description	核對 checked	核准 approved
繪圖 drawn	P. K. SO		SIGNED	28.11.08
核對 checked	H. S. KO		SIGNED	28.11.08

核准 approved

SIGNED 22.12.08  
K. L. CHEUNG (SE/4) 日期 date

項目編號 item no.

圖則名稱 drawing title

荃灣繞道，擴闊荃青交匯處至葵青交匯處的一段荃灣路、以及相關路口改善工程

TSUEN WAN BYPASS, WIDENING OF TSUEN WAN ROAD BETWEEN TSUEN TSING INTERCHANGE AND KWAI TSING INTERCHANGE AND ASSOCIATED JUNCTION IMPROVEMENT WORKS

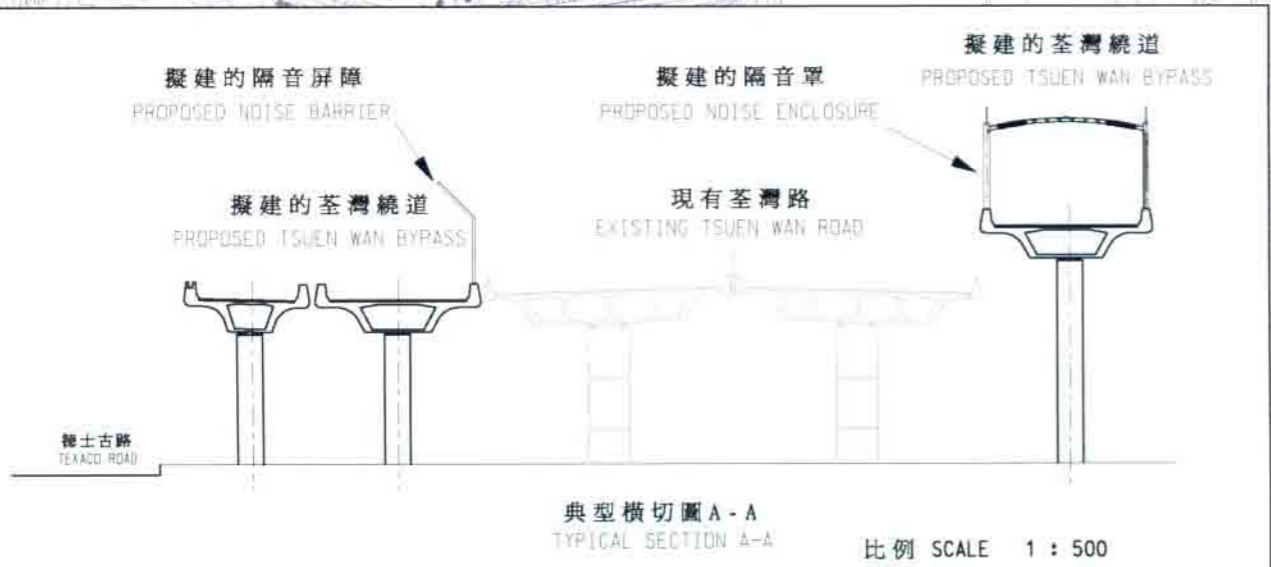
圖則編號 drawing no. NTW 1396D

比例 scale 1 : 10 000 OR AS SHOWN

辦事處 office  
新界西及北拓展處  
NEW TERRITORIES NORTH AND WEST DEVELOPMENT OFFICE

土木工程拓展署  
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

二〇〇九年至二〇一〇年度工務小組委員會文件  
PWSC SUBMISSION 2009 - 2010



**Enclosure 2 to PWSC(2009-10)4**

**743TH – Tsuen Wan Bypass, Widening of Tsuen Wan Road between Tsuen Tsing Interchange and Kwai Tsing Interchange and associated Junction Improvement Works**

**Breakdown of the estimate for consultants' fees (in September 2008 prices)**

<b>Consultants' staff costs</b> <small>(Note 2)</small>		<b>Estimated man - months</b>	<b>Average MPS* salary point</b>	<b>Multiplier factor</b> <small>(Note 1)</small>	<b>Estimated fees (\$ million)</b>	
(a)	Review of the findings of the I&PD assignments	Professional	22	38	2.0	2.7
		Technical	44	14	2.0	1.8
(b)	Detailed design	Professional	180	38	2.0	21.7
		Technical	274	14	2.0	10.8
(c)	Preparation of tender documents and assessment of tenders	Professional	17	38	2.0	2.0
		Technical	33	14	2.0	1.3
<b>Total consultants' staff costs</b>					40.3	

\* MPS = Master Pay Scale

**Notes**

1. A multiplier of 2.0 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices (as at 1 January 2009, MPS pt. 38 = \$60,535 per month, and MPS pt. 14 = \$19,835 per month).
2. The figures given above are based on estimates prepared by the Director of Civil Engineering and Development. We will know the actual man-months and fees only when we have selected the consultants through the usual competitive lump-sum fee bid system.