

For discussion  
on 8 May 2002

PWSC(2002-03)17

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

**HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT**  
**New Territories East Development**  
**Transport – Roads**

**583TH - Tseung Kwan O development, phase III - dualling of Hang Hau Road**

Members are invited to recommend to Finance Committee -

- (a) the upgrading of part of **583TH**, entitled “Tseung Kwan O development, phase III - detailed design and site investigation for dualling of Hang Hau Road”, to Category A, at an estimated cost of \$21.9 million in money-of-the-day prices; and
- (b) the retention of the remainder of **583TH** in Category B.

### **PROBLEM**

We need to carry out site investigation and detailed design works for the improvement of Hang Hau Road to meet the anticipated traffic demand generated from Tseung Kwan O development.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Transport, proposes to upgrade part of **583TH** to Category A at an estimated cost of \$21.9 million in money-of-the-day (MOD) prices for site investigation and the engagement of consultants to carry out detailed design for dualling of Hang Hau Road.

## PROJECT SCOPE AND NATURE

3. The scope of **583TH** comprises –

- (a) improvement of the 750-metre Hang Hau Road from a single 2-lane carriageway to a dual 2-lane carriageway between the roundabouts at Clear Water Bay Road and Chiu Shun Road;
- (b) junction improvement works at the junction of Chiu Shun Road and Ngan O Road;
- (c) construction of two pedestrian footbridges – one at the junction of Hang Hau Road and Po Ning Road, and another at the northern end of Hang Hau Road;
- (d) associated road works, drainage and sewerage works, and parking area;
- (e) provision of about 380 metres of plain or cantilevered noise barriers ranging from one to four metres high as environmental mitigation measures; and
- (f) an environmental monitoring and audit (EM&A) programme for works mentioned in paragraphs (a) to (e) above.

4. The part of the project we now propose to upgrade to Category A comprises –

/(a) .....

- (a) detailed design of the works described in paragraphs 3(a) to

- 3(e) above;
- (b) review of Environmental Impact Assessment (EIA);
  - (c) associated site investigation and supervision; and
  - (d) preparation of tender documents and assessment of tenders.

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A site plan is at Enclosure 1. The exact alignment and design of the project may be modified in the course of detailed design having regard to further studies and views of the public when the scheme is gazetted.

5. Subject to approval, we plan to start the detailed design and associated works in June 2002 for completion in August 2004. We intend to commence construction works in September 2004 for completion in September 2007 at an estimated cost of \$420 million in September 2001 prices.

## JUSTIFICATION

6. Hang Hau Road, linking Clear Water Bay Road and Chiu Shun Road, is one of the external links of Tseung Kwan O New Town. This road is a substandard single 2-lane carriageway with sharp bends and steep gradients. We need to upgrade the road to current highway standards to improve road safety.

7. The Tseung Kwan O Feasibility Study of Opportunities for Further Development (TKOOFD) completed in May 1990 identified the need to upgrade this external link. The programme for the widening works of Hang Hau Road depends on the progressive development of the Tseung Kwan O New Town and the outcome of traffic reviews to be carried out afterwards. The findings of a traffic review in September 2001 indicated that the existing capacity of Hang Hau Road would be exceeded by 2011 if no upgrading works are carried out. To cope with the anticipated increase in traffic demand, we propose to upgrade Hang Hau Road to a 7.3-metre wide dual 2-lane carriageway. The volume/capacity (v/c) ratios<sup>1</sup> at peak hours for the Hang Hau Road, with and without the proposed upgrading works, are as follows –

/upgrading .....

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<sup>1</sup> Volume/capacity (v/c) ratio is an indicator which reflects the performance of a road. A v/c ratio equals 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 progressively deteriorating with further increase in traffic.

	Year		
	2006	2011	2016
Without proposed upgrading works	0.86	1.37	1.78
With proposed upgrading works	-	0.68	0.89

8. The TKOOFD also identified the need of junction improvement at Chiu Shun Road and Ngan O Road to enhance the traffic capacity of the existing layout. We will further review the need and form of the improvement works (e.g. roundabout or signalised junction) during the detailed design stage.

9. The proposed footbridge at the junction of Hang Hau Road and Po Ning Road will provide a better pedestrian crossing to Tseung Kwan O Hospital from Boon Kin Tsuen, Tin Ha Wan Village and Ming Tak Estate. The footbridge at the northern end of Hang Hau Road will enable residents in the vicinity to cross the road to the nearby bus stops on both sides of Hang Hau Road. We will further review the need for and layout of the footbridge during the detailed design stage.

10. Due to insufficient in-house resources, DTD proposes to engage consultants to supervise the site investigation works and to carry out the EIA review, detailed design, preparation of tender documents and assessment of tenders.

## FINANCIAL IMPLICATIONS

11. We estimate the cost of the project to be \$21.9 million in MOD prices, made up as follows –

	\$ million
(a) Site investigation works	11.3
(b) Consultants' fees for	9.0
(i) review of EIA	1.0
(ii) detailed design	5.5
	/(ii) .....

(iii)	preparation of tender documents and assessment of tenders	1.5	
(iv)	supervision of site investigation	1.0	
(c)	Contingencies	2.0	
	Sub-total	22.3	(in September 2001 prices)
(d)	Provision for price adjustment	(0.4)	
	Total	21.9	(in MOD prices)

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

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 - 03	5.0	0.98625	4.9
2003 - 04	10.0	0.98378	9.8
2004 - 05	7.3	0.98378	7.2
	<u>22.3</u>		<u>21.9</u>

13. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period from 2002 to 2005. Subject to funding approval, we will instruct the consultant

/for .....

for the existing Tseung Kwan O development to undertake the proposed work. We will tender the site investigation works under a standard remeasurement contract because the quantities of works involved may vary depending on the

actual ground conditions. The contract for the site investigation works will not provide for price adjustments as the contract period will not exceed 21 months.

14. The proposed site investigation works and consultancy have no recurrent financial implications.

## **PUBLIC CONSULTATION**

15. We consulted the Food and Environmental Hygiene Committee and Traffic and Transport Committee of the Sai Kung District Council on 28 June 2001 and 9 August 2001 respectively. Members supported the early implementation of the project so as to relieve the traffic congestion in Tseung Kwan O.

16. We circulated a paper on the proposal to Legislative Council Panel on Transport for its meeting on 26 April 2002. Members noted the proposal and are considering whether they have any questions to raise on the project. Such questions, if any, would be further discussed at a special Panel meeting on 6 May 2002. In the meantime, Members agreed that the project should be submitted to the PWSC for consideration on 8 May 2002.

## **ENVIRONMENTAL IMPLICATIONS**

17. The project is a designated project under Schedule 2 of the EIA Ordinance and an environmental permit is required for the construction and operation of the project. In 2001, we submitted an EIA report under the EIA Ordinance based on the preliminary design, which was considered by the Director of Environmental Protection as suitable for public inspection. We shall review and update the EIA report taking into account any changes in road layout during the detailed design stage and submit the updated EIA report for approval under the Ordinance.

/18. ....

18. The proposed site investigation works and consultancy will not give rise to any adverse environmental implications. We will incorporate into the detailed design and relevant works contract all the mitigation measures and the

EM&A programme recommended in the EIA study report and ensure their timely implementation.

19. The proposed site investigation works will only generate minimal amount of construction and demolition (C&D) materials. We will require the consultant to plan and design the works to minimize the generation of C&D materials during construction, and to reuse/recycle C&D materials as much as possible.

### LAND ACQUISITION

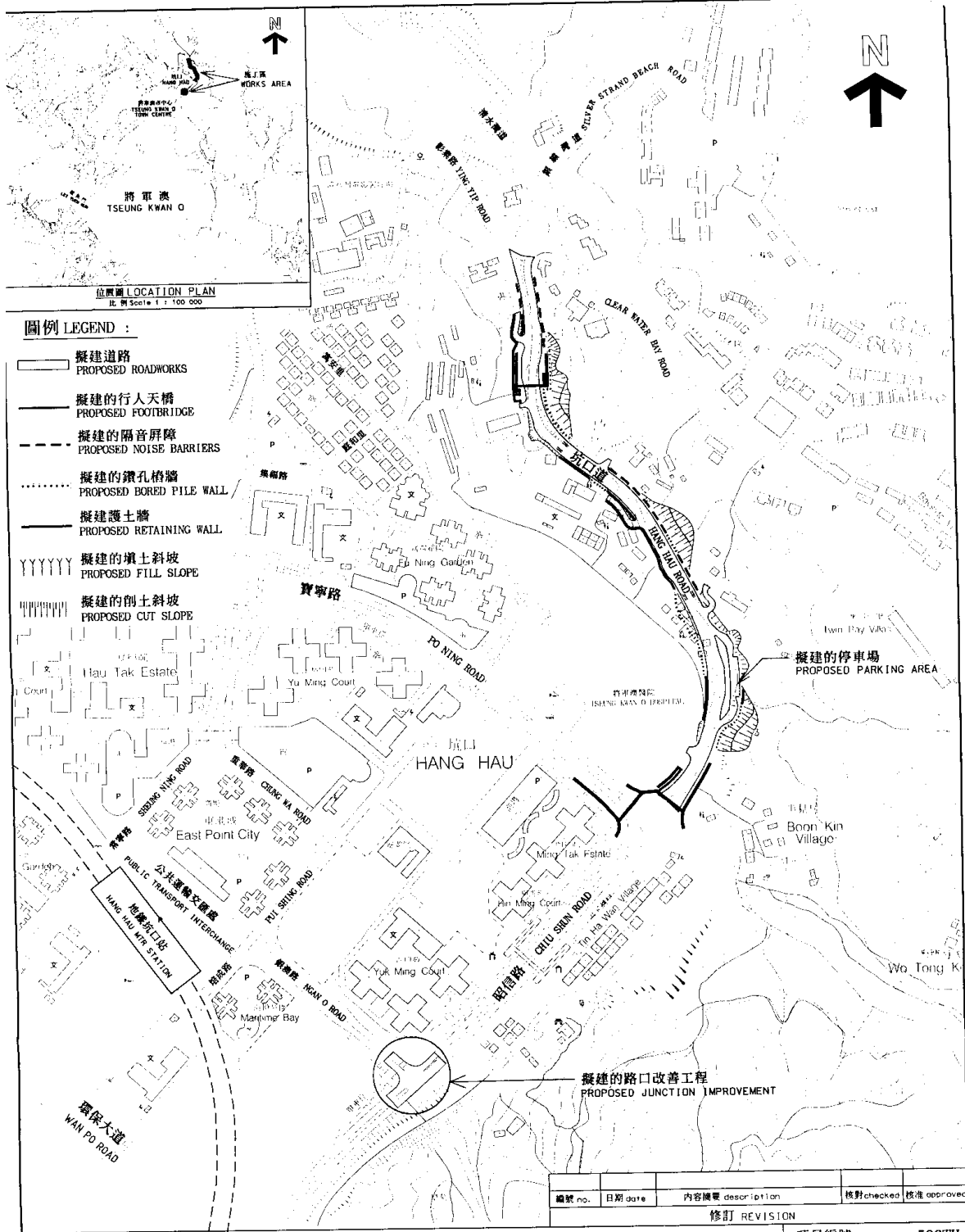
20. The proposed detailed design and site investigations for the project do not require land acquisition. However, land acquisition will be required before the commencement of construction of the project. The details and scope of the land acquisition required will be ascertained in the detailed design stage.

### BACKGROUND INFORMATION

21. We upgraded **583TH** to Category B in September 2000.

22. We engaged consultants to carry out a preliminary design and an EIA study for the dualling of Hang Hau Road in early 1997. We have charged the cost of \$3.8 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".

23. We estimate that the proposed site investigation and consultancy will create some 32 jobs comprising nine professional/technical staff and 23 labourers, totalling 400 man-months.



位置圖 LOCATION PLAN  
比例 Scale 1 : 100 000

- 圖例 LEGEND :**
- 擬建道路  
PROPOSED ROADWORKS
  - 擬建的行人天橋  
PROPOSED FOOTBRIDGE
  - 擬建的隔音屏障  
PROPOSED NOISE BARRIERS
  - 擬建的鑽孔牆  
PROPOSED BORED PILE WALL
  - 擬建護土牆  
PROPOSED RETAINING WALL
  - 擬建的填土斜坡  
PROPOSED FILL SLOPE
  - 擬建的削土斜坡  
PROPOSED CUT SLOPE

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
修訂 REVISION				

二〇〇二年至二〇〇三年度工務小組委員會文件 P.W.S.C. SUBMISSION 2002 - 2003				項目編號 ITEM No. 583TH	
圖則名稱 drawing title <b>將軍澳發展計劃第III期 - 坑口道的分隔車道建造工程</b> TSEUNG KWAN O DEVELOPMENT PHASE III - DUALLING OF HANG HAU ROAD		繪圖 drawn C S LAU	簽署 initial <i>CSL</i>	日期 date 27.02.2002	比例 scale 1 : 4 000
		核對 checked W M LEUNG	簽署 initial <i>WML</i>	日期 date 27.02.2002	辦事處 office 新界東拓展處 NT EAST DEVELOPMENT OFFICE
		核准 approved J KWOK	簽署 initial <i>JKW</i>	日期 date 27.02.2002	
			圖則編號 drawing no. TK2292		拓展署 TERRITORY DEVELOPMENT DEPARTMENT



**583TH – Tseung Kwan O development, phase III – dualling of Hang Hau Road**

**Breakdown of the estimate for consultants' fees**

<b>Consultants' staff costs</b>		<b>Estimated man-months</b>	<b>Average MPS* salary point</b>	<b>Multiplier</b>	<b>Estimated fees (\$ million)</b>
(a) Review of EIA	Professional	4	38	2.4	0.6
	Technical	9	14	2.4	0.4
(b) Detailed design	Professional	24	38	2.4	3.5
	Technical	43	14	2.4	2.0
(c) Preparation of tender documents and assessment of tenders	Professional	7	38	2.4	1.0
	Technical	11	14	2.4	0.5
(d) Supervision of site investigation	Professional	5	38	1.7	0.5
	Technical	15	14	1.7	0.5
<b>Total consultants' staff costs</b>					9.0

\* MPS = Master Pay Scale

**Notes**

- (1) A multiplier of 2.4 is applied to the average MPS point to estimate the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier of 1.7 is applied in the case of site staff supplied by the consultants. (At 1.4.2001, MPS pt. 38 = \$60,395 per month and MPS pt. 14 = \$19,510 per month)
- (2) The figures given above are based on estimates prepared by the Director of Territory Development. The proposed consultancy is part of the overall consultancy agreement for the Tsueng Kwan O development.