

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

**HEAD 706 - HIGHWAYS**

**Transport - Roads**

**695TH - Widening of Fo Tan Road and related improvement measures in  
Fo Tan**

Members are invited to recommend to Finance Committee the upgrading of **695TH** to Category A at an estimated cost of \$530.2 million in money-of-the-day prices for the widening of Fo Tan Road and related improvement measures in Fo Tan.

**PROBLEM**

The existing section of Fo Tan Road between Yuen Wo Road and Kwei Tei Street has insufficient capacity to cope with future traffic demand from industrial and residential developments in the Fo Tan and Sui Wo areas.

**PROPOSAL**

2. The Director of Highways, with the support of the Secretary for Transport, proposes to upgrade **695TH** to Category A at an estimated cost of \$530.2 million in money-of-the-day (MOD) prices for the widening of Fo Tan Road and related improvement measures in Fo Tan.

**/PROJECT ..**

## PROJECT SCOPE AND NATURE

3. The proposed scope of this project comprises the following works items -

- (a) widening of a 1.4-kilometre long section of Fo Tan Road between Yuen Wo Road and Kwei Tei Street (partly dual 2-lane and partly dual 3-lane) to provide an additional 3.3-metre wide traffic lane in each direction, including three elevated sections spanning over the Fo Tan Nullah, the Kowloon-Canton Railway East Rail tracks and Tai Po Road;
- (b) extension of Sui Wo Road to provide a 10-metre wide, 2-lane road section from Fo Tan Road to Au Pui Wan Street and a further 6-metre wide single lane road section from Au Pui Wan Street to Kwei Tei Street;
- (c) extension of Tat Yip Lane to join with Kwei Tei Street;
- (d) construction of a 130-metre long and 7.3-metre wide 2-lane road, connecting Tsung Tau Ha Road to Min Fong Street;
- (e) modification of existing pedestrian subways underneath the junction of Fo Tan Road/Yuen Wo Road and the two slip roads linking to Tai Po Road, and relocation of a pedestrian link across the Fo Tan Nullah near Tsung Tau Ha Road; and
- (f) ancillary road reconstruction, drainage, road junctions modification and signalisation, earth retaining, street lighting, landscaping and noise mitigating works.

## JUSTIFICATIONS

4. Fo Tan Road is the only road access between the areas around Fo Tan and the industrial and residential areas in Fo Tan and Sui Wo. The sustained industrial and residential developments in the areas have already resulted in

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overloading of the junctions along Fo Tan Road. The problem is particularly serious at the signal-controlled junctions which are physically located close to each other. The traffic queues generated by the congestion frequently result in a grid-lock situation in the area. At present, a journey through the Fo Tan area would often take 30 minutes or more during peak hours.

5. Although the traffic congestion problem has been less acute in the past year due to traffic management measures instituted, at present the critical junction of Fo Tan Road/Yuen Wo Road still operates during that time with a reserve capacity<sup>1</sup> of - 10% during peak hours. We anticipate that the problem would deteriorate with the continuing developments<sup>2</sup> in the two areas. According to the latest traffic forecast completed in 1998, Fo Tan Road and its closely spaced signal-controlled junctions<sup>3</sup> would start to experience traffic congestion by 2002. To cope with the increase in traffic demand, we need to widen Fo Tan Road by providing an additional lane in each direction and modify its associated road junctions as a long-term measure to resolve the projected traffic congestion problem in the Fo Tan and Sui Wo areas.

6. At present, traffic accessing the south-eastern part of the Fo Tan industrial area has to use the two junctions at Fo Tan Road/Tsung Tau Ha Road and Fo Tan Road/Min Fong Street, causing congestion during the morning peak hours. We therefore propose extension of Sui Wo Road from Fo Tan Road to Kwei Tei Street to provide an additional access from Fo Tan Road to the eastern part of the industrial area. We also propose a new link between Tsung Tau Ha Road and Min Fong Street to enable direct access from the north-eastern part to the south-eastern part of the industrial area. The two proposals would ease traffic circulation within the industrial area and relieve the traffic pressure experienced by the two busy junctions at Fo Tan Road/Tsung Tau Ha Road and Fo Tan Road/Min Fong Street.

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<sup>1</sup> The performance of a traffic signal junction is indicated by its "Reserved Capacity" (R. C.). A positive R.C. indicates that the junction is operating satisfactorily with spare capacity. A negative R.C. indicates that the junction is overloaded, thus resulting in traffic queues and longer delay time.

<sup>2</sup> Major residential/industrial developments would include Ho Tung Lau development, Fo Tan Cottage Area redevelopment and development at the junction of Tsung Tau Ha Road/Kwei Tei Street.

<sup>3</sup> These junctions are Fo Tan Road/Tsung Tau Ha Road, Fo Tan Road/Min Fong Street, Fo Tan Road/Tai Po Road/Lok King Street and Fo Tan Road/Yuen Wo Road.

7. The projected reserve capacities of the relevant road junctions with or without the proposed improvements during peak hours are shown as follows -

	Junction Reserve Capacity			
	Fo Tan Road/ Yuen Wo Raod	Fo Tan Road/ Tai Po Road/ Lok King Street	Fo Tan Road/ Tsung Tau Ha Road	Fo Tan Road/ Min Fong Street
<u>1999</u>				
Without improvements	-10%	10%	34%	22%
<u>2002</u>				
With improvements	28%	34%	53%	50%
Without improvements	-12%	0%	23%	12%
<u>2006</u>				
With improvements	13%	18%	18%	25%
Without improvements	-17%	-18%	-25%	-19%
<u>2011</u>				
With improvements	15%	21%	32%	24%
Without improvements	-18%	-15%	-23%	-18%

8. The above figures reveal that without the proposed improvements, tail backs would appear at the above junctions during peak hours by 2002. Past experience in the area indicates that with this level of overloading, it will take about 15 and 30 minutes for a motorist to drive along Fo Tan Road from Kwei Tei Street to Yuen Wo Road in 2002 and 2006 respectively.

9. The existing Tat Yip Lane is a blind alley closed at both ends. Heavy goods vehicles, in particular container trucks, often experience difficulties when reversing in the dead ends and cause obstruction to other vehicles using the lane. The proposed extension of the western arm of Tat Yip Lane to Kwei Tei Street will allow through traffic, thus alleviating the traffic congestion.

10. To cope with the widened Fo Tan Road, we need to modify the length of existing subways underneath the junction of Fo Tan Road/Yuen Wo Road and the two slip roads linking to Tai Po Road. We also need to relocate a pedestrian link across the Fo Tan Nullah near Tsung Tau Ha Road.

11. As a result of the proposed improvement works and the eventual increase in traffic flow, the residents along the widened Fo Tan Road will be exposed to noise levels higher than the upper limits stipulated in the Hong Kong Planning Standards and Guidelines. We will provide noise barriers along relevant parts of the new road section to mitigate traffic noise.

## FINANCIAL IMPLICATIONS

12. We estimate the capital cost of the project to be \$530.2 million in MOD prices (see paragraph 13 below), made up as follows -

	<b>\$ million</b>
(a) Bridge structure, subways and earth retaining structures	189.4
(b) Roadworks, drainage, and slope works	146.9
(c) Noise barriers	37.5
(d) Landscape and associated works	16.1

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(e)	Consultants' fees		49.2	
	(i)	construction stage	2.3	
	(ii)	resident site staff costs	46.9	
(f)	Contingencies		43.5	
		Sub-total	482.6	(at December 1998 prices)
(g)	Provision for price adjustment		47.6	
		Total	530.2	(in MOD prices)

A breakdown of estimates for consultants' fees is at the Enclosure.

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

Year	\$ million (Dec 1998)	Price adjustment factor	\$ million (MOD)
1999 - 2000	12.8	1.02625	13.1
2000 - 2001	197.2	1.06217	209.5
2001 - 2002	130.1	1.09934	143.0
2002 - 2003	80.4	1.13782	91.5
2003 - 2004	62.1	1.17765	73.1
	<u>482.6</u>		<u>530.2</u>

14. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices over the period between 1999 and 2004. We will invite tenders to carry out the works under a standard re-measurement contract because the extent of foundation works for the bridge structures, subways, earth retaining structures and the quantities of earthworks for slope formation will depend on the actual site conditions. The contract also includes adjustments to the tender price for price fluctuation because the contract period will be longer than 21 months.

15. We estimate the additional annually recurrent expenditure arising from the proposed works to be \$2.3 million.

## **PUBLIC CONSULTATION**

16. We consulted the Traffic and Transport Committee of the Sha Tin Provisional District Board on 16 September 1997 regarding the findings of the Environmental Impact Assessment, Drainage Impact Assessment, Traffic Impact Assessment and the road improvement scheme. The Committee supported the proposal in principle and urged for early implementation of the project. However, they expressed concern on the environmental impacts such as noise and dust nuisance caused by the proposed project during the construction and operation phase. We have carefully considered the Committee's views and have addressed their concerns through the implementation of the mitigation measures proposed in paragraph 19 below.

17. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance on 28 November 1997 and received nine objections. Three objectors withdrew their objections unconditionally<sup>4</sup>, and six objections remained unresolved. Details of the unresolved objections are as follows -

- (a) Three objectors were concerned that the proposed widening of the elevated road section near Fo Tan Village would be too close to their houses and affect the living environment. We examined the feasibility of

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<sup>4</sup> Under the Roads (Works, Use and Compensation) Ordinance, an objection that is withdrawn unconditionally is treated as if the objector had not lodged the objection. An objection which is not withdrawn or withdrawn with conditions, is treated as an unresolved objection and will be submitted to the Chief Executive-in-Council for consideration.



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moving the alignment of the proposed widening away from the objectors' houses, towards the industrial building on the other side of Fo Tan Road. However, due to prevailing site constraints, the alignment could only be changed by less than two metres and was ineffective. The owner of the industrial building also objected to the proposed realignment. We therefore explained to the objectors that moving the proposed elevated road section was not a viable option. We also assured them that the Environmental Impact Assessment Study for the project has recommended to provide mitigation measures to keep both noise level and air quality within the established standard during construction and operation of the widened road. We would also ameliorate the adverse visual impact on the objectors' house by using pleasant looking concrete finishes and transparent materials with an appropriate colour scheme for the noise barriers. All three objectors, however, maintained their objections.

- (b) Two objectors requested an amendment to the road layout to avoid the resumption of their houses. Having examined the land resumption boundaries, we were only able to avoid resuming the house of one objector under the revised boundaries. Accordingly, one objector withdrew his objection subject to the revised resumption boundaries, while the other maintained his objection.
- (c) One objector requested the provision of loading /unloading facilities along Fo Tan Road to serve the industries in the vicinity. The Commissioner for Transport agreed that this was a reasonable request. We proposed modifications to the road scheme to provide lay-bys along Fo Tan Road. The objector withdrew his objection subject to the modified scheme.

18. Having considered the remaining four objections and the proposed modifications to the project, the Chief Executive-in-Council authorized the project on 19 January 1999.

## ENVIRONMENTAL IMPLICATIONS

19. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Chapter 499) and an environmental permit is required for the construction and operation of the project. In December 1997, the EIA report for the project was approved. The EIA report concluded that the environmental impacts of the project can be controlled to within the established criteria. We shall implement the measures recommended in the approved EIA report. The key measure is the provision of noise barriers 3 to 5 metres high along specific sections of the road alignment. We estimate the cost of implementing the environmental mitigation measures to be \$37.5 million. We have included this cost in the overall project estimate.

20. For short-term construction impacts, we will control noise, dust and site runoff nuisances to comply with the established guidelines and standards through the implementation of environmental pollution control measures and environmental monitoring and audit programme in the contract.

## LAND ACQUISITION

21. For the proposed road improvement works, we shall resume approximately 1 357 square metres of private land and clear approximately 136 925 square metres of government land. The land resumption and clearance will affect three families involving 12 persons who are not eligible for rehousing in accordance with the current policy<sup>5</sup>. We will charge the estimated cost of \$5.1 million for land acquisition and clearance to Head 701 - 'Land Acquisition' **Subhead 1100CA** - 'Compensation and ex-gratia allowance in respect of projects in the Public Works Programme'. We anticipate that the land required for the project will be available in phases from November 1999 to February 2000.

## BACKGROUND INFORMATION

22. We upgraded the project to Category B in September 1996. We engaged consultants to carry out the investigation work for the project in October 1996 at a cost of \$3.18 million. After completion of the investigation work, we

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<sup>5</sup> These families have their own domestic properties and therefore are not eligible for re-housing under existing policy.

engaged another consultant to carry out the detailed design of the project in December 1997 at a cost of \$3.25 million. Both costs were charged to Subhead **6100TX** - "Highway works, studies and investigations for items in Category D of the Public Works Programme".

23. We have substantially completed the detailed design and preparation of tender documents for the project. We plan to commence the construction work in November 1999 for completion by December 2002.

24. To minimize traffic disruption during construction, we will carry out the proposed works under **695TH** in stages. We will maintain the same number of operating lanes as at present with adequate width for traffic to pass the construction site at all time during the construction period.

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Transport Bureau  
June 1999

**695TH - Widening of Fo Tan Road and  
related improvement measures in Fo Tan**

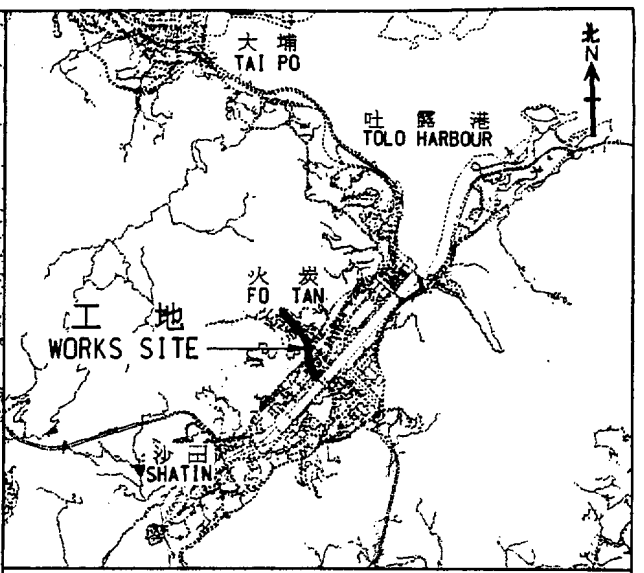
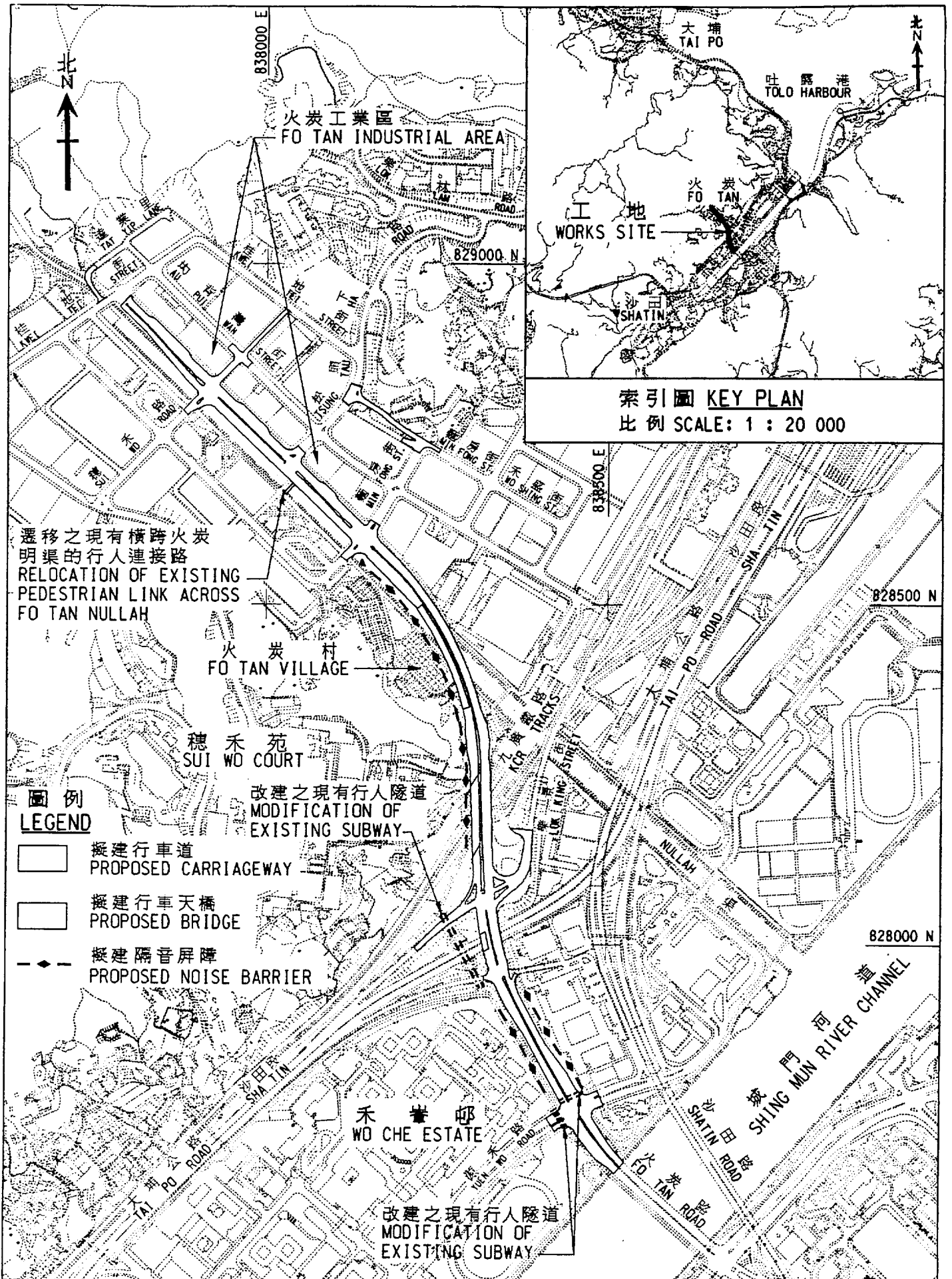
**Breakdown of estimates for consultants' fees**

Consultants' staff costs		Estimated man months	Average MPS* salary point	Multiplier factor	Estimated fee (\$ million)	
(a)	Project administration at construction stage	Professional	8.4	40	2.4	1.3
		Technical	18.9	16	2.4	1.0
(b)	Site supervision by resident site staff employed by the consultants	Professional	142.0	40	1.7	15.2
		Technical	888.0	16	1.7	31.7
<b>Total consultants' staff costs</b>					49.2	

\* MPS = Master Pay Scale

Notes

1. A multiplier factor of 2.4 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. (At 1.12.98, MPS pt. 40 = \$62,780 p.m. and MPS pt. 16 = \$21,010 p.m.). A multiplier factor of 1.7 is applied in the case of site staff supplied by the consultants.
2. The consultants' fees for work in the construction stage is a provisional part of the lump sum price quoted by the selected consultants under Agreement No. CE47/97 "Design and construction assignment for widening of Fo Tan Road and related improvement measures in Fo Tan" which is available for acceptance by Government subject to approval of upgrading of **695TH** to Category A.



索引圖 KEY PLAN  
比例 SCALE: 1 : 20 000


遷移之現有橫跨火炭明渠的行人連接路  
RELOCATION OF EXISTING PEDESTRIAN LINK ACROSS FO TAN NULLAH

改建之現有行人隧道  
MODIFICATION OF EXISTING SUBWAY

改建之現有行人隧道  
MODIFICATION OF EXISTING SUBWAY

圖例  
LEGEND

- 擬建行車道  
PROPOSED CARRIAGEWAY
- 擬建行車天橋  
PROPOSED BRIDGE
- 擬建隔音屏障  
PROPOSED NOISE BARRIER

drawing title 圖則名稱 工務計劃項目 6695TH PWP ITEM NO. 6695TH 位於火炭之火炭路擴闊工程及有關改善措施 WIDENING OF FO TAN ROAD AND RELATED IMPROVEMENT MEASURES IN FO TAN - LOCATION PLAN 位置圖	drawn by W. S. NG	date 3-1-99	drawing no. 圖號 NH 22080	scale 比例 1:7500 OR AS SHOWN
	approved W. S. MAK	date 15-2-99	 HIGHWAYS 路香 DEPARTMENT 政港 HONG KONG 署	
	office 路政署(新界區) HIGHWAYS / N. T. REGION			