

For discussion
on 21 February 2001

PWSC(2000-01)96

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT

New Territories East Development

Transport - Roads

554TH – Sha Tin New Town, stage II - Road D15 linking Lok Shun Path and Tai Po Road

Members are invited to recommend to Finance Committee the upgrading of **554TH** to Category A at an estimated cost of \$132.0 million in money-of-the-day prices.

PROBLEM

There is no alternative external road access to Fo Tan and Sui Wo in Sha Tin and the existing junction of Fo Tan Road and Tai Po Road will not be able to cope with future traffic demand in these areas.

PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Transport, proposes to upgrade **554TH** to Category A at an estimated cost of \$132.0 million in money-of-the-day (MOD) prices for the construction of Road D15 linking Lok Shun Path and Tai Po Road in Fo Tan, Sha Tin.

/ **PROJECT**

PROJECT SCOPE AND NATURE

3. The scope of **554TH** comprises -
- (a) construction of a two way 2-lane road (Road D15) 0.5 kilometre in length including three bridges;
 - (b) construction of associated footpaths and cycle tracks and reconstruction of a roundabout at Lok Shun Path;
 - (c) associated drainage works and slope works;
 - (d) provision of noise barriers;
 - (e) landscaping works; and
 - (f) implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in paragraphs (a) to (e) above.

A site plan is at Enclosure 1.

4. We have completed the detailed design and drawings for the proposed works. We plan to start construction in July 2001 for completion in November 2003.

JUSTIFICATION

5. At present, Fo Tan Road is the only external access to Fo Tan and Sui Wo areas. A traffic accident at Fo Tan Road could result in a complete blockage of the road thereby preventing access to both areas. It is therefore necessary to construct the proposed Road D15 to serve as a second access to these areas. The new link will allow vehicular access through Lok Shun Path in Fo Tan and Tai Po Road.

6. The new link road is also required to cope with the development in Fo Tan and Sui Wo areas. The population in these areas has increased steadily

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from about 19 000 in 1996 to 20 500 in 2000. It will further increase to 26 300 by 2011 as a result of some planned residential and industrial developments in the areas such as Ho Tung Lau development, Fo Tan Station redevelopment and development at the junction of Tsung Tau Ha Road/Kwei Tei Street.

7. Given the development in the areas since the mid 1990s, serious traffic congestion has occurred on Fo Tan Road during peak hours. The Sha Tin and Ma On Shan District Traffic Study completed in March 1996 confirmed that the junction of Fo Tan Road with Tai Po Road could not cope with the growing traffic demand. A more recent traffic impact assessment completed in November 1999 also confirmed the urgent need for the proposed Road D15. To provide additional traffic capacity, Director of Highways is currently widening Fo Tan Road from a dual 2-lane to a dual 3-lane carriageway under the project **695TH** “Widening of Fo Tan Road and related improvement measures in Fo Tan” (upgraded to Category A in July 1999). The works will be completed by end 2002. The proposed Road D15 would divert some of the traffic away from the widened Fo Tan Road, providing further relief to the critical road junction. The reserve capacity¹ (RC) in 2000 and the projected RC in 2006 and 2011 during peak hours at the junction of Fo Tan Road/Tai Po Road with and without proposed Road D15 are as follows -

	Year		
	2000	2006	2011²
with proposed Road D15	-	8%	13%
without proposed Road D15	-2%	-18%	-13%

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the project to be \$132.0 million in MOD prices made up as follows –

/ (a)

¹ The performance of a traffic signal junction is indicated by its “Reserve Capacity” (RC). A zero or negative RC indicates respectively that the junction is saturated or overloaded, thus resulting in traffic queues and longer delay times. The projection has taken into account the completion of the Fo Tan Road widening by end 2002.

² Normally the reserve capacity would decrease over the years due to natural growth in traffic volume. However, in accordance with the Territorial Development Strategy Review completed in 1996, there will be a marginal decrease in traffic flows in 2011 because of the slight reduction in the number of employment in the Fo Tan area between 2006 and 2011.

	\$ million	
(a) Bridge works	31.5	
(b) Road works, drainage and slope works	50.1	
(c) Noise barriers	14.6	
(d) Landscaping works	3.6	
(e) EM&A programme	1.5	
(f) Consultants' fees for	11.6	
(i) construction stage	1.5	
(ii) site staff costs	10.1	
(g) Contingencies	11.3	
Sub-total	124.2	(in September 2000 prices)
(h) Provision for price adjustment	7.8	
Total	132.0	(in MOD prices)

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

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

Year	\$ million (Sept 2000)	Price adjustment factor	\$ million (MOD)
2001 – 2002	16.1	1.02550	16.5

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Year	\$ million (Sept 2000)	Price adjustment factor	\$ million (MOD)
2002 – 2003	74.6	1.05627	78.8
2003 – 2004	24.8	1.08795	27.0
2004 – 2005	8.7	1.12059	9.7
	124.2		132.0

10. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 2001 to 2005. We will tender the proposed works under a standard remeasurement contract because the works involve extensive earthworks and foundation works, the quantities of which may vary depending on the actual ground conditions. The contract will provide for price adjustments as the contract period will exceed 21 months.

11. We estimate the annual recurrent expenditure arising from the project to be \$0.43 million.

PUBLIC CONSULTATION

12. We consulted the Traffic and Transport Committee (TTC) of the then Sha Tin District Board on the proposed works in July 1996. TTC supported early implementation of the proposed works. We subsequently discussed the proposed works at the TTC of the then Sha Tin Provisional District Board in November 1997 and May 1998. While the TTC supported the proposed works in principle, some members raised concerns on the possible noise impact caused by traffic from Fo Tan. However, they expressed no further concerns upon explanation from the Administration.

13. In addition to the TTC, we consulted local residents about the
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project. We met the Village Representative and villagers of Lok Lo Ha Village in November 1996 and November 1997. We also attended briefing sessions to present the proposed works to the residents of Lok Lo Ha Village and Royal Ascot in July 1998 and March 1999.

14. We gazetted the proposed road scheme under the Roads (Works, Use and Compensation) Ordinance on 24 July 1998 and received 706 objections during the objection period. The objections came mainly from the villagers of Lok Lo Ha Village (509 objections) and the residents of Royal Ascot (195 objections). They were generally concerned about the environmental impact of the proposed works, the closeness of one of the proposed bridges to the village houses causing potential traffic accident hazard to the villagers and the resumption and clearance of their land and houses at Lok Lo Ha Village.

15. On the other hand, we received overwhelming support for the project from some other residential blocks and incorporated owners of industrial buildings in the locality during the statutory objection period. These include Sui Wo Court, Sha Tin 33, Greenwood Terrace (Sha Tin), Scenery Garden, Century Industrial Centre, Fonda Industrial Building, Haribest Industrial Building, Wah Luen Industrial Centre, Unison Industrial Centre and Wah Lai Industrial Centre.

16. In view of the TTC's concerns and comments from the public, we further consulted the TTC in November 1998 and in May 1999. At the consultation in November 1998, some members raised concerns regarding the possible noise impact of the proposed works, the use of heavy vehicles on the proposed Road D15 and the proximity of Road D15 to Lok Lo Ha Village. The meeting resolved to urge the Administration to ban heavy vehicles from using the proposed Road D15 and fully enclose Road D15 with noise barriers, failing which the TTC would object to the proposed works. During the consultation in May 1999, TTC reiterated its support for early construction of an additional external access for the Fo Tan area but expressed reservation on the detailed design of the proposed Road D15 including the alignment, noise mitigation and safety measures.

17. We held a series of meetings with the objectors. We explained to the objectors that compensation and rehousing in accordance with the current land resumption and housing policies would be offered to eligible families affected by

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the project. In addition, we would provide barriers to reduce the traffic noise generated and the project would comply with the Air Quality Objectives established under the Air Pollution Control Ordinance. We would also provide a 1.5 metre-high reinforced concrete containment parapet at the outer edge of one of the bridges and ban vehicles exceeding 5.5 tonnes from using Road D15 to reduce the potential accident hazard and traffic noise impact. Four of the objectors (two from Lok Lo Ha Village and two from Royal Ascot) subsequently withdrew their objections after further discussion.

18. We also discussed the proposed works at two Legislative Council case conferences held on 11 February 1999 and 17 December 1999, which were attended by the residents of Lok Lo Ha Village and Royal Ascot. The issues raised at the case conferences centred largely on land resumption and issues similar to those raised earlier by TTC members.

19. On 7 March 2000, the Chief Executive in Council overruled the remaining objections in the public interest and authorised the road scheme with minor modifications to adjust the amount of land resumption required.

20. We will consult LegCo Panel on Transport about the project on 15 February 2001 and will brief Members of the outcome.

ENVIRONMENTAL IMPLICATIONS

21. The project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance and an Environmental Permit is required for the construction and operation of the project. We completed an EIA study for the project in March 1997. In April 1997, the Advisory Council on the Environment endorsed the EIA report. In December 2000, we reviewed the EIA report in line with the latest traffic forecasts. The EIA review covered changes since the approval of the original report and recommended additional noise mitigation measures to abate traffic noise. We will implement the measures recommended in the approved EIA report and the EIA review.

22. The key environmental measures include the replanting of trees and the provision of direct noise mitigation measures. We will plant trees and shrubs

on all disturbed and new slopes and provide amenity planting under road bridges. The direct noise mitigation measures include 385 metres of noise barriers (2 metres to 5 metres high). These will reduce traffic noise from 77 dB(A) to within the limit of 70 dB(A). The EIA report and the EIA review also confirmed that the project would comply with the Air Quality Objectives³ established under the Air Pollution Control Ordinance. We will incorporate into the relevant contracts standard measures to control pollution arising during construction. These measures will include frequent watering of the site and the provision of wheel-washing facilities to reduce emission of dust, the use of silenced construction plant to reduce noise generation and other procedures as recommended in Environmental Protection Department's Recommended Pollution Control Clauses. We have included the costs of landscaping works (\$3.6 million), noise mitigation measures (\$14.6 million) and an EM&A programme (\$1.5 million) in the overall project estimate.

23. We have considered in the planning and design stages ways of minimizing the generation of construction and demolition (C&D) materials by giving due consideration to designing the level and layout of the roadworks. We shall require the contractor to reuse the excavated material on site or on other construction sites as filling materials as far as possible to minimize the disposal of public fill to public filling areas. We estimate that about 28 000 cubic metres (m³) of C&D materials will be generated from the project. Of these, about 6 400 m³ (23%) will be reused on site, 19 600 m³ of inert C&D materials (70%) will be reused as fill in public filling areas and 2 000 m³ of C&D wastes (7%) will be disposed of at landfills. To further minimize the generation of C&D materials, we shall require the contractor to use metal in all components of site hoarding and signboards. We shall control the disposal of public fill and C&D wastes to designated public filling areas and landfills respectively through a trip-ticket system.

LAND ACQUISITION

24. We will resume about 2 355 square metres of agricultural land for the proposed works. The land acquisition and clearance will affect 21 households involving 63 persons. Under the existing policy, the Director of Housing will offer eligible families accommodation in public housing. We will charge the cost

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³ According to the approved EIA report for the project, the 1-hour average Nitrogen Dioxide concentration at the worst affected receiver is 137 micrograms per cubic metre, which is well below the Air Quality Objectives of 300 micrograms per cubic metre.

of land acquisition and clearance, estimated at \$10.4 million, to **Head 701 - Land Acquisition**.

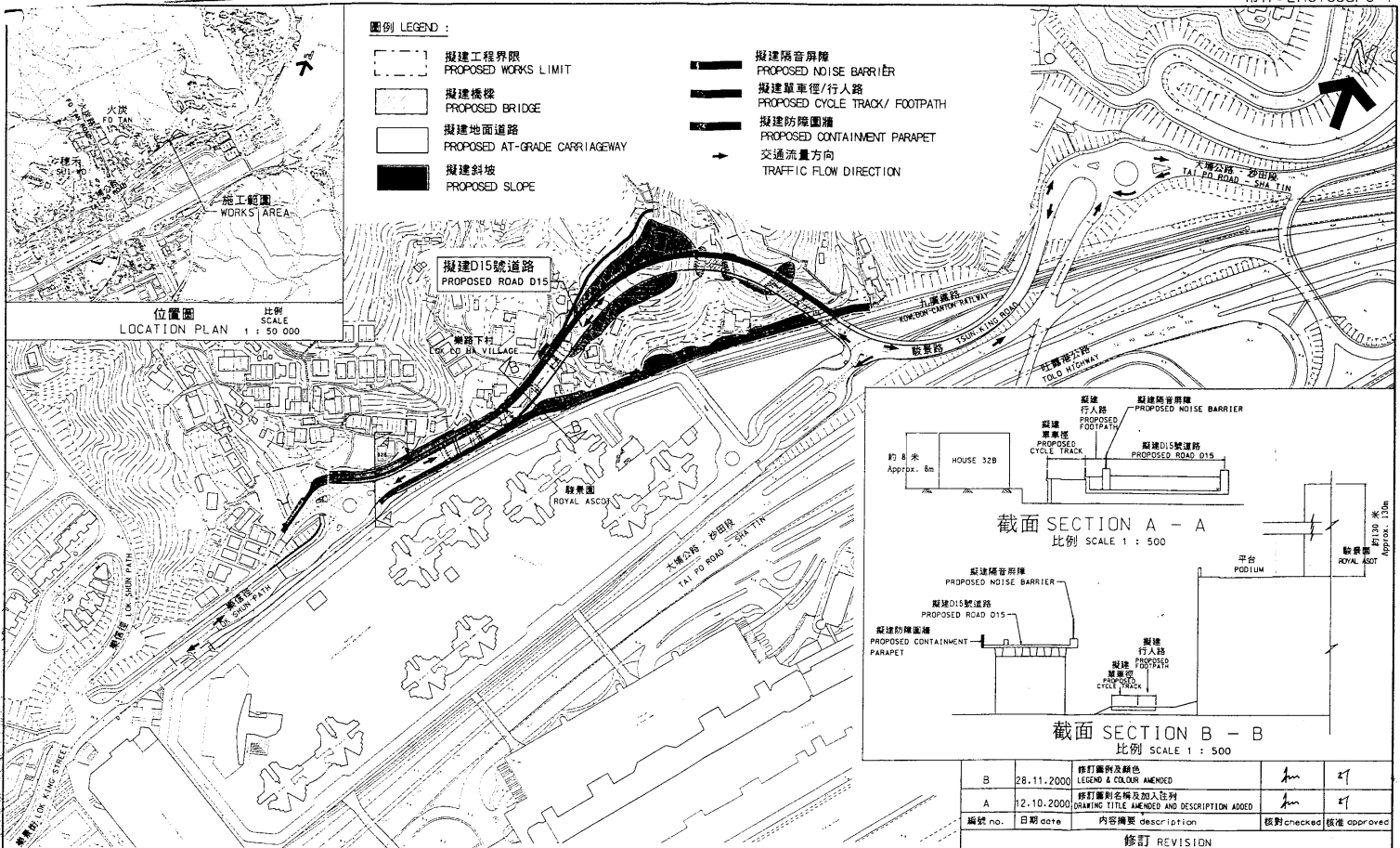
BACKGROUND INFORMATION

25. We upgraded **554TH** to Category B in September 1994.

26. In February 1995, we engaged consultants to undertake the investigation and detailed design for the proposed works and charged the cost of \$4 million to the block allocation **7100CX** "New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme".

27. We estimate that this project will create some 115 jobs totalling 2 930 man-months comprising 25 professional/technical staff and 90 labourers.

Transport Bureau
February 2001



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圖則名稱 drawing title

沙田新市鎮第II階段 - 連接樂信徑及大埔公路的D15號道路
SHA TIN NEW TOWN - STAGE II
ROAD D15 LINKING LOK SHUN PATH AND TAI PO ROAD

修訂 REVISION		項目編號 ITEM No. 554TH	
B	28.11.2000	修訂圖例及顏色 LEGEND & COLOR AMENDED	h m
A	12.10.2000	修訂圖則名稱及加入註釋 DRAWING TITLE AMENDED AND DESCRIPTION ADDED	h m
編號 no.	日期 date	內容摘要 description	核對 checked 核准 approved
繪圖 drawn	簽署 initial	日期 date	比例 scale
核對 checked	簽署 initial	日期 date	圖則編號 drawing no.
核准 approved	簽署 initial	日期 date	

繪圖 drawn S K WONG
核對 checked K M MAK
核准 approved W TSUI

日期 date 25.7.2000
日期 date 7.9.2000
日期 date 7.9.2000

比例 scale 1 : 2 500
圖則編號 drawing no. ST1995B

辦事處 office 新界東拓展處
NT EAST DEVELOPMENT OFFICE

拓展署 TERRITORY DEVELOPMENT DEPARTMENT

Enclosure 2 to PWSC(2000-01)96

554TH – Sha Tin New Town, stage II - Road D15 linking Lok Shun Path and Tai Po Road

Breakdown of estimate for consultants' fees

			Estimated man months	Average MPS* salary point	Multiplier factor	Estimated fees (\$ million)
Consultants' staff costs						
(a)	Consultants' fees for construction stage					
(i)	contract administration	Professional	8.0	38	2.4	1.1
		Technical	4.0	14	2.4	0.2
(ii)	preparation of as-built drawings	Professional	0.5	38	2.4	0.1
		Technical	2.0	14	2.4	0.1
(b)	Resident site staff costs	Professional	47.0	38	1.7	4.6
		Technical	170.0	14	1.7	5.5
Total consultants' staff costs						11.6

* 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. A multiplier factor of 1.7 is applied to the average MPS point in the case of resident site staff supplied by the consultants. (At 1.4.2000, MPS pt. 38 = \$57,525 p.m. and MPS pt. 14 = \$19,055 p.m.)
2. The figures given above are based on estimates prepared by the Director of Territory Development. The consultancy works for this project have been included as part of the overall consultancy agreement for the design and construction of Sha Tin New Town, Stage 2 development.