

**For discussion
on 11 May 2005**

PWSC(2005-06)5

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

New Territories East Development

Transport – Footbridges and pedestrian tunnels

94TB – Sha Tin New Town, stage 2 – pedestrian and cycle subways at Lion Bridge

Members are invited to recommend to Finance Committee the upgrading of **94TB** to Category A at an estimated cost of \$48.4 million in money-of-the-day prices for the construction of two pedestrian and cycle subways at Lion Bridge, Sha Tin.

PROBLEM

There are no existing facilities for pedestrians and cyclists to cross Lion Rock Tunnel Road at Lion Bridge in Sha Tin.

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for the Environment, Transport and Works, proposes to upgrade **94TB** to Category A at an estimated cost of \$48.4 million in money-of-the-day (MOD) prices for the construction of two pedestrian and cycle subways at Lion Bridge, Sha Tin.

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of **94TB** comprises -
- (a) construction of two pedestrian and cycle subways, each of approximately 40 metres (m) in length at Lion Bridge, Sha Tin, with one on the northern side of Shing Mun River (the River) adjacent to the Hong Kong Heritage Museum (the Northern Subway) and one on the southern side of the River adjacent to the Ma On Shan Rail Che Kung Temple Station (the Southern Subway);
 - (b) reconstruction of an existing footway of approximately 650 m in length along the River between Hong Kong Heritage Museum (the Museum) and Man Lai Court into a footpath and cycle track; and
 - (c) drainage, slope, retaining walls and landscaping works associated with the works mentioned in items (a) and (b) above.

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

4. We plan to start the construction works in October 2005 for completion in January 2008.

JUSTIFICATION

5. The promenade and cycle tracks system along both sides of the River are very popular with both local residents and visitors. However, the existing Lion Rock Tunnel Road, which cuts across the River, breaks the system on both sides of the River. Pedestrians and cyclists wishing to continue their trips along the river bank have to take a detour along Lion Rock Tunnel Road, and cross the road by using the existing pedestrian subways at Sha Tin Centre Street or Che Kung Miu Road. Many users resort to crossing the road direct by jaywalking. On the other hand, since the existing subways in Sha Tin Centre Street and Che Kung Miu Road are designed for pedestrians only, pedestrian/cyclist conflicts are frequent. The planned housing development in Tai Wai, when completed, will bring about an

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additional 50 000 population. Usage of the river bank promenade and cycle track is expected to grow significantly. Jaywalking and pedestrian/cyclist conflicts at Lion Rock Tunnel Road will aggravate if the current situation remains.

6. The Museum is a popular tourist spot. The existing 3.5 m wide pedestrian and cycle subway at the junction of Lion Rock Tunnel Road and Sha Tin Centre Street is inadequate to cater for the pedestrian and cyclist flow, especially during Sundays and public holidays. The proposed Northern Subway, which will link the Museum and the Sha Tin Central Park, will help relieve the pedestrian and cyclist flow in the existing subway.

7. With the commissioning of Ma On Shan Rail and the opening of the Che Kung Temple Station (the Station), the existing pedestrian subway of 3.5 m wide at Che Kung Miu Road is inadequate to meet the increasing pedestrian and cyclist flow. The proposed Southern Subway will facilitate access to the Station.

8. To further enhance the footpath and cycle track network in Sha Tin, we will upgrade the existing 650 m footway between the proposed Northern Subway and Man Lai Court to a separate footpath and cycle track.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$48.4 million in MOD prices (see paragraph 10 below), made up as follows –

	\$ million
(a) Construction of two pedestrian and cycle subways	19.4
(i) Northern Subway	12.0
(ii) Southern Subway	7.4
(b) Reconstruction of an existing footway	3.0

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		\$ million	
(c)	Associated drainage works, slope works, retaining walls and landscaping works	16.1	
(d)	Environmental mitigation measures	0.4	
(e)	Consultants' fees	5.1	
	(i) construction stage	0.6	
	(ii) resident site staff costs	4.5	
(f)	Contingencies	<u>4.2</u>	
	Sub-total	48.2	(in September 2004 prices)
(g)	Provision for price adjustment	<u>0.2</u>	
	Total	<u>48.4</u>	(in MOD prices)

Due to insufficient in-house resources, we propose to engage consultants to supervise the proposed works. A breakdown by man-months of the estimate for consultants' fees is at Enclosure 2.

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

Year	\$ million (Sept 2004)	Price adjustment factor	\$ million (MOD)
2005 – 2006	6.0	1.00450	6.0
2006 – 2007	22.5	1.00576	22.6
2007 – 2008	14.5	1.00576	14.6
2008 – 2009	5.2	1.00576	5.2
	<u>48.2</u>		<u>48.4</u>

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11. We have derived the MOD estimate on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period 2005 to 2009. We will invite tenders for the proposed works under a lump-sum contract. The contract will provide for price adjustments as the contract period will exceed 21 months.

12. We estimate the annual recurrent expenditure arising from this project to be about \$270,000.

PUBLIC CONSULTATION

13. We consulted the Traffic and Transport Committee (the Committee) of the Sha Tin District Council on the proposed works on 5 March 2002. The Committee had no objection to the proposed works. We consulted the Committee again on 6 January 2005 on the updated programme for the proposed works. Members of the Committee supported the project and suggested that we reconsidered the routing of the ramp leading to the Northern Subway. We have taken on board the Committee's advice. In response to the Committee's other concern about the cleanliness of the proposed subway, we have also undertaken to use an appropriate type of floor tiles to facilitate easy cleansing.

14. We gazetted the proposed road works under the Roads (Works, Use and Compensation) Ordinance (the Ordinance) on 28 June 2002 and received no objection. The then Permanent Secretary for the Environment, Transport and Works authorized the proposed road works under delegated authority of the Ordinance on 27 September 2002 and the notice of authorization was gazetted on 4 October 2002.

15. We circulated an information paper for the meeting of the Legislative Council Panel on Transport on 22 April 2005. Members raised no comment.

/ENVIRONMENTAL

ENVIRONMENTAL IMPLICATIONS

16. The project is not a designated project under the Environmental Impact Assessment Ordinance and will not cause long term environmental impact. We will implement suitable mitigation measures to control short term environmental impacts during the construction stage. These measures will include watering of the site, provision of wheel-washing facilities, covering of materials on trucks, use of silenced construction plant, and the provision of mobile noise barriers. We estimate the cost of implementing the mitigation measures to be \$400,000. We have included this cost in the project estimate.

17. At the planning and design stages of this project, we have given due consideration to minimising construction and demolition (C&D) materials. We estimate that the project will generate about 34 900 cubic metres (m³) of C&D materials. Of these, we will reuse about 12 400 m³ (36%) on site and 20 000 m³ (57%) as fill in public filling areas¹, and dispose of about 2 500 m³ (7%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$312,500 for this project (based on a notional unit cost² of \$125/m³).

18. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site will comply with the approved WMP. To further minimise generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable materials for temporary works. We will control the disposal of public fill and C&D waste at designated public filling facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

/LAND

¹ A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering and Development.

² This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m³), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

LAND ACQUISITION

19. The proposed works do not require any land acquisition and clearance.

BACKGROUND INFORMATION

20. We upgraded the project to Category B in 2000. The project was downgraded to Category C in 2002. We upgraded the project to Category B again in 2004.

21. We engaged consultants to carry out site investigation and detailed design for the proposed works in December 2001. We have charged the cost of \$2.8 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". The consultants have completed the detailed design and drawings. We plan to start the construction works in October 2005 for completion in January 2008.

22. The proposed works will involve removal of 109 trees including 41 trees to be felled and 68 trees to be transplanted elsewhere. All trees to be removed are not important trees³. We will incorporate planting proposals as part of the project, including estimated quantities of 326 trees, 16 049 shrubs and 2 640 square metres of grassed area.

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³ Important trees include trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria –

- (a) trees over 100 years old;
- (b) trees of cultural, historical or memorable significance;
- (c) trees of precious or rare species;
- (d) trees of outstanding form;
- (e) or trees with trunk diameter exceeding one metre (measured at one metre above ground level).

23. We estimate that the proposed works will create about 55 jobs (44 for labourers and another 11 for professional/technical staff) providing a total employment of 1 025 man-months.

Environment, Transport and Works Bureau
May 2005



位置圖
LOCATION PLAN
比例
SCALE 1 : 50 000

圖例：
LEGEND :

-  工地邊界
SITE BOUNDARY
-  擬建的行人路
PROPOSED FOOTPATH
-  擬建的單車徑
PROPOSED CYCLETRACK
-  擬建的綠化地帶
PROPOSED LANDSCAPING AREAS
-  擬建的斜坡
PROPOSED SLOPE

二〇〇五年至二〇〇六年度工務小組委員會文件 P.W.S.C. SUBMISSION 2005-2006

工務計劃編號 PWP ITEM No. 05-47B

圖則名稱 Drawing Title 工務計劃第94TB號 - 沙田新市鎮第2階段 獅子橋行人及單車隧道 - 工地平面圖 PWP ITEM No. 94TB - SHA TIN NEW TOWN, STAGE 2 PEDESTRIAN AND CYCLE SUBWAYS AT LION BRIDGE - SITE PLAN	繪圖 DRAWN W. K. LEUNG	簽署 SIGNED SIGNED	日期 DATE 19.04.2005	比例 SCALE 1 : 2500	辦事處 OFFICE 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
	核對 CHECKED S. C. CHAN	簽署 SIGNED SIGNED	日期 DATE 19.04.2005		
	核實 APPROVED W. T. YEUNG	簽署 SIGNED SIGNED	日期 DATE 19.04.2005		

圖則編號 Drawing No.
ST2044



**94TB – Sha Tin New Town, stage 2 - pedestrian and cycle
subways at Lion Bridge**

Breakdown of the estimate for consultants' fees

Consultants' staff costs		Estimated Man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fees (\$ million)
(a) Consultants' fees for construction stage (Note 2)					
(i) contract administration	Professional Technical	--	--	--	0.3 0.1
(ii) preparation of as-built drawings	Professional Technical	--	--	--	0.1 0.1
(b) Resident site staff costs (Note 3)	Professional Technical	24 83	38 14	1.6 1.6	2.1 2.4
				Total	<hr/> 5.1 <hr/>

* MPS = Master Pay Scale

Notes

- (1) A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (As at 1 January 2005, MPS pt. 38 = \$54,255 per month and MPS pt. 14 = \$18,010 per month.)
- (2) The consultants' staff cost for construction stage (including contract administration and preparation of as-built drawings) is calculated in accordance with the existing consultancy agreement for the Sha Tin New Town Development Stage 2. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **94TB** to Category A.
- (3) We will only know the actual man-months and actual costs after completion of the construction works.