

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 703 – BUILDINGS

#### Transport – Footbridges and pedestrian tunnels

#### 151TB – Installation of air-conditioning system at the Lo Wu Cross Boundary Footbridge

Members are invited to recommend to Finance Committee the upgrading of **151TB** to Category A at an estimated cost of \$39.7 million in money-of-the-day prices for installing an air-conditioning system at the Lo Wu Cross Boundary Footbridge.

### PROBLEM

The Lo Wu Cross Boundary Footbridge (LW Footbridge) is not air-conditioned.

### PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Security, proposes to upgrade **151TB** to Category A at an estimated cost of \$39.7 million in money-of-the-day (MOD) prices for installing an air-conditioning system at the LW Footbridge.

### PROJECT SCOPE AND NATURE

3. The existing LW Footbridge has two levels. It straddles the Shenzhen River linking the Lo Wu Terminal Building on the Hong Kong side and the Luo Hu

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Joint Inspection Terminal on the Shenzhen side. It is co-owned by both the Shenzhen and the Hong Kong Special Administrative Region (HKSAR) Governments. The scope of **151TB** comprises HKSAR's share of the following works –

- (a) construction of independent two-storey structures spanning the whole length of the existing LW Footbridge, and extension of the existing floor and roof;
- (b) enclosure of the whole LW Footbridge, and enclosure and modification of the HKSAR's side bridge with new glazing and claddings;
- (c) installation of both mechanical ventilation and air conditioning systems to the whole LW Footbridge;
- (d) provision of fire services installations to the enclosed LW Footbridge together with supporting building services installations; and
- (e) modification and improvement works to the passenger signage, hand railings, floor, wall and ceiling finishes of the LW Footbridge.

———— A site plan of the LW Footbridge is at Enclosure 1 and a three-dimensional  
———— perspective drawing of the completed works is at Enclosure 2.

4. Improvement works for the LW Footbridge will be carried out on both HKSAR and Shenzhen sections of the footbridge. We have agreed with the Mainland authorities that the improvement works will be carried out on the basis of “uniform design, uniform commissioning of construction works, separate management and equal cost sharing”. In other words, we will need to meet the design and construction standards of both the HKSAR and the Mainland. Having regard to this, we plan to entrust the project design, supervision and construction of HKSAR's section of the footbridge to the Shenzhen Authorities (SZA). The entrustment will not only prevent any interface problems during construction and commissioning of the air-conditioned footbridge, but also minimise the disruption to cross-boundary operation and hence the inconvenience caused to passengers. Hong Kong consultants will be required to be involved in the design and supervision of construction works. The construction works will be carried out by one co-ordinating contractor through a tendering process. Tendering procedures are to be agreed between HKSAR and Shenzhen governments. We will require tenders

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to be open to appropriately qualified contractors from both sides. We plan to commence construction works in the latter half of 2003 for completion in December 2004.

## JUSTIFICATION

5. Cross-boundary passenger traffic has increased substantially in recent years. At the Lo Wu Control Point, passenger throughput has exceeded 95 million in 2002, representing a 70% increase over the 56 million recorded in 1997. The average daily passenger traffic is about 260 000 on weekdays, and over 300 000 during weekends and long holidays.

6. By enclosing the LW Footbridge and providing it with air-conditioning, we can make boundary crossing a much more pleasant trip, especially during summer or in case passengers have to stay on the footbridge for a longer than normal time during heavy traffic. At the Fourth Plenary of the Hong Kong/Guangdong Cooperation Joint Conference held in July 2001, both sides agreed to improve the environment of the LW Footbridge by two phases. Phase I included widening of the passenger lanes on the LW Footbridge by realignment of the railings, installation of air-conducting fans and replacement of ceiling and floor tiles. The Phase I works were completed in February 2002. The Phase II works, which are proposed in this paper, include enclosing the LW Footbridge, installation of air-conditioning system to the Footbridge and widening the Footbridge by some 60% or about 5.5 metres.

## FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the part of the project to be funded by the HKSAR Government to be \$39.7 million in MOD prices, after taking into account the price factors in Shenzhen (see paragraph 9 below), made up as follows –

	<b>\$ million</b>
(a) Piling	4.0
(b) Building	18.0
(c) Building services	9.0

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(d) Entrustment fee for design and supervision (HKSAR's shared portion)	3.7	
(e) Contingencies	3.6	
	38.3	(in latest available estimates)
(f) Provision for price adjustment	1.4	
	39.7	(in MOD prices)
Sub-total		
Total		

As explained in paragraph 4 above, we propose to entrust the project design, supervision and construction works to SZA. The entrustment fee indicated in the project estimate is the ceiling and will be subject to further negotiation in due course.

8. The construction floor area (CFA) of **151TB** within HKSAR boundary is about 1 150 square metres (m<sup>2</sup>) (including 420 m<sup>2</sup> newly constructed area and 730 m<sup>2</sup> existing area requiring construction works). The estimated construction unit cost, represented by building and building services costs, is \$23,478 per m<sup>2</sup> of CFA according to latest available estimated prices. The construction unit cost is higher than that for other boundary control facilities built by the HKSAR Government due to a number of factors, including – (a) the bridge site being more difficult as the bridge straddles the Shenzhen River; (b) the bridge structure and the related temporary works being more expensive because foundation amid the river is not feasible; (c) an exceptionally large size of the new wall cladding enclosure area per CFA compared with normal building projects; (d) the need to undertake a large portion of the works outside normal operation hours when boundary crossing facilities are closed for safety and security reasons; and (e) the need to comply with different standards and requirements of both the HKSAR and the Mainland.

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

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Year	\$ million (latest available estimates)	Price adjustment factor	\$ million (MOD)
2003 – 04	7.0	1.0000	7.00
2004 – 05	21.0	1.0300	21.63
2005 – 06	7.0	1.0609	7.43
2006 – 07	3.3	1.0927	3.61
	38.3		39.7

10. We have derived the MOD estimates on the basis that there will be a 3% inflation annually in Shenzhen for labour and construction prices for the period 2003 to 2007. This adjustment is an estimate after consultation with Mainland estimation experts. The construction works will be tendered under a fixed-price lump-sum contract because the contract period will be less than 21 months and we can clearly define the scope of works in advance.

11. At present, the recurrent expenditure for the Lo Wu Footbridge is about \$0.43 million. We estimate the annual recurrent expenditure after completion of the project to be in the region of \$1.53 million.

## **PUBLIC CONSULTATION**

12. We briefed the Legislative Council Panel on Security at its meeting on 6 May 2003. Members raised no objection to the project proposal.

## **ENVIRONMENTAL IMPLICATIONS**

13. The project is not a designated project under the Environmental Impact Assessment (EIA) Ordinance and an environmental permit is not required under the EIA Ordinance to commence the construction works. We have also learnt from the Shenzhen side that they do not have to conduct an environmental impact assessment for the construction of their side of the LW Footbridge.

14. We will ensure, through our project trustee, the proper control of noise, dust and site run-off nuisances during construction in accordance with established standards and guidelines through the implementation of mitigation measures in the relevant contracts. We will require more prefabricated building elements to be introduced into the project design as appropriate to reduce temporary formwork and construction waste. We will also require the reuse of suitable excavated materials for filling within the site to minimise off-site disposal. In addition, we will require the adoption of approved mitigation measures to avoid, reduce, reuse and recycle construction and demolition (C&D) materials.

15. We estimate that the project will generate about 1 190 cubic metres (m<sup>3</sup>) of C&D materials. Of these, Mainland can reuse about 1 160 m<sup>3</sup> (97.5%) as fill in reclamation areas and dispose of 30 m<sup>3</sup> (2.5%) at landfills.

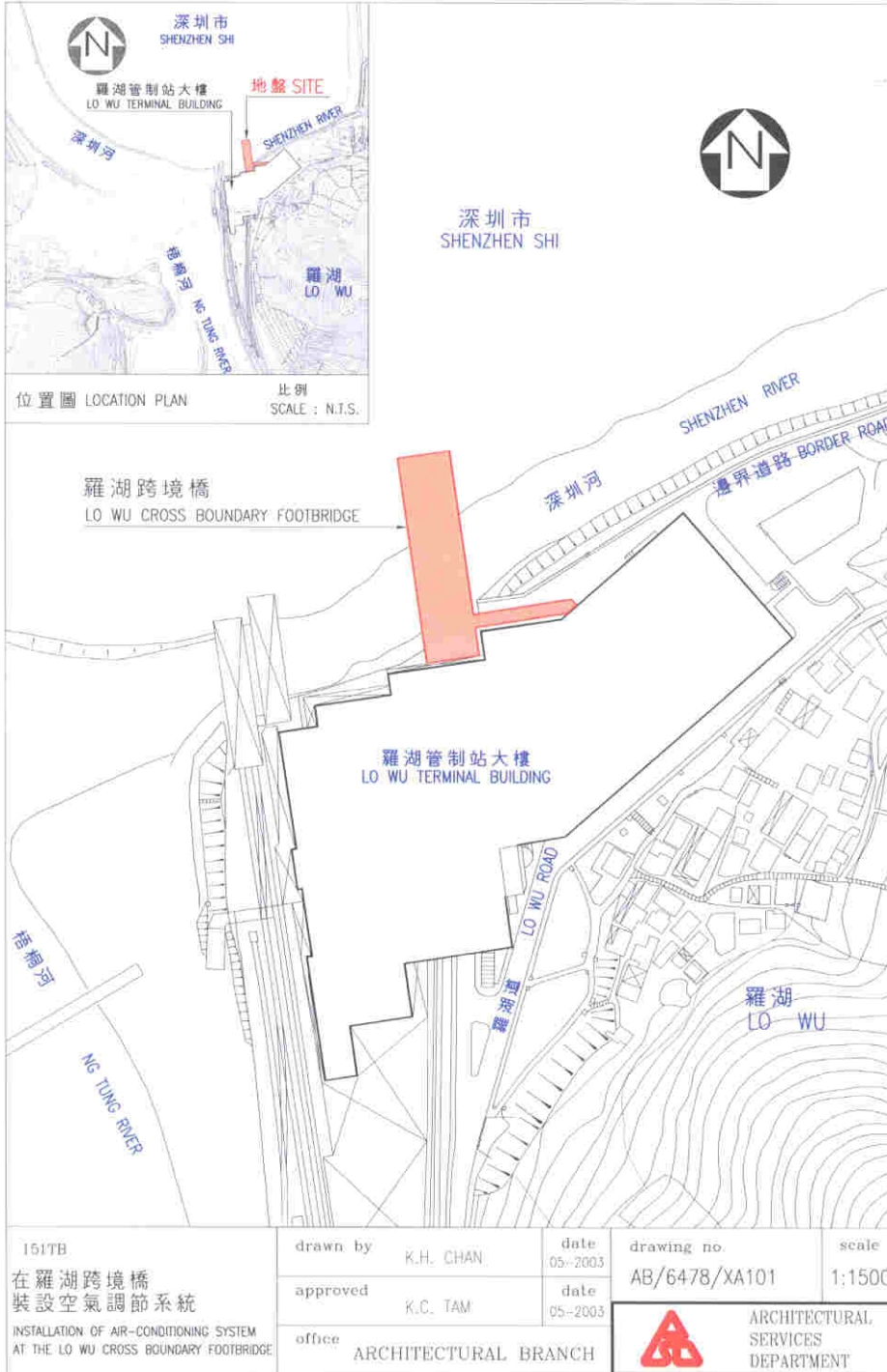
## LAND ACQUISITION

16. The project does not require land acquisition.

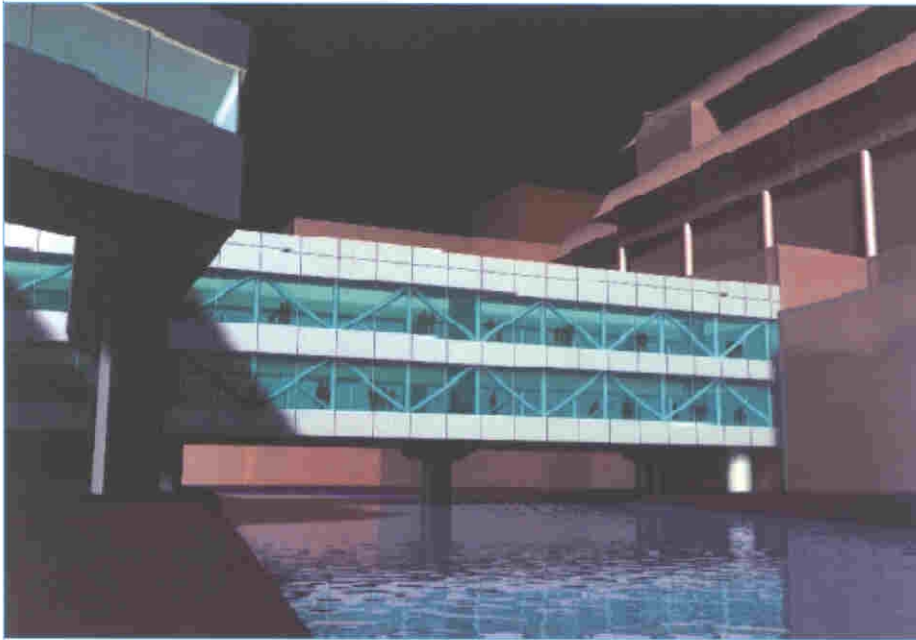
## BACKGROUND INFORMATION

17. We upgraded **151TB** to Category B in February 2002. We have engaged a term contractor to complete a preliminary ground investigation for the project at a cost of \$200,000 in July 2002. We have also entrusted the detailed ground investigation, preliminary design and design checking to SZA at a total cost of \$1.3 million. We charged these amounts to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The contractor engaged by SZA will complete the detailed ground investigation in June 2003, and the Mainland consultant will finalize the preliminary design and design checking in July 2003.

18. We estimate that the project will create a total of some three jobs for consultants, comprising two professional and one technical staff, totalling 20 man-months and, in case the contract is awarded to a Hong Kong contractor, an addition of two jobs for the contractor, comprising one professional and one technical staff, totalling 25 man-months.



羅湖跨境橋擬議工程完成後之外觀  
 EXTERNAL PERSPECTIVE OF THE LO WU CROSS BOUNDARY  
 FOOTBRIDGE AFTER COMPLETION OF THE PROPOSED WORKS



151/TB 在羅湖跨境橋 裝設空氣調節系統 INSTALLATION OF AIR-CONDITIONING SYSTEM AT THE LO WU CROSS BOUNDARY FOOTBRIDGE	drawn by K.H. CHAN	date 05-2003	drawing no. AB/6478/XA102	scale PERSPECTIVE
	approved K.C. TAM	date 05-2003	 ARCHITECTURAL SERVICES DEPARTMENT	
	office ARCHITECTURAL BRANCH			