

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

Transport - Roads

7811TH – Ping Ha Road improvement – remaining works (Ha Tsuen Section)

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **7811TH**, entitled “Ping Ha Road Improvement – remaining works (Ha Tsuen Section between Tin Wah Road and Sha Chau Lei)”, to Category A at an estimated cost of \$170.0 million in money-of-the-day (MOD) prices; and
- (b) the retention of the remainder of **7811TH** in Category B.

PROBLEM

We need to upgrade the existing Ha Tsuen section of Ping Ha Road (PHR) to improve road safety, increase the traffic capacity of this road section and alleviate the flooding problem in Ha Tsuen area.

/PROPOSAL

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Environment, Transport and Works, proposes to upgrade part of **7811TH** to Category A at an estimated cost of \$170.0 million in MOD prices for the improvement of the section of PHR between Tin Wah Road and Sha Chau Lei.

PROJECT SCOPE AND NATURE

3. The full scope of works under **7811TH** comprises the improvement of the Ha Tsuen section of PHR between Tin Wah Road and Tin Ying Road, with a total length of about 2.5 kilometres (km), and the associated drainage works, waterworks, landscaping works and noise abatement measures.

4. The scope of the part of **7811TH** which we propose to upgrade to Category A comprises –

- (a) widening and realignment of about 1.65 km of PHR between Tin Wah Road and Ha Tsuen Shi to a 10.3 metre (m) wide single two-lane carriageway;
- (b) widening and realignment of about 280 m of PHR between Ha Tsuen Shi and Sha Chau Lei from a single two-lane carriageway to a 14.6 m wide single four-lane carriageway;
- (c) construction of about 260 m long 7.3 m wide access roads at Ha Tsuen Shi;
- (d) construction of about 960 m of drainage channels with the width ranging from 1.35 m to 2.5 m, 260 m of box culverts with width ranging from 3.3 m to 4.5 m and ancillary works;
- (e) construction of associated footpaths, cycle track, retaining walls, drainage works, waterworks and landscaping works;
- (f) construction of noise barriers as recommended in the environmental review (ER) final report (see paragraph 19 below); and
- (g) implementation of necessary environmental mitigation measures and an Environmental Monitoring and Audit (EM&A) programme for the works mentioned in items (a) to (f) above.

/A

———— A site plan showing the proposed works is at Enclosure 1. A drawing showing
———— the perspective view of the noise barriers is at Enclosure 2.

5. We plan to start the construction works in November 2007 for completion by November 2010.

JUSTIFICATION

6. The existing Ha Tsuen section of PHR between Tin Wah Road and Sha Chau Lei is sub-standard. Some sections of the road are as narrow as 5.5 m wide, which make it difficult for container trucks to run in opposite direction. At road junctions and run-ins, heavy vehicles need to turn and manoeuvre at a very slow speed. As a result, traffic congestions occur along PHR. As PHR serves as a major access for local traffic in Tin Shui Wai and its nearby area, it is necessary to carry out improvement works.

7. The Ha Tsuen section of PHR is also prone to flooding, with majority of the road subject to flooding under a 1 in 50-year return period¹. It is therefore necessary to improve the drainage capacity of the area.

8. The critical sections of the existing PHR are operating at the traffic volume and capacity (v/c) ratio² of 1.06 during the peak hours. With further developments in the area, it is expected the critical sections will be working beyond their capacity by 2011 if no improvement works are to be carried out. It is therefore necessary to widen, realign and upgrade the Ha Tsuen section of PHR to relieve traffic congestion, improve road safety and increase the capacity of the road to cope with the anticipated traffic growth. We expect that the v/c ratio will be improved to 0.5 to 0.65 with the completion of the proposed works.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$170.0 million in MOD prices (see paragraph 10 below), made up as follows –

/(a)

¹ “Return period” is the average number of years during which a certain severity of flooding will occur once, statistically. A longer return period means a rarer chance of occurrence of a more severe flooding.

² Volume to capacity ratio (v/c ratio) is an indicator which reflects the performance of a road. A v/c ratio equal 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; above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further increase in traffic.

		\$ million	
(a)	Road works	50.0	
(b)	Drainage works	40.0	
(c)	Noise barriers	45.0	
(d)	Waterworks	6.0	
(e)	Landscaping works	8.0	
(f)	Environmental mitigation measures and EM&A programme	3.0	
(i)	mitigation measures at construction stage	1.2	
(ii)	EM&A programme	1.8	
(g)	Contingencies	15.0	
	Sub-total	<u>167.0</u>	(in September 2006 prices)
(h)	Provision for price adjustment	3.0	
	Total	<u>170.0</u>	(in MOD prices)

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

Year	\$ million (Sept 2006)	Price adjustment factor	\$ million (MOD)
2007 – 2008	12.0	0.99900	12.0
2008 – 2009	50.0	1.00649	50.3
2009 – 2010	50.0	1.01656	50.8
2010 – 2011	26.0	1.02672	26.7
2011 - 2012	20.0	1.03699	20.7
2012 - 2013	9.0	1.05514	9.5
	<u>167.0</u>		<u>170.0</u>

/11.

11. We have derived the MOD estimates 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 from 2007 to 2013. We will tender the proposed works under a standard remeasurement contract because the quantities of earthworks and the piling works for the noise barriers may vary according to the actual ground conditions. The contract will be subject to price adjustments because the contract period will exceed 21 months.

12. We estimate the annual recurrent expenditure arising from this project to be \$1.2 million.

PUBLIC CONSULTATION

13. We consulted the Ha Tsuen Rural Committee and Traffic and Transport Committee of Yuen Long District Council on 28 April 2006 and 3 May 2006 respectively. Both Committees supported the project and urged for its early implementation.

14. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance (the Ordinance) on 27 October 2006 and 3 November 2006 as an amendment to the original road scheme³. We received one objection, which was not objecting to the road scheme, but on the compensation arrangement for resuming his lot. We explained to the objector the existing resumption policy and his rights under the law. Notwithstanding our explanation, the objector refused to withdraw his objection. Having considered the unresolved objection, the Chief Executive in Council authorised the project under the Ordinance on 8 May 2007 and the notice of authorisation was gazetted on 25 May 2007.

15. We also consulted the Advisory Committee on the Appearance of Bridges and Associated Structures⁴ on the aesthetic design of the noise barriers on 20 March 2007. The Committee accepted the proposed aesthetic design.

/16.

³ The original road scheme was gazetted under the Roads (Works, Use and Compensation) Ordinance on 9 October 1997 and 17 October 1997 under **7275TH**. No objection was received. The scheme was authorised by the then Secretary for Transport in 1998. The amendment to the original road scheme gazetted in 2006 covers the works under **7794TH** and **7799TH**.

⁴ The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS), which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, Architectural Services Department, Highways Department, Housing Department, Planning Department and Civil Engineering and Development Department, is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and semi-enclosures, from the aesthetic and visual impact points of view.

16. We submitted an information paper to Legislative Council Panel on Transport on 25 May 2007 for circulation. We have not received any adverse comments so far.

ENVIRONMENTAL IMPLICATIONS

17. The proposed works to be part-upgraded under **7811TH** is not a designated project under the Environmental Impact Assessment Ordinance and an environmental permit is not required for the construction and operation of the proposed work.

18. We completed an Environmental Impact Assessment (EIA) report on “Ping Ha Road Improvement – Ha Tsuen Section” in 1998 which includes the proposed works. The EIA report, which was endorsed by the Director of Environmental Protection in 1998, concluded that with the installation of purpose-built noise barriers, the traffic noise impacts to most of the noise sensitive receivers (NSR) could be reduced to the levels meeting the statutory requirements.

19. In consideration of the latest traffic forecast, we are conducting an environmental review (ER) based on the previous EIA report. The preliminary findings of the ER indicate that the project will not cause insurmountable long-term environmental impacts. In respect of noise impacts, we undertake to adopt all the required mitigation measures, including the provision of noise barriers, to be recommended by the ER and agreed by the Director of Environmental Protection.

20. We will incorporate the environmental mitigation measures recommended in the ER report into the works contract to control pollution arising from construction works within established standards and guidelines. These measures include frequent watering of the site and provision of wheel-washing facilities to reduce emission of fugitive dust, the use of quiet construction plant to reduce noise generation and other procedures as recommended in Environmental Protection Department’s Recommended Pollution Control Clauses. Furthermore, we will implement the Environmental Monitoring and Audit (EM&A) programme recommended in the ER report. We have included \$3.0 million in the project estimate for implementing the environmental mitigation measures and the EM&A programme.

21. We have considered the alignment and the designed level of roadworks at Ping Ha Road in the planning and design stages to reduce the generation of construction and demolition (C&D) materials and to reuse/recycle such materials as much as possible. In addition, we will require the contractor to reuse inert C&D materials (e.g. excavated materials) for filling within the project site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities⁵. We will encourage the contractor to maximise the use of recycled or recyclable C&D materials, as well as the use of non-timber formwork to further minimise the generation of construction waste.

22. 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 comply with the approved WMP. We will control the disposal of public fill and C&D waste to designated public fill reception facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D materials for disposal at appropriate facilities. We will also record the disposal, reuse and recycling of C&D materials for monitoring purposes.

23. We estimate that the project will generate about 41 580 tonnes of C&D materials. Of these, we will reuse about 31 680 tonnes (76%) on site, and deliver about 5 400 tonnes (13%) as fill to public fill reception facilities for subsequent reuse. In addition, we will dispose of about 4 500 tonnes (11%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be about \$708,300 for this project (based on an unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne⁶ at landfills).

/LAND

⁵ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

⁶ This estimate has taken into account the cost of 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 is likely to be more expensive) when the existing ones are filled.

LAND ACQUISITION

24. We have to resume about 4.07 hectares (ha) of agricultural land for the project. We had already resumed 3.93 ha under the original scheme and shall resume additional 0.14 ha under the amendment scheme. The clearance for the project affects 300 structures and 5 households in total. The cost of land acquisition and clearance is about \$89.5 million for the proposed works. The cost of land acquisition will be charged to **Head 701 – Land Acquisition**.

BACKGROUND INFORMATION

25. The road project was first proposed in 1994. We engaged consultants in 1996 to carry out Environmental Impact Assessment and Drainage Impact Assessment studies, Heritage Impact study and site investigation works. The consultants completed the studies in August 1997 at a cost of \$600,000. We have charged the cost to the block allocation **Subhead 7100CX** “New towns and urban area works, studies, investigations for items in Category D of the Public Works Programme”.

26. The road project was suspended in 1999 due to concern that the improved PHR might encourage further accelerate the growth of the port back up land use in the area. However, the local community was keen to see the early implementation of the project since the proposed works would not only improve the road standard, but would also alleviate the flooding problem in the area.

27. In response to the requests from the locals, we included the proposed works in Category B of the Public Works Programme under **7794TH** “Ping Ha Road Improvement – Remaining Works (Northern Part of Ha Tsuen Section)” and **7799TH** “Ping Ha Road Improvement – Remaining Works (Southern Part of Ha Tsuen Section)” in 2004 and 2005 respectively. In January 2007, we combined **7794TH** and **7799TH** into **7811TH** “Ping Ha Road Improvement – remaining works (Ha Tsuen Section)”.

28. We engaged consultants in October 2005 to undertake a study for “Ping Ha Road Improvement – Remaining Works – Environmental, Drainage and Traffic Impact Assessment – Investigation” at an estimated cost of \$1.2 million in MOD prices under block allocation **Subhead 7100CX** “New towns and urban area works, studies, investigations for items in Category D of the Public Works Programme”.

29. We plan to improve the Ha Tsuen section of PHR in two phases. The first phase will be for the improvement of the road section between Tin Wah Road and Sha Chau Lei, which is the subject of this paper. The second phase will cover the remaining portion between Sha Chau Lei and Tin Ying Road.

30. We are now carrying out the design of the second phase improvement works. We will consult Members on our proposal to upgrade the remaining part of the project for construction by the end of 2008.

31. Of the 222 trees within the project boundary, 154 trees will be preserved. The proposed improvement works for PHR between Tin Wah Road and Sha Chau Lei will involve the removal of 68 trees, including 12 to be felled and 56 to be transplanted within the project site. All trees to be removed are not important trees⁷. We will incorporate planting proposals as part of the project, including estimated quantities of 180 trees, and 22 000 shrubs. We will use hydroseeding to protect formed slopes as appropriate.

32. We estimate that the proposed works will create about 130 jobs (113 for labourers and another 17 for professional/technical staff) providing a total employment of 3 750 man-months.

Environment, Transport and Works Bureau
June 2007

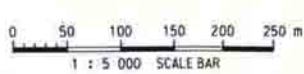
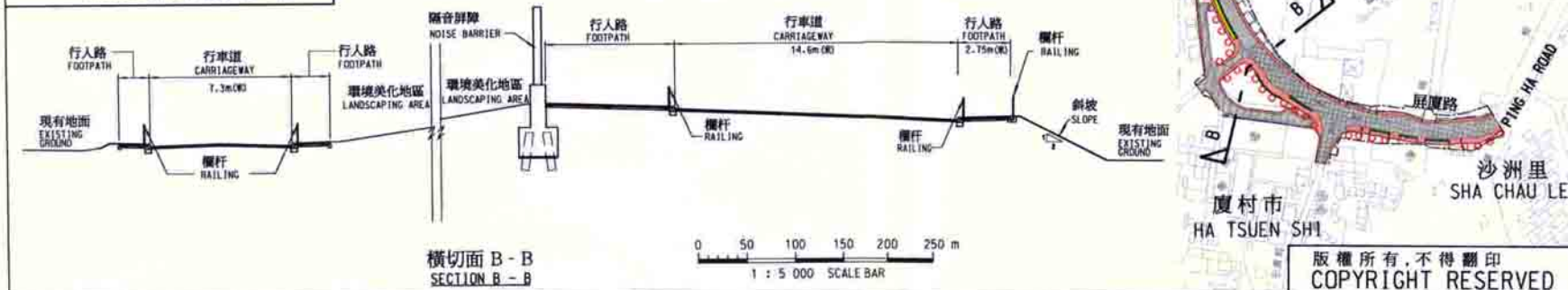
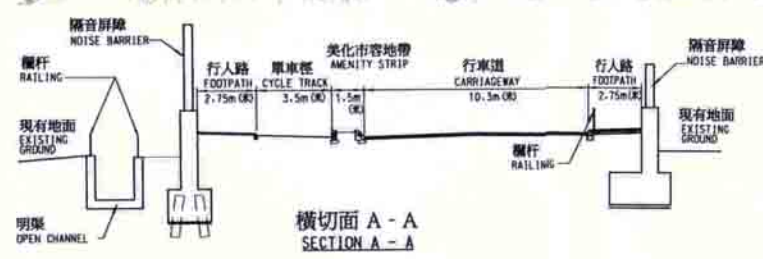
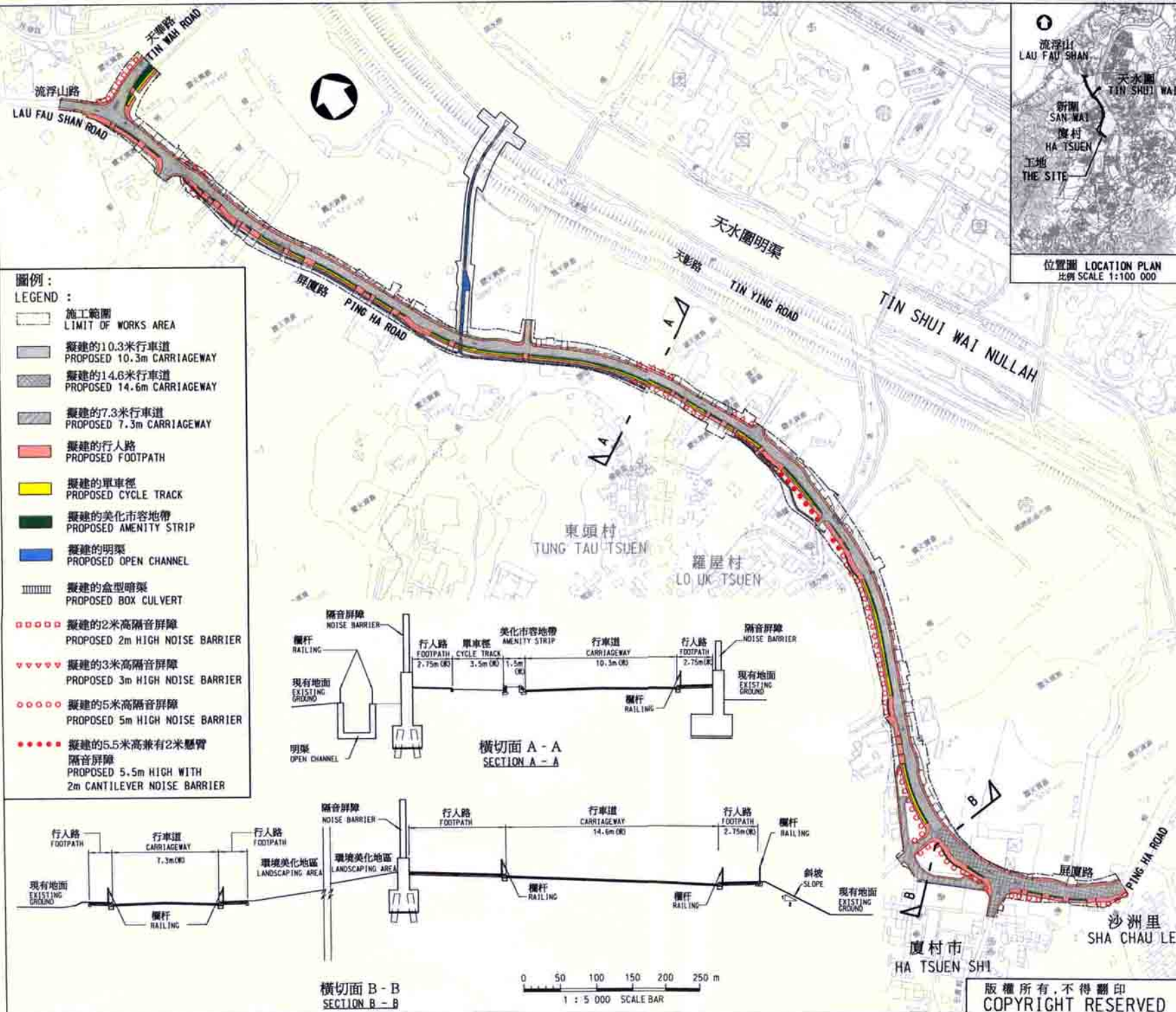
⁷ An “important tree” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria:-

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25 m.

註釋 NOTES :



- 圖例 :
LEGEND :
- 施工範圍
LIMIT OF WORKS AREA
 - 擬建的10.3米行車道
PROPOSED 10.3m CARRIAGEWAY
 - 擬建的14.6米行車道
PROPOSED 14.6m CARRIAGEWAY
 - 擬建的7.3米行車道
PROPOSED 7.3m CARRIAGEWAY
 - 擬建的行人路
PROPOSED FOOTPATH
 - 擬建的單車徑
PROPOSED CYCLE TRACK
 - 擬建的美化市容地帶
PROPOSED AMENITY STRIP
 - 擬建的明渠
PROPOSED OPEN CHANNEL
 - 擬建的盒型暗渠
PROPOSED BOX CULVERT
 - 擬建的2米高隔音屏障
PROPOSED 2m HIGH NOISE BARRIER
 - 擬建的3米高隔音屏障
PROPOSED 3m HIGH NOISE BARRIER
 - 擬建的5米高隔音屏障
PROPOSED 5m HIGH NOISE BARRIER
 - 擬建的5.5米高兼有2米懸臂
隔音屏障
PROPOSED 5.5m HIGH WITH
2m CANTILEVER NOISE BARRIER



A/B/C/D	日期 date	修改內容 description	校對 checked	核准 approved
A	8/6/07	修改隔音屏障的圖例 LEGEND FOR NOISE BARRIER AMENDED	SIGNED	SIGNED

修訂 REVISION

姓名 name	簽署 Initial	日期 date
設計 designed	W.O. LEUNG	SIGNED 15/5/07
繪圖 drawn	L.T. LAW	SIGNED 15/5/07
核對 checked	K.S. LI	SIGNED 15/5/07

核准 approved

SIGNED
(TONG Nai-plu)
Chief Engineer

日期 date : 15/05/2007

圖則名稱 drawing title

屏廈路廈村段改善工程
(天華路至沙洲里)
PING HA ROAD IMPROVEMENT
- HA TSUEN SECTION
(BETWEEN TIN WAH ROAD AND
SHA CHAU LEI)

圖則編號 drawing no. **LW 8171A**

比例 scale 1:5000

辦事處 office
土木工程處 土地工程處
LAND WORKS DIVISION
CIVIL ENGINEERING OFFICE

土木工程拓展署
CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT

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圖則名稱 drawing title

屏廈路廈村段改善工程 (天華路至沙洲里) - 擬建的隔音屏障透視觀景

PING HA ROAD IMPROVEMENT - HA TSUEN SECTION
(BETWEEN TIN WAH ROAD AND SHA CHAU LEI) -
PERSPECTIVE VIEW OF PROPOSED NOISE BARRIERS

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編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
姓名 name		簽署 initial	日期 date	圖則編號 drawing no.
設計 designed	W.O.LEUNG	SIGNED	15/5/07	LW 8233
繪圖 drawn	M.F.CHAN	SIGNED	15/5/07	
核對 checked	K.S.LI	SIGNED	15/5/07	
核准 approved	N.P.TONG	SIGNED	15/5/07	
辦事處 office		土木工程處 土地工程處 LAND WORKS DIVISION		比例 scale
		土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT		示意圖 DIAGRAM- MATIC

附件 2 ENCLOSURE 2