

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

New Territories East Development

Civil Engineering – Land Development

716CL – Tseung Kwan O further development – infrastructure works for Tseung Kwan O stage I landfill site

Members are invited to recommend to Finance
Committee: -

- (a) the upgrading of part of **716CL**, entitled
“Tseung Kwan O further development –
infrastructure works for Tseung Kwan O
stage I landfill site (phase I)” to Category A at
an estimated cost of \$168.9 million in money-
of-the-day prices; and

- (b) the retention of remainder of **716CL** in
Category B.

PROBLEM

We need to improve the linkage between the Tseung Kwan O (TKO) stage I landfill site and the adjacent areas for supporting the recreational developments at the landfill site.

/PROPOSAL

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade part of **716CL** to Category A at an estimated cost of \$168.9 million in money-of-the-day (MOD) prices to carry out the infrastructure works at the TKO stage I landfill site.

PROJECT SCOPE AND NATURE

3. The scope of **716CL** comprises the construction of footpath and cycle track along the toe of the TKO stage I landfill site and in TKO Town Centre South, a combined pedestrian and cycle bridge across the northern end of the eastern channel, a pedestrian bridge across the southern end of the eastern channel, a sewage pumping station, landscaping and associated works.

4. We propose to upgrade part of **716CL** to Category A for the following works –

- (a) construction of about 2 kilometres (km) of footpath and about 1.6 km of cycle track along the landfill toe and in Town Centre South with associated drainage works;
- (b) construction of an approximately 140 metres (m) long channel crossing bridge carrying footpath and cycle track across the northern end of the eastern channel, with approaches of about 335 m long and a lift on the western side of the bridge for pedestrians and cyclists;
- (c) construction of about 0.94 km of 3 m wide grasscrete paving along the landfill toe;
- (d) landscaping works including a landscape area on the landfill site with walking trails; and
- (e) implementation of environmental mitigation measures and an environmental monitoring programme for the works mentioned in (a) to (d) above.

———— The layout plan and section diagram showing the proposed works are at Enclosure 1.

5. The proposed cycle track together with Road L861 (under construction) joining Wan Po Road will function as an emergency relief route for traffic generated from the south-eastern part of TKO in case of serious traffic blockage on Wan Po Road.

6. We plan to commence the construction works in August 2009 for completion in December 2011.

JUSTIFICATION

7. The TKO stage I landfill site has been restored and is now under an aftercare contract supervised and managed by Environmental Protection Department (EPD) for a period of 30 years until 2029. We completed the “Further Development of Tseung Kwan O – Feasibility Study” (TKO Study) in December 2005 which recommends providing infrastructure to support recreational developments such as soccer pitches, walking and cycling trails at the TKO stage I landfill site, including improvement of the linkage between the landfill site and adjacent areas – TKO Town Centre and the development at Area 86.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the project to be \$168.9 million in MOD prices (see paragraph 9 below), made up as follows -

	\$ million
(a) Footpath and cycle track	40.7
(b) Bridge works	94.6
(i) channel crossing bridge	89.5
(ii) lift for pedestrians and cyclists	5.1
(c) Grasscrete paved area	3.5
(d) Landscaping works	3.1

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		\$ million	
(e)	Environmental mitigation measures and environmental monitoring programme	2.0	
	(i) general mitigation measures	1.5	
	(ii) environmental monitoring programme	0.5	
(f)	Contingencies	14.4	
	Sub-total	158.3	(in September 2008 prices)
(g)	Provision for price adjustment	10.6	
	Total	168.9	(in MOD prices)

We will carry out the project under a design and build contract. We are using in-house resources of Highways Department (HyD) to carry out the preliminary design and construction supervision of the proposed works.

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

Year	\$ million (Sept 2008)	Price adjustment factor	\$ million (MOD)
2009 – 2010	13.7	1.03200	14.1
2010 – 2011	56.6	1.05264	59.6
2011 – 2012	62.9	1.07369	67.5
2012 – 2013	12.9	1.09517	14.1
2013 – 2014	12.2	1.11707	13.6
	158.3		168.9

/10.

10. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices for public sector building and construction output from 2009 to 2014. We have entrusted the design and construction of the proposed works to HyD who will invite tenders for the proposed works under a lump-sum contract because we can clearly define the scope of the majority of the works. In-house resources are used for the preliminary design and construction supervision and HyD will adopt a design and build approach to achieve design and construction economy. The contract will provide for price adjustments.

11. We estimate the annual recurrent expenditure arising from the proposed works to be about \$1.3 million.

PUBLIC CONSULTATION

12. The Sai Kung District Council was consulted on the works proposed for upgrade on 30 March 2007 and 24 September 2007. We obtained the Council's support of the project on 24 September 2007.

13. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures¹ on the aesthetic design of the proposed channel crossing bridge and lift on 15 May 2007, 18 December 2007 and 19 February 2008. The Committee accepted generally the proposed aesthetic design on 19 February 2008.

14. We gazetted the proposed road scheme under the Roads (Works, Use and Compensation) Ordinance on 14 March 2008. Two objections were received, with one withdrawn with condition and the other maintained. One objector was EPD's contractor for the restoration and aftercare work of the TKO landfill stage I and II/III. After discussion with the objector, we modified the

/scheme

¹ The Advisory Committee on the Appearance of Bridges and Associated Structures, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, an academic institution, 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 highway system from the aesthetic and visual impact points of views.

scheme to further enhance a section of the maintenance access to the landfill site. The objector subsequently withdrew his objection provided that we would carry out the agreed enhancement works. The other objector was the incorporated owner of a nearby residential development. To meet one of the requests of the objector which at the same time was concerned about the noise and visual impact of the proposed works, the scheme was also modified by extending the cycle track and cycle parking area closer to the development to enhance its linkage with the cycle track system. The objector however maintained his objection to the scheme. On 10 February 2009, the Chief Executive in Council considered and overruled these two objections and authorised the road scheme with the modifications. The notice of authorization was gazetted on 27 February 2009.

15. We consulted the Legislative Council Panel on Development on the proposed works through circulation of an information paper for its meeting on 24 February 2009. Members raised no objection to the proposal to be submitted to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

16. The project is not a Designated Project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance. In September 2005, we completed an EIA report under Schedule 3 of the EIA Ordinance on the TKO Study which included the proposed works of **716CL**. The EIA report concluded that the proposed developments under the TKO Study would be environmentally acceptable with the implementation of the proposed mitigation measures for the construction and operation phases. The Director of Environmental Protection approved the EIA report on 8 December 2005.

17. The proposed works will not cause any long term environmental impact. We will incorporate into the works contract mitigation measures recommended in the EIA report to control potential pollution arising from the construction works to within established standards and guidelines. These measures include frequent watering of the site, provision of wheel-washing facilities to reduce emission of fugitive dust, use of silenced construction plant, provision of movable noise barriers and other procedures as recommended by EPD. We have included \$1.5 million (in September 2008 prices) in the project estimate for the implementation of environmental mitigation measures.

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18. The proposed project site is located within the 250 m consultation zone of the TKO stage I landfill. A landfill gas hazard assessment was performed. The overall risk is classified as “Medium” and “Low” during the construction and operation stages respectively. Precautionary and protection measures as well as monitoring will be implemented during both the construction and operation stages.

19. We have considered the alignment and the design level of the proposed works in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste on site (e.g. excavated materials as filling materials) or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities². We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

20. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste in public fill reception facilities and landfills respectively through a trip-ticket system.

21. We estimate that the proposed works will generate in total about 71 700 tonnes of construction waste. Of these, we will reuse about 28 000 tonnes (39%) of inert construction waste on site and deliver 30 400 tonnes (42%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 13 300 tonnes (19%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$2.5 million for the

/proposed

² Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

proposed works (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne³ at landfills).

HERITAGE IMPLICATIONS

22. The proposed works will not affect any heritage site, i.e., all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

23. This project does not require any land acquisition and clearance.

BACKGROUND INFORMATION

24. We upgraded **716CL** to Category B in September 2005.

25. We are using in-house resources within HyD to carry out the preliminary design and supervision of construction of the proposed works. We have charged the cost of about \$1.5 million to block allocation **Subhead 7100CX** “New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme” for the site investigation and engineering impact studies. We have completed the site investigation, engineering impact studies and preliminary design for the proposed works.

26. The remaining part of **716CL** will be upgraded in 2011 to tie in with the developments in TKO Town Centre South.

27. Of the 498 trees within the project boundaries, 451 are *Leucaena leucocephala* (銀合歡), which are self-seeded trees that would affect the growth

/of

³ 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 is likely to be more expensive) when the existing ones are filled.

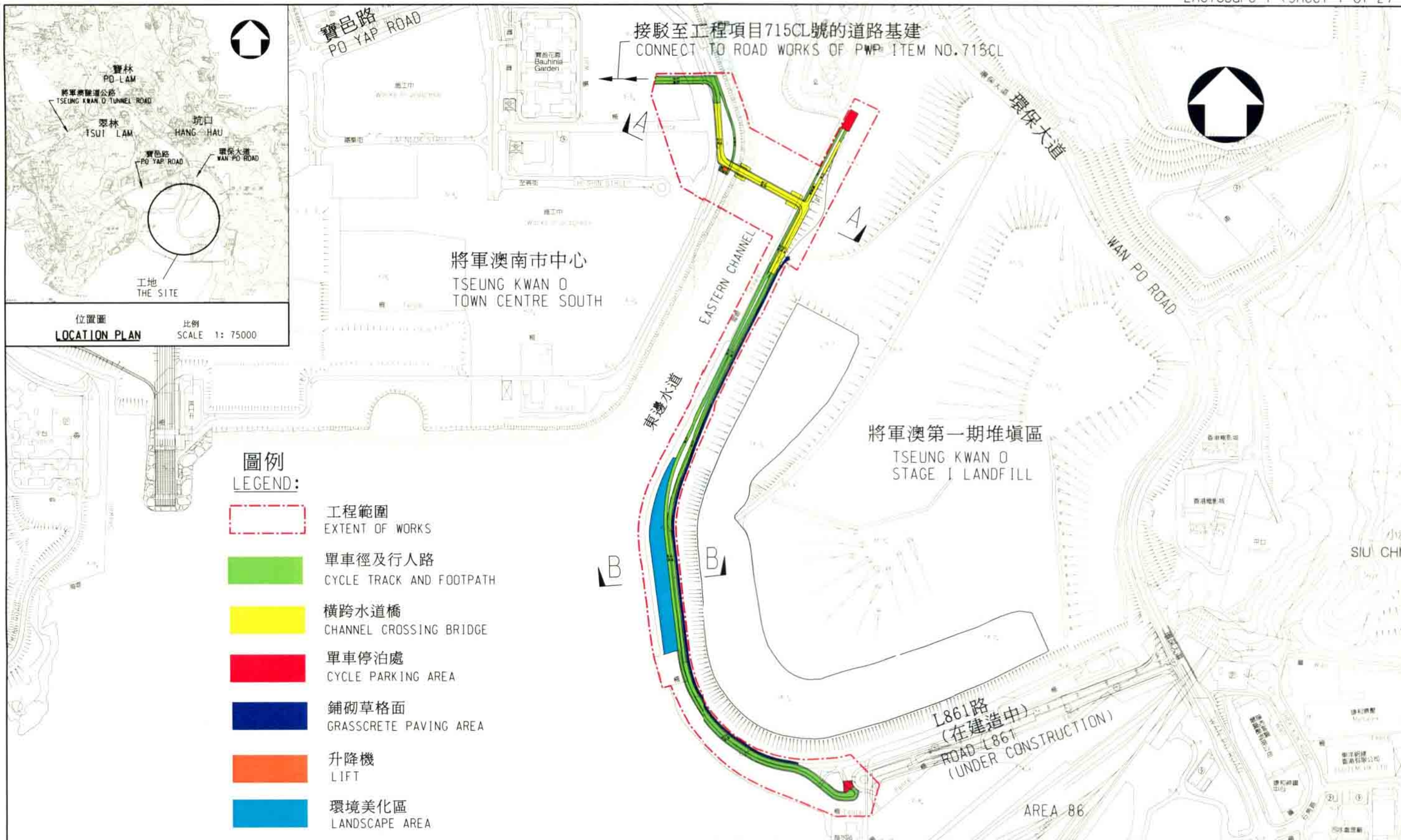
of indigenous species and have to be felled. Of the remaining 47 trees, 30 will be preserved, 2 will be transplanted and 15 will be removed. All trees to be removed or transplanted are not important trees⁴. We will incorporate planting proposals as part of the project, including an estimated quantity of 1 700 trees, 50 000 shrubs and 4 500 m² of grassed area.

28. We estimate that the proposed works will create about 103 jobs (89 for labourers and another 14 for professional/technical staff), providing a total employment of 2 572 man-months.

Development Bureau
March 2009

⁴ 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.



二〇〇九年至二〇一〇年度工務小組委員會文件 P.W.S.C. SUBMISSION 2009-2010

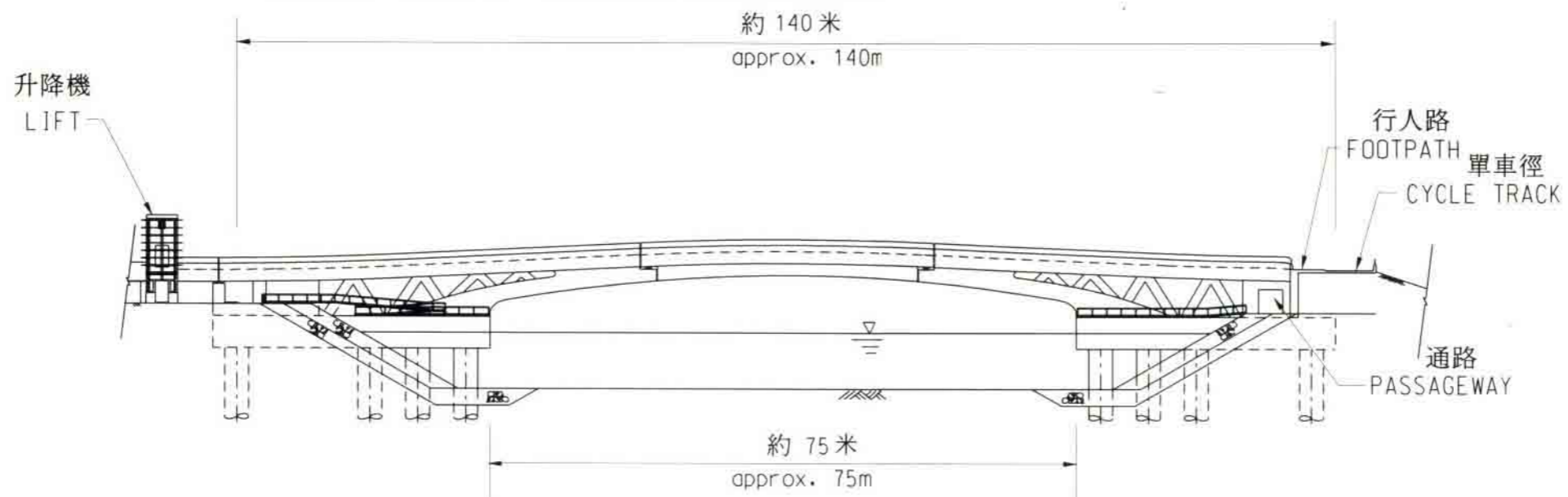
圖則名稱 drawing title
 將軍澳進一步發展 -
 將軍澳第一期堆填區基礎設施工程(第一階段) - 平面圖
 TSEUNG KWAN O FURTHER DEVELOPMENT -
 INFRASTRUCTURE WORKS FOR TSEUNG KWAN O STAGE I LANDFILL SITE (PHASE I)
 - LAYOUT PLAN

繪圖 drawn	簽署 initial	日期 date	項目編號 item no.
W K LEUNG	SIGNED	08.01.09	716CL
核對 checked	簽署 initial	日期 date	比例 scale
C C LEUNG	SIGNED	08.01.09	1 : 7 500
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.
C S WONG	SIGNED	08.01.09	TK2362

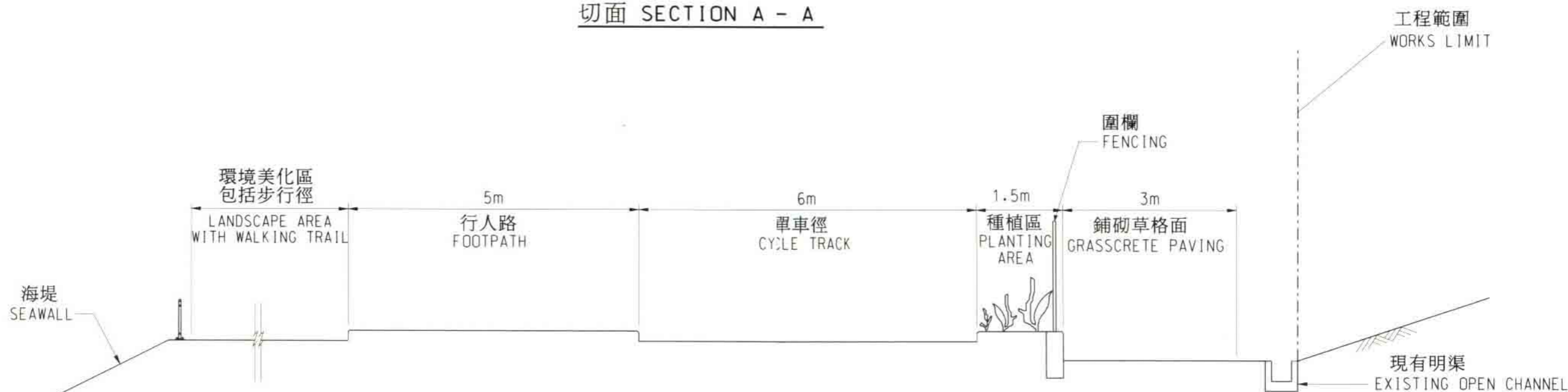
辦事處 office
 新界東拓展處
 NEW TERRITORIES EAST
 DEVELOPMENT OFFICE



土木工程拓展署
 CIVIL ENGINEERING
 AND DEVELOPMENT
 DEPARTMENT



切面 SECTION A - A



切面 SECTION B - B

二〇〇九年至二〇一〇年度工務小組委員會文件 P.W.S.C. SUBMISSION 2009-2010

圖則名稱 drawing title 將軍澳進一步發展 - 將軍澳第一期堆填區基礎設施工程 (第一階段) - 切面圖 TSEUNG KWAN O FURTHER DEVELOPMENT - INFRASTRUCTURE WORKS FOR TSEUNG KWAN O STAGE I LANDFILL SITE (PHASE I) - SECTION DIAGRAM	繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	W K LEUNG	SIGNED	08.01.09	716CL	
	核對 checked	簽署 initial	日期 date	比例 scale	
C C LEUNG	SIGNED	08.01.09	NTS		土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.		
C S WONG	SIGNED	08.01.09	TK2363		