

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT Civil Engineering – Land Development 681CL – Formation, roads and drains in Area 54, Tuen Mun – phase 2

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **681CL**, entitled “Formation, roads and drains in Area 54, Tuen Mun – phase 2 stage 1”, to Category A at an estimated cost of \$49.9 million in money-of-the-day prices; and
- (b) the retention of remainder of **681CL** in Category B.

PROBLEM

We need to carry out improvement works to Tsing Lun Road to serve a planned public housing development in Area 54, Tuen Mun.

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade part of **681CL** to Category A at an estimated cost of \$49.9 million in money-of-the-day (MOD) prices to carry out improvement works to Tsing Lun Road in Area 54, Tuen Mun.

/PROJECT

PROJECT SCOPE AND NATURE

3. The part of **681CL** which we propose to upgrade to Category A comprises –
- (a) widening of the northern section of Tsing Lun Road of about 145 metres (m) long between Tsing Lun Road roundabout and Siu Hong Road from a single two-lane carriageway to a single four-lane carriageway of 13.5m wide;
 - (b) construction of associated footpaths, cycle tracks, drainage, sewerage, waterworks and landscaping works;
 - (c) construction of approximately 45m long and 5.5m high noise barriers (including foundation and panels) adjacent to the existing Yau Tsz Tin Memorial College;
 - (d) construction of approximately 155m long foundation of noise barriers¹ adjacent to the future public housing development at Site 2; and
 - (e) implementation of environmental mitigation measures and an Environmental Monitoring and Audit (EM&A) programme for the works mentioned in (a) to (d) above.

The site plan showing the above works of **681CL** proposed to be part-upgraded is at Enclosure 1. We will retain the remainder of **681CL** in Category B, which covers formation of land for public housing and school development; construction of roads, drainage, sewerage, waterworks, slope and landscaping works; provision of noise mitigation measures; and other ancillary works in Area 54, Tuen Mun.

4. Subject to the approval of the Finance Committee (FC), we plan to commence the construction works in June 2010 for completion in August 2012.

/JUSTIFICATION

¹ The foundation of the noise barriers will be constructed under the present funding proposal to avoid repeated road openings. The panels of the noise barriers will be installed at a later stage to tie in with the population intake of the future public housing development at Site 2. We will seek funding for the installation of the panels when we upgrade the remaining works of **681CL** to Category A in due course.

JUSTIFICATION

5. Tuen Mun Area 54 has been designated for public housing development as part of Government's continued efforts to maintain a steady and sufficient supply of land to meet housing demand in the long term. The first public housing site to be developed in Area 54 is Site 2 near Tsing Lun Road and Tsz Tin Road. The Director of Housing aims at making available about 5 000 public housing flats at the site in 2016. This proposed public housing development is expected to generate about 725 pcu²/hr during morning peak hours. To cater for anticipated traffic increase, it is necessary to widen a section of Tsing Lun Road and a section of Tsz Tin Road to increase their capacity.

6. This funding submission deals with the proposed improvement to the section of Tsing Lun Road under part of **681CL**. The project comprises the widening of the northern section of Tsing Lun Road between Tsing Lun Road roundabout and Siu Hong Road. Apart from meeting future traffic needs arising from the planned housing development, the proposed road widening works will also serve the existing developments such as Siu Hong Court in the vicinity through improvement in traffic circulation. Improvement works to the remaining sections of Tsing Lun Road and Tsz Tin Road will be carried out in conjunction with the proposed site formation works at Site 2 under the remainder of **681CL**. Apart from the aforesaid works at Site 2, other remaining works as set out in paragraph 3 under the remainder of **681CL** are still under planning and will be implemented under further stages. We will seek the approval of FC to upgrade the remainder of **681CL** to Category A as and when we are ready to do so. A site plan showing the proposed site formation and infrastructural works at Site 2 (including the proposed improvement to the northern section of Tsing Lun Road being the subject of this submission) is at Enclosure 2.

FINANCIAL IMPLICATIONS

7. We estimate the cost of the project to be \$49.9 million in MOD prices (please see paragraph 8 below), broken down as follows -

	\$ million
(a) Road works	9.4
	/(b)

² Passenger car unit (pcu) is a unit for measuring traffic flow in equivalent number of private cars. For example, a pcu value of 1.0 is assigned to private cars and taxis. Heavy vehicles such as goods vehicles or buses which usually travel at a lower speed are assigned higher pcu values.

		\$ million	
(b)	Drainage and sewerage works	9.9	
(c)	Noise barriers	17.4	
	(i) Structural frames and panels	3.6	
	(ii) Foundation works	13.8	
(d)	Waterworks	1.0	
(e)	Landscaping works	2.6	
(f)	Environmental mitigation measures and EM&A Programme	1.2	
(g)	Contingencies	4.1	
	Sub-total	45.6	(in September 2009 prices)
(h)	Provision for price adjustment	4.3	
	Total	49.9	(in MOD prices)

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

Year	\$ million (Sept 2009)	Price adjustment factor	\$ million (MOD)
2010 – 2011	7.5	1.02700	7.7
2011 – 2012	14.8	1.06551	15.8
2012 – 2013	14.2	1.10813	15.7
2013 – 2014	6.3	1.15246	7.3
2014 – 2015	2.8	1.19856	3.4
	<u>45.6</u>		<u>49.9</u>

9. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output from 2010 to 2015. Subject to funding approval,

/we

we will deliver the works under a lump-sum contract because the quantities of the works involved can be ascertained. The contract will provide for price adjustments.

10. We estimate the annual recurrent expenditure arising from the project to be about \$113,000.

PUBLIC CONSULTATION

11. We consulted the Tuen Mun Rural Committee and the Environment, Hygiene and District Development Committee (EHDDC) of the Tuen Mun District Council on 23 October and 17 November 2006 respectively on the proposed public housing development at Site 2 and the associated improvement works at Tsing Lun Road and Tsz Tin Road. Both Committees supported the proposed works. Some EHDDC members were concerned about the anticipated transport needs of the proposed housing development. In response, we explained to them the proposed additional vehicular access at Hong Po Road and the signalized pedestrian crossing at the junction of Tsing Lun Road and Siu Hong Road would enhance traffic and pedestrian flow respectively. We have also liaised closely with the Working Group formed under EHDDC for monitoring the proposed public housing development and reported project progress to the Working Group on a regular basis. The Working Group was last informed of the project progress in May 2010.

12. In respect of the proposed widening of Tsing Lun Road, we received request from some members of the Traffic and Transport Committee of the Tuen Mun District Council at its meeting on 10 November 2006 to advance the implementation of the roadworks for early improvement of the existing traffic conditions in the area.

13. We also consulted the Advisory Committee on Appearance of Bridges and Associated Structures³ on the aesthetic design of the noise barriers on Tsing Lun Road and Tsz Tin Road on 16 December 2008. The Committee accepted the proposed aesthetic design.

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³ 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, the Hong Kong Institute of Planners, an academic institution, Architectural Services Department, Highways Department, Housing 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 enclosures, from the aesthetic and visual impact points of view.

14. We gazetted the proposed road improvement works to Tsing Lun Road and Tsz Tin Road under the Roads (Works, Use and Compensation) Ordinance (Cap 370) (R(WU&C)O) on 14 December 2007. We received five objections. Four objections were against the compensation and re-housing arrangement for resuming their lots. We explained to the objectors the prevailing land resumption and re-housing policy, and their statutory rights. For the remaining one objection, the objector requested the relocation of the proposed footbridge at Tsing Lun Road, provision of sufficient transport, retail and market facilities for the public housing development at Site 2, and an increase in compensation to the residents affected by the land clearance. We explained to the objector that the proposed footbridge was considered appropriate in order to enhance traffic condition at the road junction and to serve the nearby residents. We also provided details of the planned facilities within the future public housing development at Site 2 and the prevailing land resumption policy. Notwithstanding our explanations, all the five objectors maintained their objections. On 21 October 2008, the Chief Executive in Council overruled these five objections and authorised the proposed road works without modification. The objectors were notified of the decision on 18 November 2008.

15. We gazetted the proposed sewerage works at Tsing Lun Road and Tsz Tin Road under the R(WU&C)O as applied by the Water Pollution Control (Sewerage) Regulations on 14 December 2007. We received two objections. Both objections were against the compensation and re-housing arrangement for resuming their lots. We explained to the objectors the prevailing land resumption and re-housing policy, and their statutory rights. Notwithstanding our explanations, the two objectors maintained their objections. On 21 October 2008, the Chief Executive in Council overruled these two objections and authorised the proposed sewerage works without modification. The objectors were notified of the decision on 26 November 2008.

16. We circulated to the Legislative Council Panel on Development an information paper on the proposed works on 17 June 2009. Members raised no objection to the proposal. We subsequently invited tenders for the proposed works. Tender assessment is nearing completion.

ENVIRONMENTAL IMPLICATIONS

17. The proposed widening of Tsing Lun Road between Tsing Lun Road roundabout and Tsz Tin Road is a Designated Project (DP) under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap 499) (EIAO). The Environmental Impact Assessment (EIA) report was approved by the Director of Environmental Protection (DEP) under the EIAO on 3 September 1999. We

/commenced

commenced a review to update the recommendations of the EIA report in October 2005. The findings of the review were endorsed by DEP on 28 March 2008. We obtained an Environmental Permit (EP) required for the construction and operation of the DP on 17 March 2009. The EP has taken into account the recommendations of the EIA report and EIA review. With the implementation of the recommended mitigation measures and EM&A programme, the environmental impacts will be controlled to ensure compliance with the statutory requirements.

18. We will incorporate the recommended mitigation measures into the works contract to control the environmental impacts arising from the construction of the works to within established standard and guidelines. These measures include frequent watering of the site, provision of wheel-washing facilities, covering of materials on trucks, use of silenced construction plant, and provision of mobile noise barriers. We will also implement the EM&A programme recommended in the EIA report and EIA review. We have included \$1.2 million (in September 2009 prices) in the project estimate for the implementation of environmental mitigation measures and the EM&A programme.

19. We have considered the design of the proposed works and the construction sequence 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 (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimize the disposal of inert construction waste at public fill reception facilities⁴. We will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize 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 at public fill reception facilities and landfills respectively through a trip-ticket system.

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⁴ 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 filling reception facilities requires a licence issued by the Director of Civil Engineering and Development.

21. We estimate that the proposed works will generate in total about 22 200 tonnes of construction waste. Of these, we will reuse about 13 800 tonnes (62.2%) of the inert construction waste on site and deliver 6 200 tonnes (27.9%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 2 200 tonnes (9.9%) 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 \$442,400 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁵ 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, and Government historic sites identified by the Antiquities and Monuments Office (AMO). Part of the proposed improvement works to Tsing Lun Road will slightly encroach upon the Kei Lun Wai Archaeological Site. As this part of the archaeological site is already a built-up area, AMO advised that the proposed works do not have heritage implications and that further archaeological survey is not necessary.

LAND ACQUISITION

23. The proposed Stage 1 works do not require any land acquisition.

BACKGROUND INFORMATION

24. In 1999, we completed a “Planning and development study of potential housing sites in Area 54, Tuen Mun” (the Study). The land use proposals recommended in the Study were subsequently incorporated into the Tuen Mun Outline Zoning Plan, which was approved by the Chief Executive in Council on 30 September 2003. In October 2005, we commenced a review to update the recommendations of the Study taking into account changes in development layout and parameters in Area 54 since completion of the Study. The review, completed in March 2008, confirmed the feasibility of the development of the proposed public housing sites in phases.

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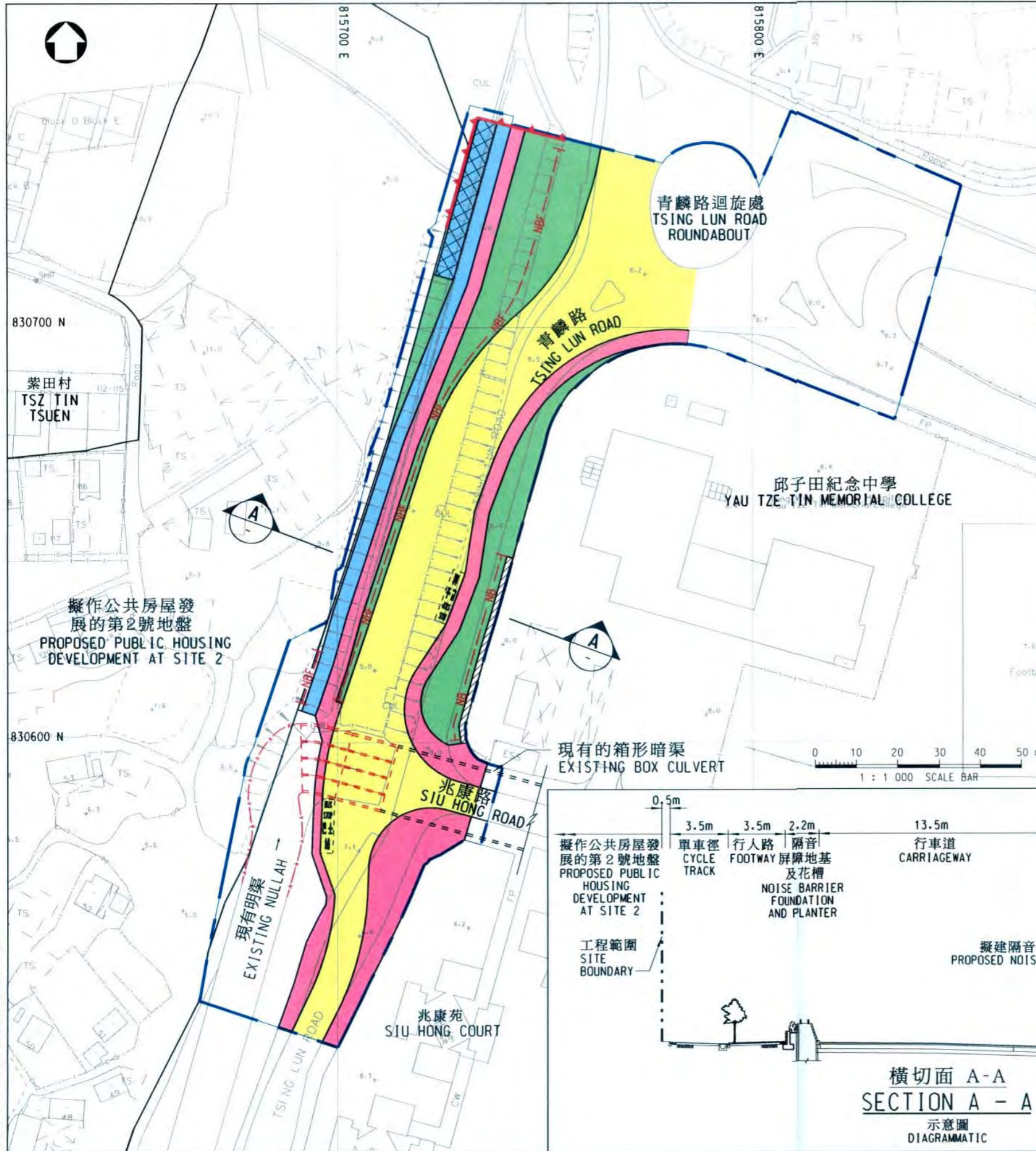
⁵ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

25. The project **681CL** was included in Category B in September 2000.
26. On 25 May 2001, the FC approved the upgrading of part of **681CL** as **686CL** – “Consultants’ fees and site investigation for site formation, roads and drains in Area 54, Tuen Mun – phase 2”, at an estimated cost of \$25.9 million for site investigation and engagement of consultants to undertake detailed design of the site formation and infrastructural works for the phase 2 development in Area 54, Tuen Mun. We have completed the design for the proposed works in paragraph 3 above.
27. Of the 162 trees within the boundary of the proposed road improvement works, 12 trees will be preserved. Of the remaining 150 trees to be removed, 134 trees will be felled and 16 trees will be transplanted within the site as far as possible. All trees to be removed or transplanted are not important trees⁶. We will incorporate planting proposals as part of the project, including estimated quantities of 171 trees and 15 900 shrubs.
28. We estimate that the proposed works will create about 47 jobs (40 for labourers and another 7 for professional/technical staff), providing a total employment of 930 man-months.

Development Bureau
May 2010

⁶ “Important trees” 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 trees, trees 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 the 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 a trunk diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with a height/canopy spread equal to or exceeding 25 m.



位置圖 LOCATION PLAN
比例 SCALE 1:20 000

- 圖例 LEGEND :
- 工程範圍 SITE BOUNDARY
 - 擬建的行車道 PROPOSED CARRIAGEWAY
 - 擬建的行人路 PROPOSED FOOTWAY
 - 擬建的單車徑 PROPOSED CYCLE TRACK
 - 擬建的單車停泊位 PROPOSED CYCLE PARKING SPACES
 - 擬建的花槽/種植地帶 PROPOSED PLANTER / LANDSCAPING AREA
 - 擬建的箱形暗渠 PROPOSED BOX CULVERT
 - 現有明渠重新定線 RE-ALIGNMENT OF EXISTING NULLAH
 - 擬建的擋土牆 PROPOSED RETAINING WALL
 - 擬建的隔音屏障地基 PROPOSED NOISE BARRIER FOUNDATION
 - 擬建的5.5米高兼有3.5米懸臂式隔音屏障 PROPOSED 5.5m HIGH WITH 3.5m CANTILEVER NOISE BARRIER
 - 維修通道 MAINTENANCE ACCESS

註釋 NOTES :

- 所有水平均指水平基準,並以米為單位。
ALL LEVELS REFER TO PRINCIPAL DATUM (P.D.) AND ARE IN METRES.
- 所有量度皆以米為單位。
ALL DIMENSIONS ARE IN METRES.

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
修訂 REVISION				
		姓名 name	簽署 initial	日期 date
設計 designed		K M LAM	SIGNED	19/05/10
繪圖 drawn		C W CHAN	SIGNED	19/05/10
描摹 traced				
核對 checked		C T LAU	SIGNED	19/05/10

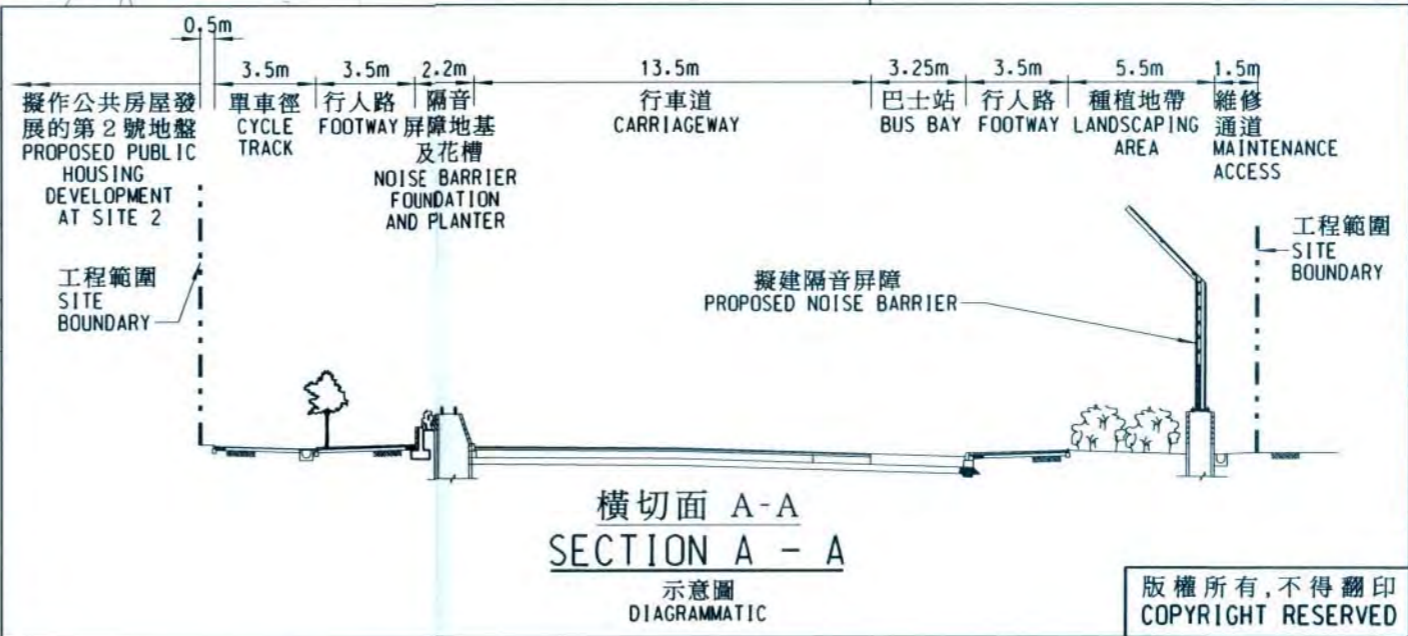
核准 approved
SIGNED
(Joseph C L YUNG)
總工程師 Chief Engineer
日期 date : 20/05/10

圖則名稱 drawing title
屯門第54區土地平整、
道路及渠務工程第2期
第1階段 - 平面圖
FORMATION, ROADS AND
DRAINS IN AREA 54,
TUEN MUN - PHASE 2
STAGE 1 - LAYOUT PLAN

圖則編號 drawing no. 比例 scale
LW 7941 1 : 1000
OR
AS SHOWN

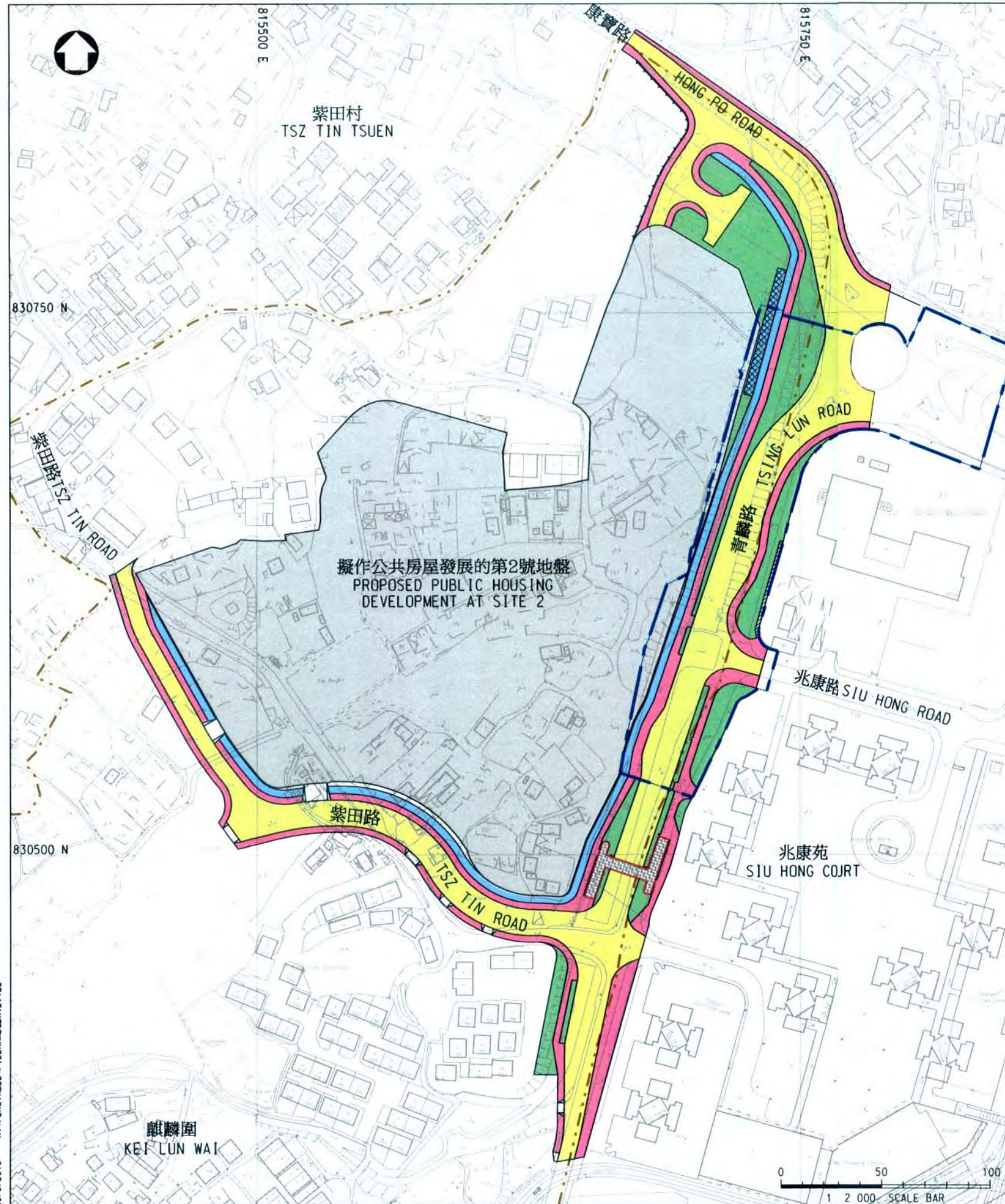
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LAND WORKS DIVISION
CIVIL ENGINEERING OFFICE

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位置圖 LOCATION PLAN
比例 SCALE 1:20 000

圖例 LEGEND :

- 屯門第54區土地平整、道路及渠務工程第2期第1階段工程範圍
FORMATION, ROADS AND DRAINS IN AREA 54, TUEN MUN - PHASE 2, STAGE 1 SITE BOUNDARY
- 麒麟圍考古遺址
KEI LUN WAI ARCHAEOLOGICAL SITE
- 土地平整工程
SITE FORMATION WORKS
- 擬建的行車道
PROPOSED CARRIAGEWAY
- 擬建的行人路
PROPOSED FOOTWAY
- 擬建的單車徑
PROPOSED CYCLE TRACK
- 擬建的單車停泊位
PROPOSED CYCLE PARKING SPACES
- 擬建的花槽/種植地帶
PROPOSED PLANTER / LANDSCAPING AREA
- 擬建的行人天橋
PROPOSED FOOTBRIDGE
- 維修通道
MAINTENANCE ACCESS

註釋 NOTES :

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
修訂 REVISION				
		姓名 name	簽署 initial	日期 date
設計 designed		K M LAM	SIGNED	19/05/10
繪圖 drawn		C H HO	SIGNED	19/05/10
描摹 traced				
核對 checked		C T LAU	SIGNED	19/05/10

核准 approved

SIGNED
(Joseph C L YUNG)
總工程師 Chief Engineer
日期 date : 20/05/10

圖則名稱 drawing title

屯門第54區土地平整、道路及渠務工程第2期第2號地盤的土地平整及基建工程平面圖
FORMATION, ROADS AND DRAINS IN AREA 54, TUEN MUN - PHASE 2 LAYOUT PLAN FOR SITE FORMATION AND INFRASTRUCTURAL WORKS AT SITE 2

圖則編號 drawing no.	比例 scale
LW 7942	1 : 2000 OR AS SHOWN

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