

For discussion  
on 25 January 2011

## LEGISLATIVE COUNCIL PANEL ON DEVELOPMENT

### **681CL – Formation, roads and drains in Area 54, Tuen Mun – phase 2**

#### **PURPOSE**

This paper seeks Members' views on our proposal to upgrade part of **681CL “Formation, roads and drains in Area 54, Tuen Mun – phase 2”** to Category A at an estimated cost of \$325.2 million in money-of-the-day (MOD) prices to carry out site formation works for public rental housing (PRH) development at Site 2 and associated infrastructural works in Area 54, Tuen Mun.

#### **PROJECT SCOPE**

2. The scope of **681CL** comprises formation of land for PRH and school developments, construction of roads, drainage, sewerage, waterworks, slopes and landscaping works, provision of noise mitigation measures, and other ancillary works in Area 54, Tuen Mun.

3. The part of **681CL** which we propose to upgrade to Category A comprises –

- (a) formation of about 4.2 hectares of land for PRH development at Site 2;
- (b) construction of the following roadworks –
  - (i) widening of a section of Tsing Lun Road of about 390 metres (m) long between Tsing Lun Road roundabout and Tsz Tin Road from a single two-lane carriageway to a single four-lane carriageway;

- (ii) widening of a section of Tsz Tin Road of about 300 m long (west of Tsing Lun Road) from a village road to a single two-lane carriageway;
  - (iii) widening of a section of Hong Po Road of about 170 m long (west of Tsing Lun Road roundabout) from a single two-lane carriageway to a single four-lane carriageway; and
  - (iv) a new single two-lane carriageway of about 50 m long connecting Site 2 to Hong Po Road;
- (c) installation of the following noise barriers and enclosures –
- (i) vertical noise barriers of about 173 m long ranging from 1 m to 5 m high;
  - (ii) vertical noise barriers of about 467 m long and 5.5 m high with a cantilever ranging from 3.0 m to 3.5 m long;
  - (iii) semi-enclosure of about 68 m long; and
  - (iv) full-enclosure of about 27 m long.
- (d) construction of a covered footbridge of about 3 m wide with staircases and lifts across Tsing Lun Road near its junction with Tsz Tin Road;
- (e) construction of associated footpaths, cycle tracks, cycle parking spaces, slopes, retaining walls, drainage, sewerage, waterworks, landscaping works, electrical and mechanical (E&M) works and other ancillary works;
- (f) re-provisioning of a refuse collection point, a pavilion and a public toilet; and
- (g) implementation of environmental mitigation measures and an Environmental Monitoring and Audit (EM&A) programme for the works mentioned in (a) to (f) above.

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4. A layout plan showing the proposed works is at **Enclosure 1**.  
 Typical cross section and photomontage of the proposed noise barriers and enclosures are at **Enclosure 2**.

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5. We have substantially completed the detailed design of the proposed works. Subject to approval of Finance Committee, we plan to commence construction in October 2011 for completion in April 2015.

6. The remaining parts of **681CL** comprise site formation and associated infrastructural works for PRH and school developments at other sites in Tuen Mun Area 54. Funding for these works will be sought separately at a later time when they are ready for upgrading to Category A.

## JUSTIFICATION

7. Tuen Mun Area 54 is designated mainly for PRH 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 the junction of Tsing Lun Road and Tsz Tin Road. The Director of Housing aims at making available about 5 000 PRH flats at the site in 2016 to meet the pressing need of the public. With the planned population intake at Site 2 as well as the other developments in the area, upgrading of Tsing Lun Road, Tsz Tin Road and Hong Po Road is required to cope with the anticipated demands.

8. The proposed PRH development at Site 2 is expected to generate about 725 pcu<sup>1</sup>/hr during morning peak hours. It is expected that the junction of Tsing Lun Road and Tsz Tin Road will be operating beyond capacity by 2021. To increase the junction capacity, we will enhance the junction layout and provide a footbridge across Tsing Lun Road to replace the existing at-grade pedestrian crossing. Pedestrian lifts will be provided on both sides of the footbridge for the convenience of the public. It is anticipated that the footbridge would carry about 410 pedestrian trips in the morning peak hour. With the implementation of the above measures, the reserve capacity<sup>2</sup> of the junction will be increased to about 13% by 2021.

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<sup>1</sup> 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.

<sup>2</sup> In general, when the reserve capacity is more than 5%, most vehicles will pass through the road junction without waiting for more than one signal cycle. The larger the reserve capacity, the more traffic flow the road junction will be able to cope with.

## FINANCIAL IMPLICATIONS

9. We estimate the cost of the proposed works to be \$325.2 million in MOD prices, made up as follows –

		<b>\$ million</b>	
(a)	Site formation works	7.6	
(b)	Roadworks	25.3	
(c)	Drainage and sewerage works	64.7	
(d)	Noise barriers and enclosures	119.7	
	(i) Structural frames and panels	53.8	
	(ii) Foundation works	64.6	
	(iii) E&M works	1.3	
(e)	Footbridge	24.4	
	(i) Civil works	20.2	
	(ii) E&M works	4.2	
(f)	Waterworks	3.7	
(g)	Landscaping works	3.4	
(h)	Re-provisioning and ancillary works	3.7	
(i)	Environmental mitigation measures and EM&A programme	2.7	
(j)	Contingencies	25.0	
		<hr/>	
	Sub-total	280.2	(in September 2010 prices)
(k)	Provision for price adjustment	45.0	
		<hr/>	
	Total	325.2	(in MOD prices)

## PUBLIC CONSULTATION

10. 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 site formation works for the PRH development at Site 2 and the associated improvement works at Tsing Lun Road, Tsz Tin Road and Hong Po Road. Both Committees supported the proposed works. We have also liaised closely with the Working Group formed under EHDDC for monitoring the

proposed PRH development and reported project progress to the Working Group on a regular basis. The Working Group was last informed of the project progress in January 2011.

11. We gazetted the proposed improvement works to Tsing Lun Road, Tsz Tin Road and Hong Po 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, the provision of sufficient transport, retail and market facilities for the PRH 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 PRH 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 authorized the proposed roadworks without modification. The objectors were notified of the decision on 18 November 2008.

12. 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 authorized the proposed sewerage works without modification. The objectors were notified of the decision on 26 November 2008.

13. We consulted the local residents and the Working Group of EHDDC under Tuen Mun District Council on the provision of the proposed footbridge in August 2008. Some local residents expressed that the proposed footbridge could provide a safe means for the elderly and children crossing Tsing Lun Road. The Working Group also provided comments on the design and alignment of the proposed footbridge.

14. We consulted the Advisory Committee on Appearance of Bridges and Associated Structures<sup>3</sup> on the aesthetic design of the proposed footbridge, the noise barriers and enclosures at Tsing Lun Road, Tsz Tin Road and Hong Po Road on 16 December 2008. The Committee accepted the proposed aesthetic design.

## **ENVIRONMENTAL IMPLICATIONS**

15. The Environmental Impact Assessment (EIA) report for the Tuen Mun Area 54 development was approved by the Director of Environmental Protection (DEP) on 3 September 1999. We commenced a review to update the recommendations of the EIA report in October 2005 and the findings of the review were endorsed by DEP on 28 March 2008.

16. The proposed site formation and widening of Tsz Tin Road and Hong Po Road are not Schedule 2 Designated Projects (DPs) and do not require environmental permits (EPs) under the EIA Ordinance (Cap 499). On the other hand, the proposed widening of Tsing Lun Road is a DP under Schedule 2 of the EIA Ordinance and requires an EP for its construction and operation. We obtained the EP on 17 March 2009. With the implementation of the recommended mitigation measures and EM&A programme, the environmental impacts arising from the construction of the proposed roadworks at Tsing Lun Road and the subsequent operation of the road will be controlled to ensure compliance with the statutory requirements.

17. 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 \$2.7 million (in September 2010 prices) in the project estimate for the implementation of the environmental mitigation measures and the EM&A programme.

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<sup>3</sup> 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.

18. 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 to public fill reception facilities<sup>4</sup>. 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.

19. 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 to public fill reception facilities and landfills respectively through a trip-ticket system.

20. We estimate that the project will generate in total about 24 200 tonnes of construction waste. Of these, we will reuse about 19 290 tonnes (79.7%) of inert construction waste on site and deliver 2 100 tonnes (8.7%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 2 810 tonnes (11.6%) 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 \$407,950 for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne<sup>5</sup> at landfills).

## **HERITAGE IMPLICATIONS**

21. The proposed works will encroach upon the Kei Lun Wai Site of Archaeological Interest. We have conducted an archaeological investigation at

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<sup>4</sup> 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.

<sup>5</sup> 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 m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

the proposed works site and no significant archaeological remains have been discovered. No further archaeological action is therefore required for the proposed works.

## LAND ACQUISITION

22. We have reviewed the design of the project to minimize the extent of land acquisition. All land resumption and clearance required for the proposed works have been completed. We have resumed about 39 931 square metres (m<sup>2</sup>) of private land and cleared 38 464 m<sup>2</sup> of government land for the proposed site formation and roadworks. The land resumption and clearance affects 106 households involving 193 persons and 33 commercial/industrial undertakings. Eligible families and commercial/industrial undertakings have been offered ex-gratia allowances and/or accommodation in public housing in accordance with the established rehousing policy. The cost of land resumption and clearance estimated at \$224.8 million is charged to **Head 701 – Land Acquisition**.

## BACKGROUND

23. 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 PRH sites in phases.

24. The project **681CL** was included in Category B in September 2000.

25. We sought funding from the Finance Committee on 25 May 2001 for upgrading 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.

26. We circulated to the Legislative Council Panel on Development the information paper CB(1)1961/08-09(01) regarding the proposed widening of the northern section of Tsing Lun Road for the PRH development at Site 2 on 17 June 2009. The proposed roadworks does not require land resumption.



27. We submitted the funding application for the proposed widening of the northern section of Tsing Lun Road to the Public Works Sub-committee (PWSC) vide paper PWSC(2010-11)5. At its meeting on 2 June 2010, Members expressed concerns on the compensation arrangement for the land resumed for the PRH development at Site 2. We eventually withdrew the item.

28. We subsequently reviewed the implementation arrangement and programme of the site formation works at Site 2 and the associated infrastructural works, and decided to put forward the proposed site formation and infrastructural works under a single submission. We have also discussed with the affected persons on the compensation and re-housing arrangement. As at 15 December 2010, 49 former land owners have accepted the Government's compensation offers out of the total number of 69. There are also 106 households affected by the proposed works. Rehousing or ex-gratia allowance have been offered to the 54 eligible households. Amongst these eligible households, 46 households have accepted the Government's offers.

29. At the PWSC meeting on 2 June 2010, one Member requested the Administration to consider providing pedestrian crossing facilities at the junction of Tsing Lun Road and Siu Hong Road and incorporating climbing plants in the design of the proposed noise barriers. We have already incorporated pedestrian crossing facilities at the junction concerned in the proposed works to be part-upgraded. We will provide landscaping areas with trees and shrubs adjacent to the noise barriers to mitigate visual impact.

30. Of the 704 trees within the boundary of the proposed road improvement works, 289 trees will be preserved. Of the remaining 415 trees to be removed, 364 trees will be felled and 51 trees will be transplanted within the site as far as possible. All trees to be removed or transplanted are not important trees<sup>6</sup>. We will incorporate planting proposals as part of the project, including estimated quantities of 583 trees and 36 500 shrubs.

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<sup>6</sup> "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.

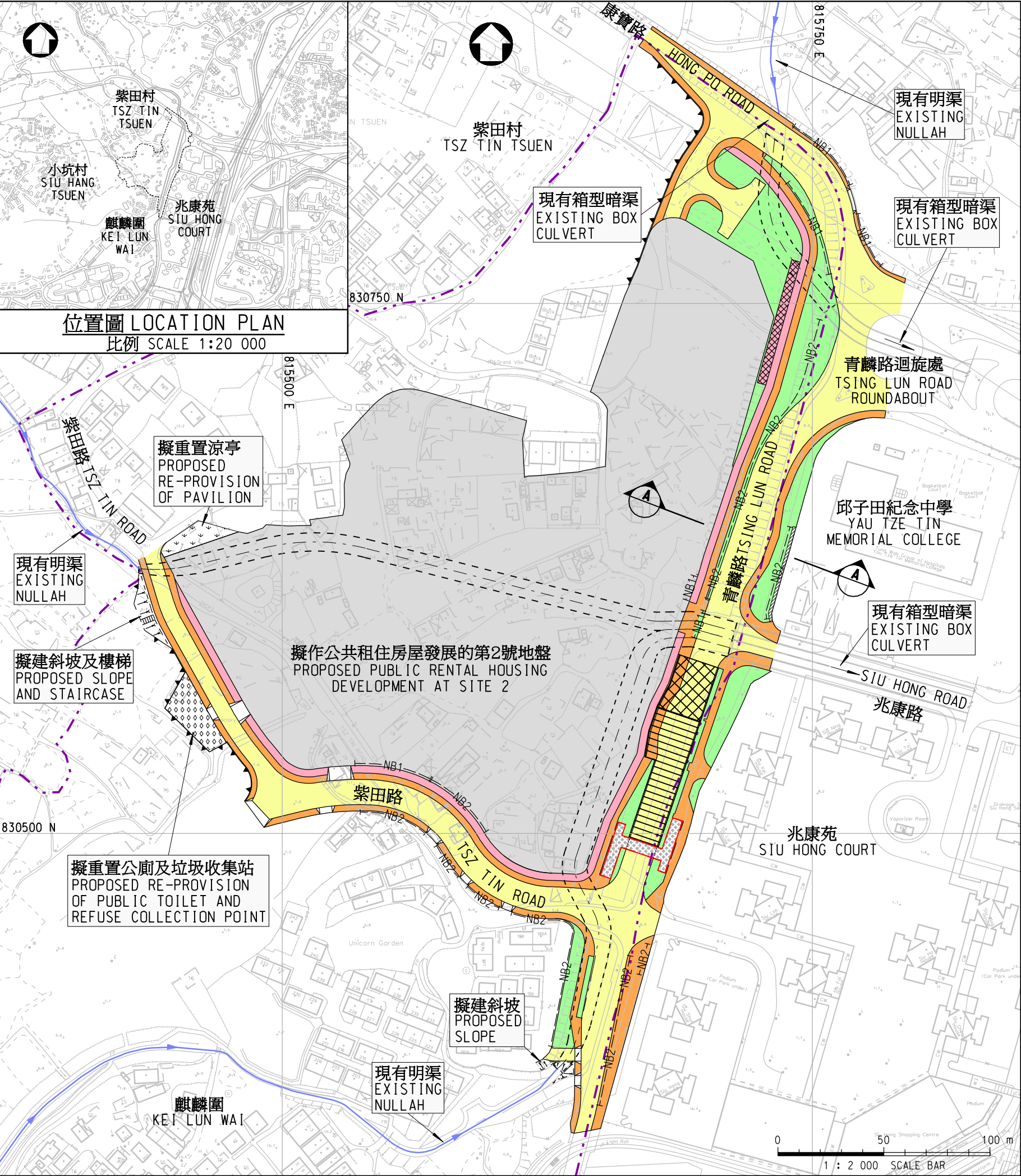
31. We estimate that the proposed works will create about 170 jobs (146 for labourers and another 24 for professional/technical staff), providing a total employment of 5 110 man-months.

## **WAY FORWARD**

32. We plan to seek the support of the Public Works Sub-committee in February 2011 for part-upgrading **681CL** to Category A with a view to seeking funding approval from the Finance Committee in May 2011.

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**Development Bureau**  
**January 2011**



圖例 LEGEND :

- 麒麟圍考古遺址  
KEI LUN WAI ARCHAEOLOGICAL SITE
- 擬建土地平整工程  
PROPOSED SITE FORMATION WORKS
- 擬建行車道  
PROPOSED CARRIAGEWAY
- 擬建行人路  
PROPOSED FOOTWAY
- 擬建單車徑  
PROPOSED CYCLE TRACK
- 擬建單車停泊位  
PROPOSED CYCLE PARKING SPACES
- 擬建花槽/種植地帶  
PROPOSED PLANTER / LANDSCAPING AREA
- 擬建行人天橋  
PROPOSED FOOTBRIDGE
- 擬建箱形暗渠  
PROPOSED BOX CULVERT
- 擬建擋土牆  
PROPOSED RETAINING WALL
- 維修通道  
MAINTENANCE ACCESS
- 擬建隔音屏障(1米至5米高)  
PROPOSED NOISE BARRIER (1m TO 5m HIGH)
- 擬建高5.5米附有懸臂的隔音屏障  
PROPOSED 5.5m HIGH NOISE BARRIER WITH CANTILEVER
- 擬建密封式隔音罩  
PROPOSED FULL-ENCLOSURE
- 擬建半密封式隔音罩  
PROPOSED SEMI-ENCLOSURE
- 擬建車輛出入通道  
PROPOSED RUN-IN

A	07/01/11	GENERAL REVISION	SIGNED	SIGNED
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	28/12/10	
繪圖 drawn	C H HO	SIGNED	28/12/10	
描摹 traced				
核對 checked	C T LAU	SIGNED	28/12/10	

核准 approved  
SIGNED  
(Joseph C L YUNG)  
總工程師 Chief Engineer  
日期 date : 28/12/10

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相關基建工程平面圖  
FORMATION, ROADS AND DRAINS IN AREA 54, TUEN MUN - PHASE 2  
LAYOUT PLAN FOR SITE FORMATION WORKS AT SITE 2 AND ASSOCIATED INFRASTRUCTURAL WORKS

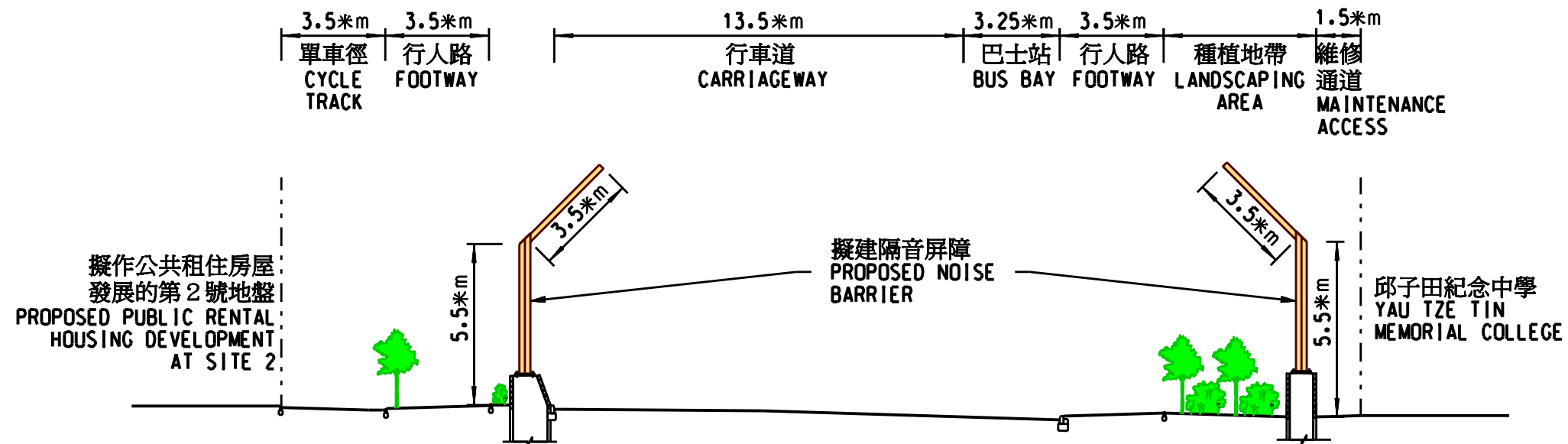
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LAND WORKS DIVISION  
CIVIL ENGINEERING OFFICE

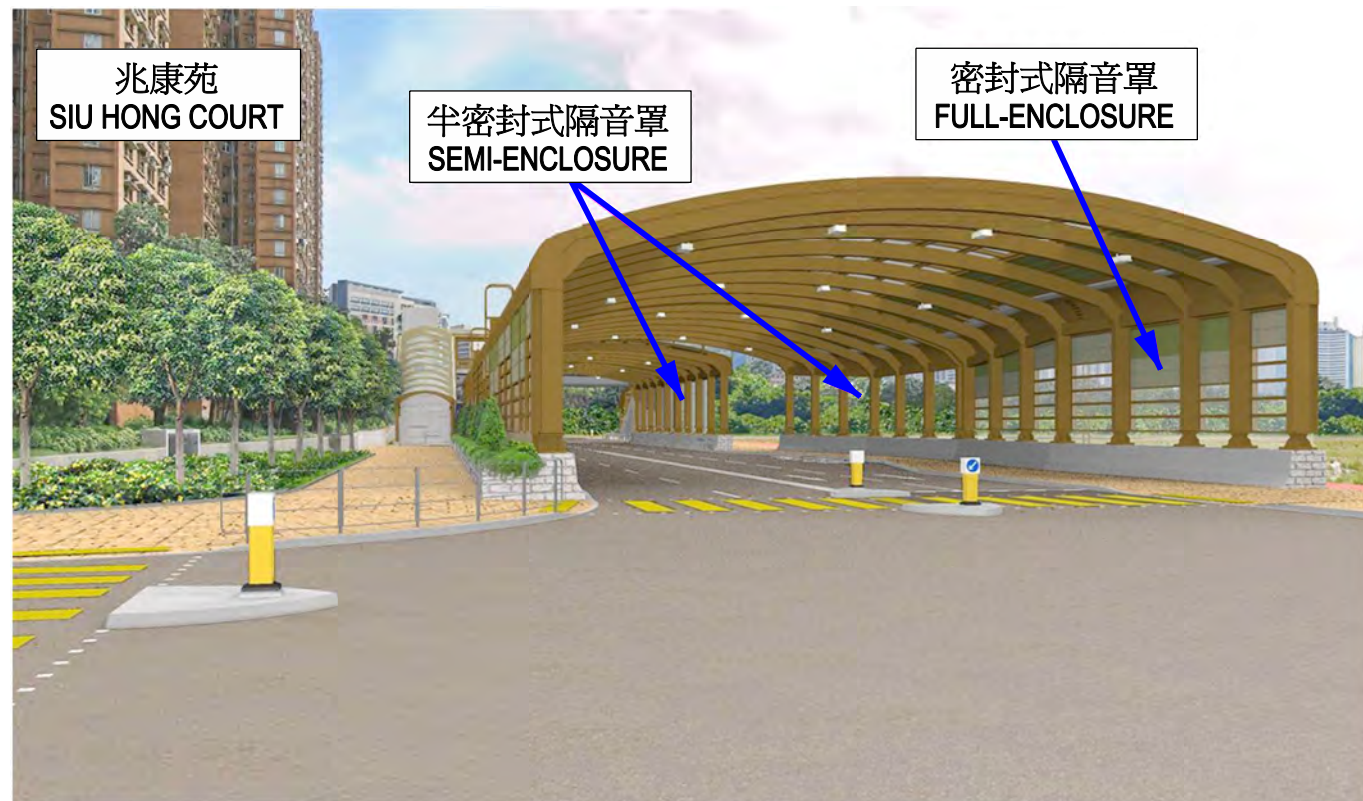
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切面 A-A 擬建隔音屏障(NB2)  
SECTION A-A PROPOSED NOISE BARRIER (NB2)



位於青麟路的擬建隔音罩構想圖  
PHOTOMONTAGE OF PROPOSED NOISE ENCLOSURE  
AT TSING LUN ROAD



位於康寶路的擬建隔音屏障(NB1)構想圖  
PHOTOMONTAGE OF PROPOSED NOISE BARRIER (NB1)  
AT HONG PO ROAD