

Legislative Council Panel on Housing

**Development near Choi Wan Road and Jordan Valley
(PWP Item No. 564CL)**

Purpose

This paper seeks Members' support to the Administration's proposal to increase the approved project estimate (APE) for the site formation and infrastructure works for the development near Choi Wan Road and Jordan Valley (PWP Item No. **564CL**) from \$1,779.3 million by \$230.0 million to \$2,009.3 million in money-of-the-day (MOD) prices.

Project scope and nature

2. The original scope of the project comprises –
 - (a) formation of about 20 hectares of building platforms for housing development, schools, district open space, and associated slopes and retaining walls;
 - (b) about 3 900 metres (m) of roadworks with width ranging from 7.9 m to 16.6 m, including road junction improvement works;
 - (c) five footbridges and two flyovers;
 - (d) about 10 500 m of associated drainage and sewerage works with diameter ranging from 225 millimetres (mm) to 1 800 mm;
 - (e) landscaping works; and
 - (f) environmental mitigation measures, including implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in paragraphs (a) to (e) above.

_____ A site plan showing the details of the proposed works is at **Enclosure 1**.

3. We commenced construction of the works under item (a), item (b) and items (d) to (f) (except part related to road junction improvement works) in November 2001 (hereinafter referred to as the first contract). The construction is in progress and we anticipate substantial completion of the works in 2006. We plan to commence construction of the remaining works in late 2005 for completion in stages from 2008 to 2010 to tie in with the housing completion programme.

Justification

4. Following a review of the financial situation, we consider it necessary to increase the APE of **564CL** from \$1,779.3 million by \$230.0 million to \$2,009.3 million to cover the additional cost arising from the following –

- (a) variations due to unforeseeable geological conditions under the first contract;
- (b) changes of the bridgework (item (c) of paragraph 2) design of the remaining works; and
- (c) additional site staff costs for the first contract and the remaining works.

Details of the increase in cost are set out in paragraphs 5 to 9 below.

Variations due to unforeseeable geological conditions under the first contract

5. The project involves cutting of an existing huge slope of 110 m high and 1 000 m wide to form about 13 hectares of slope faces and 20 hectares of building platforms for housing and school development within a site of about 35 hectares. The total quantity of earthworks involved is about 9.3 million cubic metres of rock and soft materials. We had carried out site investigation¹ for the design of the project before commencement of the first contract. However, during construction of the works, we encountered unforeseeable changes of soil and rock profiles in various areas within the site.

¹ The site investigation included over 200 number of boreholes, inspection trenches and pits, among other surveys, in-situ and laboratory tests.

Accordingly, the following changes and additional works are required –

- (a) The ratio of quantities of soft materials and rock in the bulk excavation for building platforms has been found to be different from what we originally estimated in the contract. The proportion of soft materials is increased from 16% to 27% leading to a total cost increase of about \$159 million.
- (b) The works involve trench excavation and laying of about 10 kilometres (km) of drains and sewers under the future carriageway of the newly formed building platforms. The quantity of trench excavation work in rock for the drains and sewers has been found to be more than originally allowed in the contract². This has resulted in an increase of about \$23 million.
- (c) Additional slope improvement works in the form of retaining walls, soil nails, erosion mats, rock dowels and spray concrete are required to ensure slope stability. This has resulted in an increase of about \$31 million.

Changes to bridgework design of the remaining works

6. The actual geological conditions revealed during construction of the works under the first contract were found to be different from that predicted from the site investigation. We have updated foundation designs of flyovers and footbridges as part of the remaining works, involving additional mini-piles and longer bored piles for flyovers and larger and longer bored piles for footbridges³. The change will result in a cost increase of about \$32 million.

7. A pedestrian link in the form of escalators as part of the remaining works was proposed in the original design to connect two building platforms at a height difference of 50 m within the development. In view of the great variation in height of the two building platforms and having regard to the latest

² The contract has allowed about 45% of the trench excavation in rock for drains and sewers. Due to unforeseeable geological conditions, the latest estimate of rock excavation is increased to about 58%.

³ For flyovers, the length of bored piles is increased from 500m to 900m and about 1 000m of minipiles are added. For footbridges, the bored pile length is increased from 1 000m to 1 100m and the diameter of about 400m bored piles is increased from 1 000mm to 1 500mm.

requirement of footbridge design, the design has been updated to provide lift in lieu of escalators to connect the two building platforms. This can better serve disabled persons and other pedestrian users. The change will lead to a net increase in cost of about \$26 million.

Additional site staff costs for the first contract and the remaining works

8. The works under the first contract involves large scale site formation works, construction of about 3 900 m new roads and associated drainage and sewerage works. For the additional work, for example, increased slope treatment works, coupled with existing site constraints and proximity to adjacent residential blocks which rendered a more complicated sequence for the blasting and temporary works, we considered it necessary to strengthen the site supervision by employing additional resident site staff in stages. Accordingly, the resultant total site staff cost is about 6.6% of the cost of construction of the works under the first contract⁴. This will result in a cost increase of about \$29 million.

9. In the original programme of 2001, we scheduled to complete the works under the first contract and the remaining works by mid-2006. In view of a revision to the housing development programmes (population intake revised to 2008 and 2010), the first contract with completion date in 2006 does not include the remaining works which will be completed in stages from 2008 to 2010. The overall period of the construction works will therefore be longer than that originally expected. As a result, we cannot share the managerial and technical resources under a combined site staff establishment. This will lead to an additional expenditure of about \$7 million. Moreover, there is also an increase of \$3 million on site staff cost due to additional cost of remaining works mentioned in paragraphs 6 and 7 above. The overall increase of site staff cost for the remaining works will therefore be about \$10 million⁵.

⁴ The original estimate of site staff cost was about 5% of the cost of works. The nominal percentage of site staff cost for large scale civil engineering contracts is about 8% of the cost of the works.

⁵ The total site staff cost for the remaining works will be increased to \$20 million, which is about 5% of the cost of the remaining works.

Overall Review

10. Upon a review of the financial position of the project, we consider it necessary to increase the APE of **564CL** from \$1,779.3 million by \$230.0 million to \$2,009.3 million in MOD prices in order to cover the additional cost of works under the project. A breakdown for the proposed increase of \$230.0 million is as follows –

Factors	Amount in MOD prices (\$ million)	% of the total increased amount
Additional costs associated with –	310.0	
(a) Variation in earthwork quantities	159.0	69.1%
(b) Additional trench excavation in rock	23.0	10.0%
(c) Variations and additional slope improvement works	31.0	13.5%
(d) Changes to bridgework design of the remaining works	58.0	25.2%
(e) Additional site staff costs	39.0	17.0%
Partly offset by-		
(f) Drawdown from Contingency	(80.0) ⁶	(34.8%)
Total	230.0	100.0

Background Information

11. In March 2001, Finance Committee approved the upgrading of 564CL “Development near Choi Wan Road and Jordan Valley” to Category A at an estimated cost of \$1,779.3 million in MOD prices.

⁶ The original contingency sum was about \$161.6 million. Figures in brackets represent negative values.

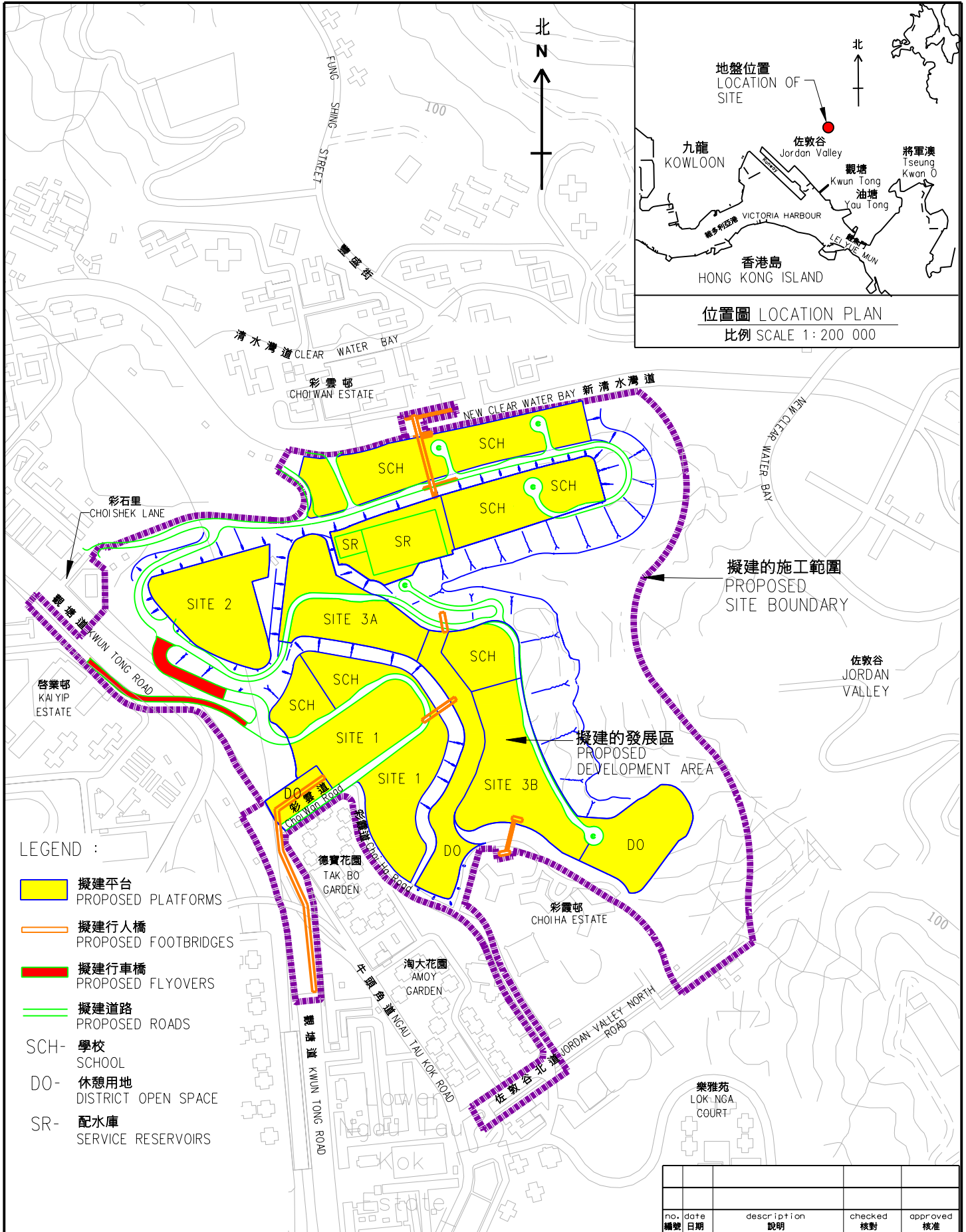
12. The proposed housing development near Choi Wan Road and Jordan Valley was originally scheduled for both public (Sites 1 and 3B at Enclosure 1) and private (Sites 2 and 3A at Enclosure 1) housing purposes to accommodate a population of 35,000. Following the Government's recent decision to re-allocate Site 2 and Site 3A from private to public housing construction, all four residential sites are now reserved for public housing development. The public housing development will be completed in phases by 2010/11, with first population intake scheduled for 2008.

13. The Secretary for Education and Manpower originally planned to complete the construction of seven schools (comprising two primary schools and five secondary schools) by 2007. The school development programme is currently under review.

Way forward

14. Subject to Members' support, we will seek the Public Works Subcommittee's endorsement in May 2005 for increasing the APE for PWP Item **564CL** to \$2,009.3 million

Housing, Planning and Lands Bureau
May 2005



no. 編號	date 日期	description 說明	checked 核對	approved 核准

圖則名稱 Drawing title	繪圖 Drawn	簽署 Initial	日期 Date	項目編號 Item no.	辦事處 Office
彩雲道及佐敦谷發展計劃 - 工地平面圖 DEVELOPMENT NEAR CHOI WAN ROAD AND JORDAN VALLEY - SITE PLAN	C.F. Ng	signed	30.3.2005	B564CL	九龍拓展處 KOWLOON DEVELOPMENT OFFICE
	核對 Checked	簽署 Initial	日期 Date	比例尺 Scale	 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
	W.Y. Leung	signed	30.3.2005	1 : 7 500 or As shown	
	核准 Approved	簽署 Initial	日期 Date	圖則編號 Drawing no.	
K.M. Leung	signed	30.3.2005	KZ 373		