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**By Email**

**(Translation)**

13 March 2017

Ms Sharon CHUNG  
Legislative Council Secretariat  
Public Works Subcommittee  
Legislative Council Complex  
1 Legislative Council Road  
Central, Hong Kong

Dear Ms Chung,

**Capital Works Reserve Fund Block Allocation**

**Enquiry from Hon CHU Hoi-dick  
on Individual Project**

**(Kwu Tung North and Fanling North New Development Areas)**

We refer to the letter dated 18 February 2017 addressed to the Chairman of the Public Works Subcommittee from Hon CHU Hoi-dick seeking information on individual project under Capital Works Reserve Fund Block Allocation. As requested by the Chairman, we have coordinated information provided by the relevant bureaux/departments and the reply is as follows (in accordance with the order and numbering of the incoming letter) :

**(1) Funding Allocation Arrangement for Land Acquisition Costs in respect of Kwu Tung North and Fanling North New Development Areas (KTN and FLN NDAs)**

Land acquisition costs incurred by public works are calculated according to the mechanism approved by the Finance Committee (FC) and payable under Head 701 of the Capital Works Reserve Fund (CWRF). In accordance with the financial procedures, funding allocations from CWRF for block allocations, including the said expenditure on land acquisition costs under Head 701, shall be approved by FC in examining the Estimates of each financial year. As the said costs are calculated according to the approved mechanism and payable under Head 701 according to the established practice, funding will be provided as mentioned above by following the general financial procedures without having to seek separate funding approval. As stated by the Government on the announcement of the North East New Territories New Development Areas project in 2013, land resumption and compensation costs for KTN and FLN NDAs were estimated to exceed \$30 billion in total. However, the scope of the Advance, First Stage and the remaining works of these two NDAs, and the actual area of and expenditure on land resumption are pending confirmation. No detailed estimation by phases of the costs is thus available.

**(2) First Stage of Site Formation and Engineering Infrastructure at KTN and FLN NDAs**

As the KTN and FLN NDAs project spans a very large area, the project is expected to take more than ten years from commencement of the first phase to overall completion. To facilitate project management, we will carry out the project in phases. The Government will proceed with the development in order of priority. The First Stage Works (Annex I) is part of the first phase of the NDAs development. Its scope comprises the following:

- (i) Site formation works in designated areas;
- (ii) Development of the Long Valley Nature Park;



- (iii) Provision of associated engineering infrastructure, including drainage, sewerage, waterworks, environmental mitigation measures, etc; and
- (iv) Construction supervision.

The detailed design and site investigation for the First Stage Works was included in Category D of the Public Works Programme in June 2014, and commenced in November 2014. The Agreement number is CE 13/2014 (CE) (including Advance Works and First Stage Works) with AECOM Asia Company Limited as the Consultants.

### **(3) Purpose-built Complex of Residential Care Homes for the Elderly (RCHE) in KTN NDA**

#### **(a) Purpose-built RCHE Complex Project**

For early completion of the RCHE Complex in Area 29 of KTN NDA, the Government had brought forward its funding application for resumption of private land and implementation of the associated site formation and infrastructure works, which was approved via Block Allocations under Capital Works Reserve Fund by the Finance Committee of the Legislative Council at its meeting on 19 March 2016. For the revised estimate of \$360 million for “Land Resumption for Construction of the Purpose-built Complex of Residential Care Homes for the Elderly in Area 29 of Kwu Tung North NDA”, the Government anticipates that it will be paid in the 2016-17 financial year. According to the current project programme, if the site formation and associated infrastructure works and the building works of the RCHE Complex are progressing smoothly, the Government would strive for completion of the RCHE Complex in 2022 for anticipated operation in 2023.

To cope with the Advance Works of KTN NDA, the existing RCHEs in Dills Corner Garden (DCG) would be cleared in two phases. The first phase is expected to be carried out at the end of 2018 while the second phase would be conducted after the completion of the RCHE Complex. A few blocks in DCG would be affected by the first phase clearance including those currently used as RCHEs. If necessary, we would modify the existing



non-RCHE blocks in DCG to RCHEs for accommodation of the elderly affected by the first phase clearance such that they do not need to move out from DCG before the operation of the RCHE Complex. Relevant departments would closely discuss on how to timely complete the project and reduce the impact on the elderly in the RCHEs in DCG. We could only confirm the timetable for the first phase clearance after approval of the Legislative Council on the funding application for the Advance Works of KTN NDA.

As indicated at the Legislative Council Panel on Welfare Services on 12 May 2014, in allocating the subsidised residential care places of the new RCHE complex, priority would be given to eligible existing residents at DCG who have passed the care needs test under the Standardised Care Need Assessment Mechanism for Elderly Services (SCNAMES) before its service commencement. For those residents who have not passed the care needs test or not been assessed under SCNAMES by the time of service commencement, the Social Welfare Department will assist them in finding alternative placements in other private RCHEs.

**(b) Treatment of Arsenic-containing Soil in the Site of the RCHE Complex**

The arsenic in the soil at KTN NDA is naturally occurring. We had already carried out a HRA to ensure that the land in the NDA could be used safely in future. According to the results of the ground investigation, the arsenic concentrations of the soil samples collected at the shallow ground region of the new RCHE Complex (within 4m below the site formation level) ranged from 4mg/kg to 1,200mg/kg. For those samples collected at deep ground (outside 4m below the site formation level), their arsenic concentrations ranged from 1mg/kg to 3,680mg/kg. We would carry out treatment for the soil with arsenic concentration greater than 571mg/kg in accordance with the recommendations of the HRA in the Environmental Impact Assessment (EIA) Report.

Appendix 8.1 of the EIA Report for the North East New Territories (NENT) NDAs mainly covers the treatment of the man-made contaminated



land while the treatment of the naturally occurring arsenic in soil should follow Appendix 8.4 of the EIA Report. For the purpose-built RCHE Complex in Area 29 of KTN NDA, we had already submitted contamination assessment plan to Environmental Protection Department (EPD) in accordance with the requirements of the EIA Report. Based on the assessment results, there is no contaminated land-use / activities found at the RCHE Complex site.

The arsenic-containing soil at the RCHE Complex site is naturally occurring and is mainly originated from the Ash Crystal Tuff in the region, rather than arising from man-made contamination. In undertaking the NENT NDAs EIA, the Government had already carried out a HRA for the arsenic-containing soil in KTN to study its characteristics and develop suitable health risk baseline and corresponding treatment method in order to ensure public safety.

For the HRA for KTN NDA, we had already developed a suitable health risk baseline and corresponding treatment method according to the HRA method commonly used internationally. The baseline and treatment method were developed by assessing the proportions of arsenic entering the human body through different exposure pathways and referencing to the hygiene safety index of World Health Organisation (WHO) and United States Environmental Protection Authority (USEPA). Based on the results of the HRA, the identified safety index is that solidification / stabilisation should be carried out for the soil with arsenic concentration greater than 571mg/kg in order to ensure public safety.

During construction stage, the contractors should use specific method to solidify the arsenic in the soil according to the recommendations of the HRA of the EIA Report in order to ensure that such arsenic would not affect the public health after completion of the development. We would implement appropriate mitigation measures based on the recommendations of the HRA of the EIA Report, which include provision of relevant training, equipment and materials to the workers. Masks, respiratory apparatus and personal protective equipment would also be provided to the workers where necessary.



**(4) RCHE Complex in Kwu Tung, Ground Investigation Works in KTN NDA, Decontamination Assessment under KTN NDA and Lok Ma Chau Loop Development**

Pursuant to the relevant requirements of the EIA Ordinance, the EIA Report for the NENT NDAs, which was approved with conditions in 2013, had been deposited at the following website for public viewing : [http://www.epd.gov.hk/eia/register/report/eiareport/eia\\_2132013/](http://www.epd.gov.hk/eia/register/report/eiareport/eia_2132013/). An executive summary (Chinese version) of the EIA Report is also available to highlight the project scope and key findings of the EIA study. Details of the EIA findings can be found in the full EIA Report in English. As the treatment works for arsenic-containing soil have not yet commenced on site, no relevant documentation or inspection records are available at this stage.

Based on the recommendations from the HRA in the EIA Report, soil with arsenic concentration above 571 mg/kg will require treatment by solidification/stabilisation (S/S) method to ensure that no adverse impacts will be posed to public health after completion of the NDAs development. The S/S treatment method is a simple and well-established ground remediation technique with international applications and local experiences. To take forward the HRA recommendations, we engaged the Hong Kong Polytechnic University (PolyU) to carry out further study on arsenic-containing soil, and to help formulate appropriate treatment plan for KTN NDA. The PolyU study also confirmed that S/S treatment is effective and robust for treating the soil with arsenic level exceeding the 571 mg/kg threshold in KTN NDA. With the implementation of effective S/S treatment, the treated soil will comply with the health risk standards as stipulated in the HRA and pose no harm to human body. We will require the contractors to carry out soil sampling regularly during the construction phase and conduct Toxicity Leaching Procedure Test (TCLP test) to ensure the treated soil will comply with the above health risk standards.

The arsenic-containing soil in KTN NDA is fundamentally different from that in Lok Ma Chau (LMC) Loop in terms of origin and nature. The arsenic in LMC Loop soil is formed by anthropogenic contamination, whereas



the arsenic in KTN soil is due to natural geological formation. For LMC Loop, the area was used in the past as a dumping ground for contaminated sediments extracted from training works at Shenzhen River. Since the contamination is man-made, the environmental assessment and remedial measures will have to follow the relevant local standards for contaminated land such as the "Guidance Note for Contaminated Land Assessment and Remediation" and "Risk-based Remediation Goals for Contaminated Land Management (RBRG)" promulgated by the Environmental Protection Department (EPD). In contrast, the above contamination standards do not apply in the KTN context due to the geogenic nature of arsenic in KTN soil. To ensure public safety, the Government had conducted an independent HRA during the EIA study to determine the acceptable health risk levels for arsenic exposure and devise suitable treatment method for minimising the risks associated with soil with higher arsenic level. The health risk levels adopted in the HRA are formulated with reference to international guideline values accepted by the World Health Organization (WHO) and the United States Environmental Protection Agency (USEPA). For LMC Loop, the volume of the soil to be treated can be found in the EIA Report for the project. For KTN NDA, the soil treatment volume is determined on the basis of the ground investigation data obtained during the EIA study. As a result of the different origin and nature of the arsenic containing soil in LMC Loop and KTN NDA, we formulated appropriate treatment strategies based on the soil properties and the potential risk to the area. There is no question of applying double treatment standard for the sake of cost or other factors.

We are now conducting ground investigation works at accessible locations in KTN NDA to determine the spatial distribution of arsenic-containing soil. Results will be available after completion of all ground investigation works, and will be used to establish the treatment extent. We will incorporate necessary environmental mitigation measures into contract provision to control the impacts arising from noise, dust and effluent from the works to comply with established standard and guidelines. All treatment works for arsenic-containing soil will be carried out in accordance with the requirements of the EIA Report to minimise environmental nuisance. As for other developments in KTN NDA, further assessment is required to identify



the extent of treatment of arsenic containing soil after completion of the ground investigation. For private developments, the relevant lease conditions will stipulate that the developer will follow the requirements in the EIA Report to carry out treatment works of arsenic containing soil within the deeper soil in order to safeguard public health and safety.

Drinking water that is polluted with arsenic is a major source of arsenic intake for humans, followed by ingestion of arsenic-contaminated food. Relevant departments (including Department of Health, Agriculture, Fisheries and Conservation Department and Environmental Protection Department) had assessed that the presence of arsenic in KTN soil would not pose adverse health impacts to the public in its existing state. No abnormal arsenic content was found during the routine testing performed by Agriculture, Fisheries and Conservation Department on samples of water from streams and wells, vegetable products and pond fish collected in KTN area. In addition, all drinking water will be treated before supplying to households in KTN NDA through pipe network. Therefore, the risk of arsenic uptake from food or water sources is minimal in KTN NDA. Based on the PolyU study, most of the arsenic in KTN NDA exists in the form of ferric arsenate, which exhibits low solubility, high stability, and is unlikely to contaminate the groundwater in the region.

As regards solid waste, we are committed to avoiding and minimising construction and demolition (C&D) materials through planning, design and construction management to achieve sustainable development. According to our preliminary estimate, all excavated materials in KTN and FLN NDAs, including the treated arsenic-containing soil, would be reused as filling materials for construction works in the NDAs. This eliminates the need to dispose construction waste to public fill reception facilities and landfills.

As we are currently carrying out ground investigation works to determine the distribution and volume of arsenic-containing soil in KTN NDA, the results would only be available after completion of all the investigation works. We do not have the information on the volume of soil treatment in KTN NDA.



The land of the Fanling Golf Course has been held by the Hong Kong Golf Club under Private Recreational Lease (PRL) since 1930, the term of which will expire in 2020. The Home Affairs Bureau (HAB) is conducting the overall PRL Policy Review. Based on the current progress, HAB aims to report findings of the PRL Policy Review to the Panel on Home Affairs of the Legislative Council within 2017 and conduct public/stakeholder consultations thereafter. Nevertheless, the planning and engineering study, public engagements and various technical assessments are still required in case of the development of the land. The time required for the above will not be less than that of the development of the KTN and FLN NDAs. In view of time needed, it is not able to replace the NDAs.

We hope the above will provide Hon CHU Hoi-dick with the information about the projects of his concerns. In view of the urgency of the approval for the Block Allocation, we hope the Finance Committee can grant funding approval as soon as possible. We stand ready to provide further information in response to Members' enquiries.

Yours sincerely,



(Ivan CHUNG)

for Secretary for Development

Copy to :

Secretary for Financial Services & the Treasury

Secretary for Labour and Welfare

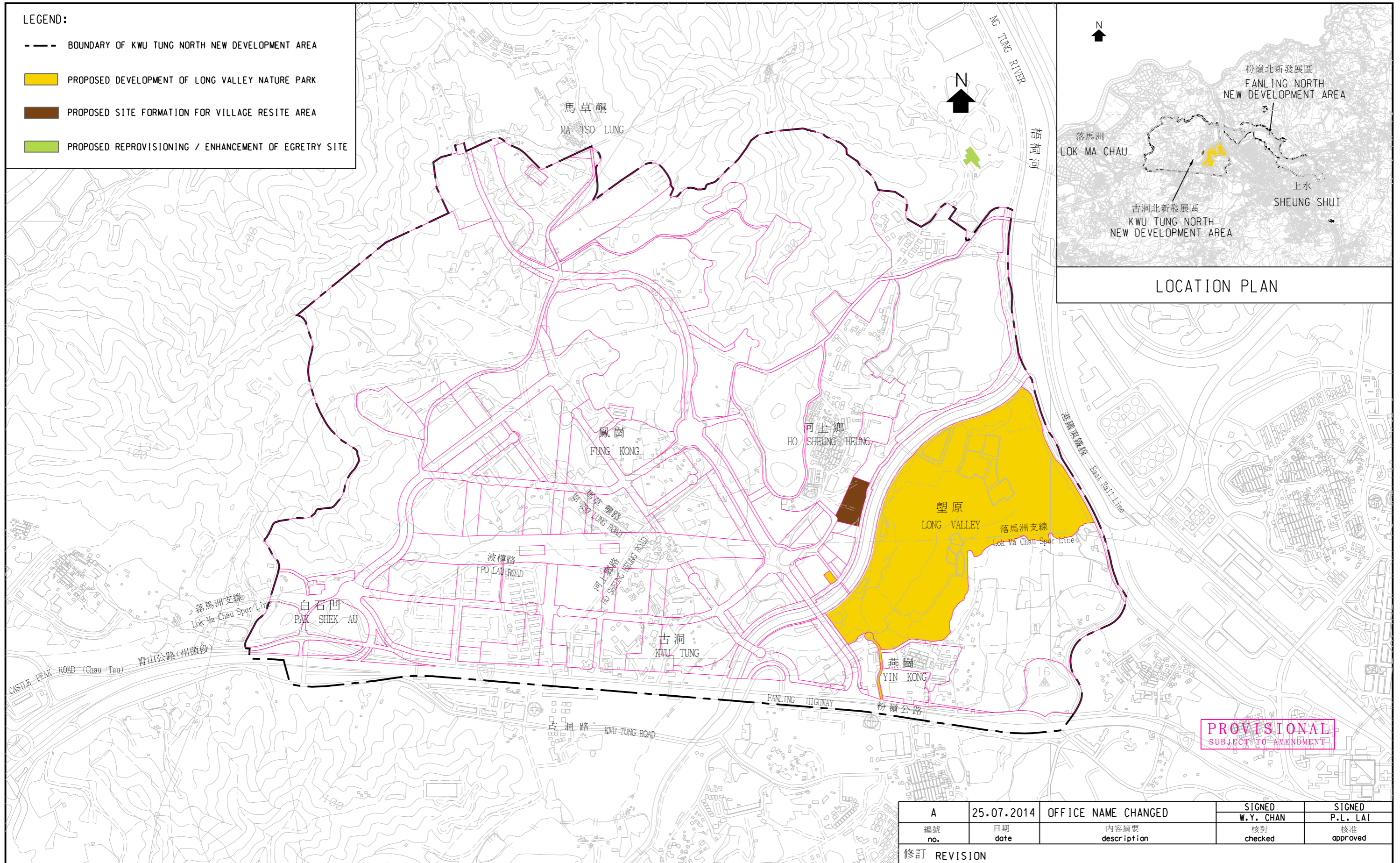
Secretary for Home Affairs

Director of Lands

Director of Civil Engineering & Development



- LEGEND:**
- BOUNDARY OF KWU TUNG NORTH NEW DEVELOPMENT AREA
  - PROPOSED DEVELOPMENT OF LONG VALLEY NATURE PARK
  - PROPOSED SITE FORMATION FOR VILLAGE RESITE AREA
  - PROPOSED REPROVISIONING / ENHANCEMENT OF EGRETRY SITE



PROVISIONAL  
SUBJECT TO AMENDMENT

A	25.07.2014	OFFICE NAME CHANGED	SIGNED	SIGNED
編號 no.	日期 date	內容摘要 description	W.Y. CHAN	P.L. LAI
			核對 checked	核准 approved

**修訂 REVISION**

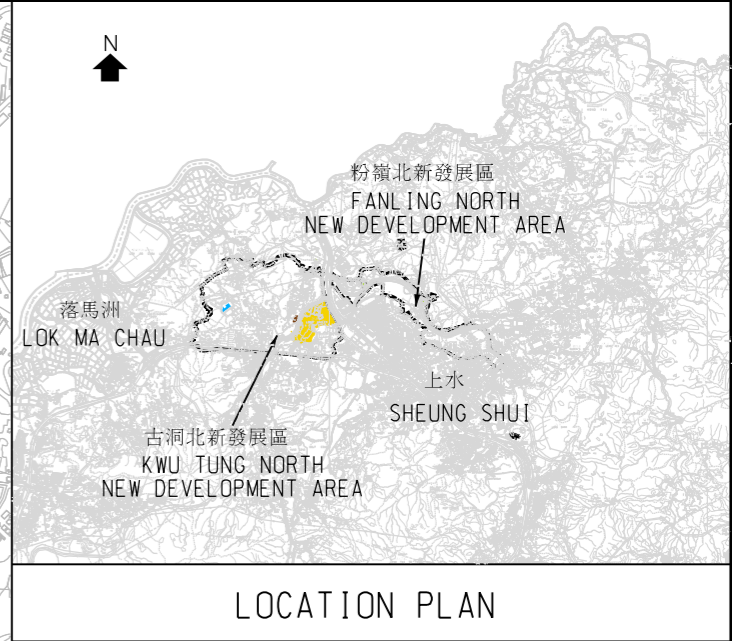
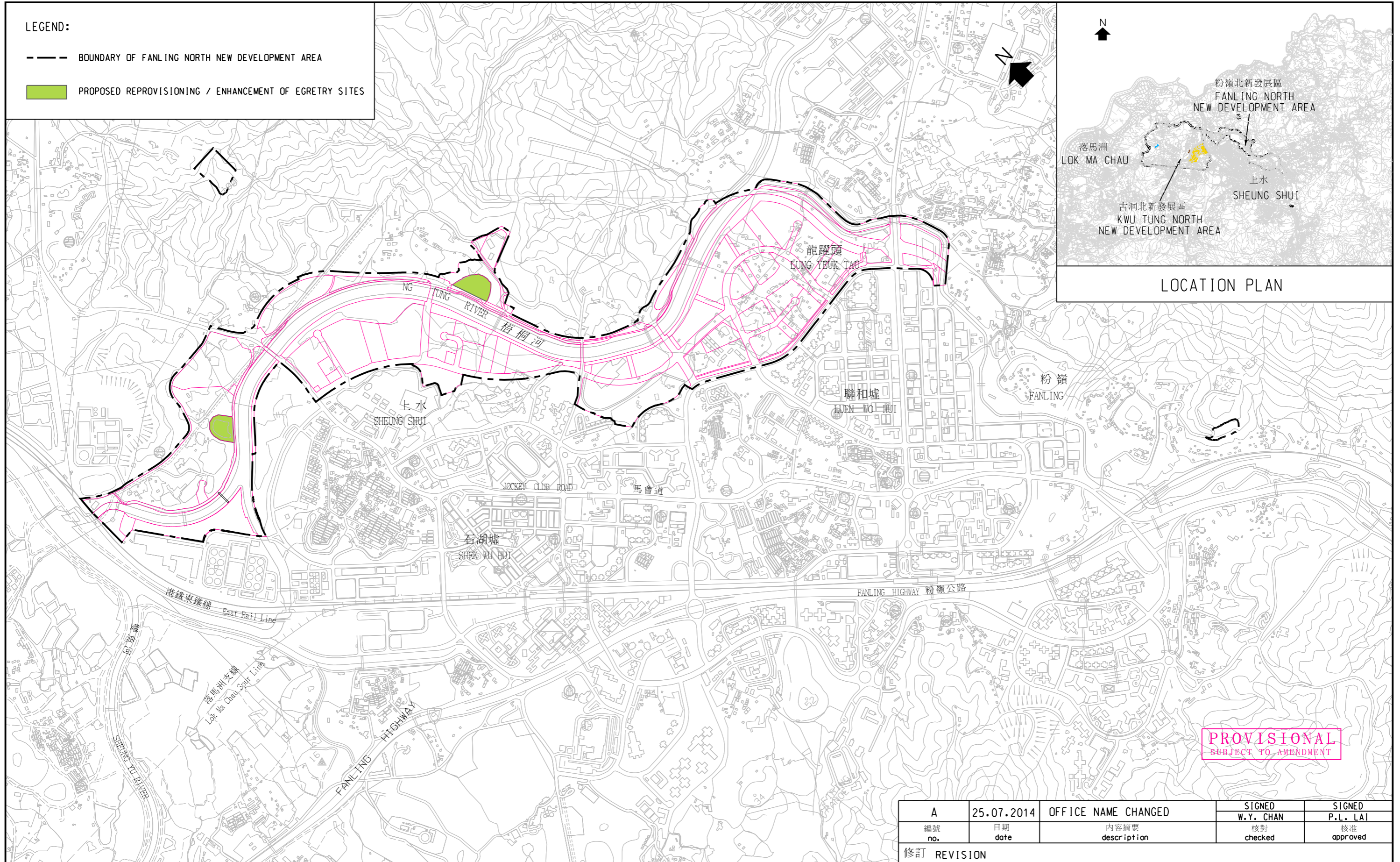
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	W K LAU		27.01.2017	項目編號 item no.	
	核對 checked	簽署 initial	日期 date	比例 scale	
	C Y LO		27.01.2017	1:12 000 (A3)	
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.		
M T LEUNG		27.01.2017	NTWZ 2019A		



**LEGEND:**

--- BOUNDARY OF FANLING NORTH NEW DEVELOPMENT AREA

■ PROPOSED REPROVISIONING / ENHANCEMENT OF EGRETRY SITES



**PROVISIONAL**  
SUBJECT TO AMENDMENT

A	25.07.2014	OFFICE NAME CHANGED	SIGNED W.Y. CHAN	SIGNED P.L. LAI
編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

**修訂 REVISION**

圖則名稱 drawing title	FIRST STAGE SITE FORMATION AND ENGINEERING INFRASTRUCTURE WORKS AT FANLING NORTH NEW DEVELOPMENT AREA				辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	
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核對 checked	簽署 initial	日期 date	比例 scale	圖則編號 drawing no.	
C Y LO		27.01.2017	1:15 000 (A3)		
核准 approved	簽署 initial	日期 date			
M T LEUNG		27.01.2017	NTWZ 2020A		

